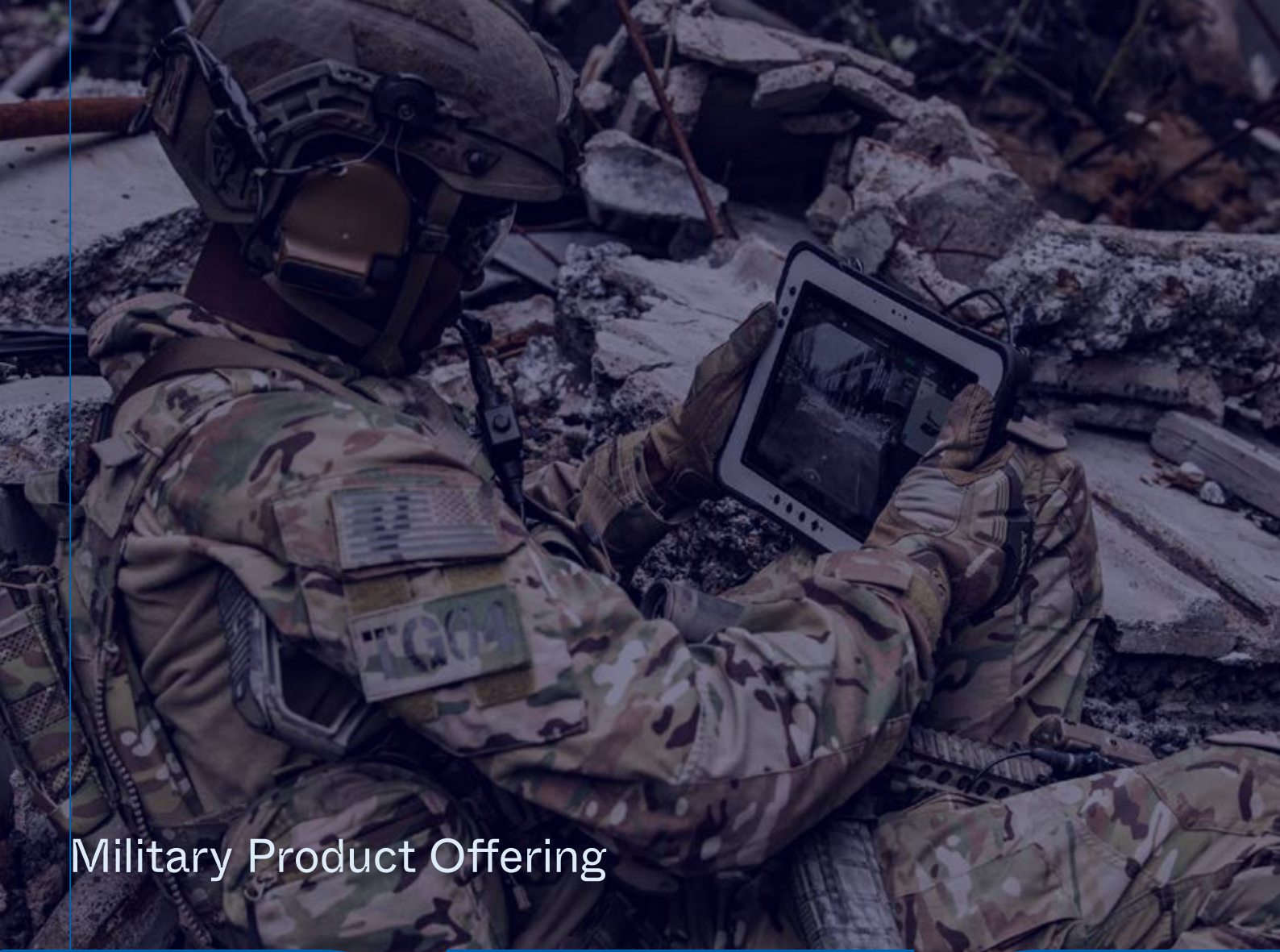

Military Product Offering

DTC

DOMOTACTICAL.COM

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PO15 7AB
United Kingdom

Email: info@domotactical.com
Phone: +44 1489 566 750

Tactical Communications Portfolio

SDR-H2

Dismounted Soldier MANET, UGV, USV, Assault Team, Boarding Party, Remote Weapon Station

Based on DTC's game changing software defined radio platform (SDR), the SDR-H2 is the enhanced next generation Special Role Radio designed to meet a diverse range of applications. With the same bulletproof soldier radio form factor, the SDR-H2 offers enhanced GPS performance with on-board magnetics for a simplified Ethernet interface and future support for dual push-to-talk (PTT) communications.

The versatile Special Role Radio can be operated as a mobile ad hoc network (MANET) IP Mesh node, a point-to-point (P2P) COFDM transmitter or a P2P receiver streaming video to a tablet PC. It also offers dual on-board HD-capable video encoders and support for a variety of different camera interfaces including HDMI, full duplex VOX-capable audio channel with 16+ talk groups and on-board SD card storage as well as 2W total output power.

Features

- MeshUltra, MIMO and Standard IP Mesh capability
- Enhanced GPS performance
- On-board Ethernet magnetics
- Gigabit Ethernet via USB 2.0 adaptor
- 2W total output power
- Dual high profile HD H.264 independent video encoders
- Low latency Mesh radios - under 180ms for video; less than 20ms data only
- Native SD/HD-SDI or composite/HDMI via adaptor; HDMI via side connector
- Microphone inputs and headphone output for recording, transmission or talkback
- USB support for peripherals such as 3G/4G/Wi-Fi dongles
- Low power consumption, typically 7.5W to 10W
- Battery life - up to 12 hours
- Range NLOS - >1.5km single hop; >15km air to ground
- Designed to MIL-STD-810G

General Specifications

- Temperature range: -20°C to +60°C
- Power input: MBITR AN / PRC148 battery
- Input/Output Connectivity: 24-way Cambion spring probe connector for USB, RS232/485, HD-SDI & power in/out
- 16-way ODU circular connector for Ethernet, power out and audio in/out
- Dimensions (excluding protrusions): 128mm (L), 67mm (W), 38mm (D)
- Weight: 643g

Software Defined Radio Architecture

Software Defined Radio Architecture delivers multiple waveform options to support diverse deployments. At home operating as a Tactical Mobile Adhoc Network (MANET) IP Mesh node, a point-to-point (P2P) COFDM Transmitter, or a P2P receiver, streaming video to a tablet PC or across a network.

Integrated GPS

Integrated GPS with CoT support for direct radio integration into ATAK, CIVTAK & WINTAK as well as other situational awareness applications.

Encryption

AES256 Encryption accredited to FIPS140-2 for the highest level of information security.

Radio Programming and Management

Powered by DTC's unique mission-critical COFDM IP Mesh waveforms, delivers high bandwidth Full Motion Video (FMV) from a helmet and body-worn cameras, low latency full-duplex voice throughout the team and supports the sharing of critical mission data on the ground where it is needed.

Accessories

- USB support stick
- 16-way Ethernet cable
- 7.0Ah battery
- One, two and four way battery charger
- Omni-antennas
- Bullet HD-SDI camera
- HDMI / composite to SDI converter

SDI Comp_HDMI to SDI converter

HD-SDI bullet camera

Omni gooseneck antenna

SDR-M

OEM Software Defined Radio Module, Small Form Factor UAV / UGV / USV, Body-worn, General Systems Integration

DTC's BluCore OEM is a ruggedized, miniature Software Defined Radio transceiver, designed specifically for size and weight critical UxV applications and is particularly suitable for small drone platforms. Based around DTC's game-changing SDR architecture and offering a full 2x100mW of output power, BluCore OEM provides access to a wide range of IP Mesh and unidirectional COFDM waveforms, including DTC's latest MeshUltra.

With two USB interfaces capable of supporting USB cameras and headsets as well as Wi-Fi, cellular and Ethernet dongles, BluCore can also be connected to a range of host devices using RNDIS "Ethernet over USB" connectivity.

Features

- 2x100mW COFDM transceivers
- Growing USB support for peripherals such as 3G / 4G / Wi-Fi dongles
- 128GB built-in storage
- RNDIS support for Ethernet over USB
- Compact packaging with ultra-miniature connectors
- Very low power consumption: typically 3W
- Exceptionally small size: 54mm x 50mm x 11mm
- Weighs only 60g

General Specifications

- Temperature range: -20°C to +50°C with additional cooling
- RF Power: 100mW (+20dBm) per output, 200mW total
- Power input: Molex 4-way 1.25mm
- DC input: 6V to 18V reverse polarity protected Typical power consumption: 3W (excluding camera)
- I/O: 2x JST USB host / client / RNDIS
- Dimensions: 54mm (L), 50mm (W), 11mm (D)
- Weight: 60g

NETNode RM 4W

Mounted MANET, UGV, USV, Convoy, Assault Team, Boarding Party, Remote Weapon Station

The NETNode RM is the 5th and latest generation of DTC›s NETNode IP mesh radio family offering built-in dual HD video encoders and MIMO capability for our highest ever data capacities.

The NETNode RM is a Robust Mobile variant which offers an alternative form factor to its sister, but being smaller allows a wider variety of applications. The 5RM is ideal for extended outdoor deployment and feature rich with new additions including built in GPS receiver and both composite and SDI video inputs comparable to the previous Phase 3 and 4 Robust products. Interoperable with DTC's Phase 3, 4 and 5 Mesh allowing simple upgrade in the field, while adding flexibility and ease of use as nodes can be integrated into existing infrastructure, reducing cost and making it easy to expand any network.

Features

- Self-forming, self-healing mesh architecture
- Ideal for use for wide area coverage & multi-hop, mobile applications such as robotics
- Low latency IP communication
- HD video encoder - data capacity of greater than 32Mbps of IP data possible
- Built-in HD video encoder offering bit rates of greater than 32Mbps
- Built in GPS receiver
- Software configurable RF bandwidth between 1.25MHz and 20MHz
- Interlink mode bridging mesh networks across different IP bearers (e.g. LTE) for enhanced capability, large scale systems and mixed frequency operation
- 64Gb of on-board storage with store & forward functionality
- Built in encryption (DES as standard, AES128/256 available subject to export control)
- Mission Commander compatible

General Specifications

- Frequency range: UHF, L, LS, S and C band from 320MHz to 5.00GHz
- Power Output: +33dBm per channel in 0.25dB step (4W total)
- Bandwidth: 1.25 - 20MHz (IP Mesh only)
- Data Throughput Capacity: Up to 87Mbps MIMO, 17Mbps standard Mesh
- H.264 video compression
- Encoder delay 1s to 10ms (mode dependent)
- Dimensions - H 160mm, W 160mm, D 70mm
- Weight - <2.0kg

NETNode RM 10W

MANET Backhaul, UGV, USV

The NETNode RM is the 5th and latest generation of DTC›s NETNode IP mesh radio family offering built-in dual HD video encoders and MIMO capability for our highest ever data capacities.

The NETNode RM 10W variant provides up to 10W of total RF power output over two transmit ports. The RM is ideal for extended outdoor deployment and feature rich with built in GPS receiver and both composite and SDI video inputs.

Interoperable with DTC's Phase 3 and 4 Mesh allowing simple upgrade in the field, the NETNode RM adds flexibility and ease of use as nodes can be integrated into existing infrastructure, reducing cost and making it easy to expand any network.

Features

- 2 x 5W RF transmitters (up to 10W total)
- Self-forming, self-healing mesh architecture
- Ideal for use for wide area coverage & multi-hop, mobile applications such as robotics
- Low latency IP communication
- HD video encoder - data capacity of greater than 32Mbps of IP data possible
- Built in composite video encoder as with RM 4W
- Built in GPS receiver
- Software configurable RF bandwidth between 1.25MHz and 20MHz
- Interlink mode for enhanced capability and large scale systems
- 64Gb of on-board storage with store & forward functionality as with RM 4W
- Built in encryption (DES as standard, AES128/256 available subject to export control)
- Mission Commander compatible

General Specifications

- Frequency range: L, LS, S and C band from 1.2GHz to 5.00GHz
- Power Output: +37dBm per channel in 0.25dB step (10W total)
- Bandwidth: 1.25 - 20MHz (IP Mesh only as with RM 4W)
- Mesh Capacity: Up to 87Mbps MIMO, 17Mbps standard Mesh
- H.264 video compression
- Encoder delay 1s to 10ms (mode dependent)
- Dimensions - H 160mm, W 160mm, D 70mm
- Weight - <2.5kg

NETNode RM 30W

MANET Backhaul, Maritime, Boarding Party, Long Range UAV Ground-station

The NETNode RM is the 5th and latest generation of DTC's NETNode IP mesh radio family offering built-in dual HD video encoders and MIMO capability for our highest ever data capacities.

The NETNode RM 30W is DTC's highest power Mesh product and provides up to 30W total RF power output over two transmit ports for extreme long range applications. The RM 30W is ideal for extended outdoor deployment and includes on board video encoding with twin HD-SDI video inputs.

Interoperable with DTC's Phase 3 and 4 Mesh allowing simple upgrade in the field, the NETNode-5RH adds flexibility and ease of use as nodes can be integrated into existing infrastructure, reducing cost and making it easy to expand any network.

Features

- 2 x 15W RF transmitters (up to 30W total power)
- Self-forming, self-healing Mesh architecture
- Ideal for use for wide area coverage and multi-hop, mobile applications such as robotics
- Low latency IP communication
- HD video encoder - data capacity of greater than 87Mbps of IP data possible
- Software configurable RF bandwidth between 1.25MHz and 20MHz
- Interlink mode for enhanced capability and large scale systems
- 64Gb of on-board storage with store & forward functionality as with RM 4W
- Built in encryption (DES as standard, AES128/256 available subject to export control)
- Mission Commander compatible

General Specifications

- Power Output: 15W per channel max (30W total) - Power adjustable in 0.25dB steps
- Bandwidth: 1.25 - 20.0MHz (IP Mesh only) Mesh Capacity: Up to 87Mbps MIMO, 17Mbps standard Mesh
- H.264 video compression
- Encoder delay 1s to 10ms (mode dependent)
- Dimensions - H 254mm, W 210mm, D 71mm
- Weight – 5kg approx

SDR-C

Software Defined Radio Core Module (Concealment)

The SDR-C is a COFDM digital video mesh transceiver from Domo Tactical Communications (DTC), designed specifically for body worn, concealment and system integration applications. It can be paired with OEM amplifiers in 2x1w, 2W or 5W output power to offer extended range and penetration in difficult RF environments.

SDR-C is an ultra-miniature package ideal for integration into the smallest concealment solutions. Dependent on the applications loaded the platform can operate as a Transmitter, Receiver, Dual Encoder and IP Mesh Radio node.

Features

- RNDIS support for Ethernet over USB
- Dual high profile HD H.264 independent video encoders
- 2x100mW COFDM transceivers for use as COFDM Transmitter, Receiver or IP Mesh
- Optional amplifiers to offer 2x1w, 2w or 5w power output
- Additional integrated telemetry transceiver in multiple operating bands for control, PTZ and low power standby
- Dual SD/HD-SDI video inputs for recording, transmission and analysis
- Microphone inputs and headphone output for recording, transmission or talkback
- Growing USB support for peripherals such as 3G/4G/Wi-Fi dongles
- Ethernet, RS232 and RS485 connectivity and 128GB built in storage
- Compact packaging with ultra-miniature connectors
- Very low power consumption: typically 7.5W

General Specifications

- Temperature range: -20°C to +60°C with additional cooling
- COFDM Transceiver power: 100mW (+20dBm) per output, 200mW total
- DC input: 8V to 18V reverse polarity protected
- DC output: 1A pass-through (switchable)
- Typical power consumption: 7.5W (SD), 8.5W (HD), 9.5W (Dual), 4W (Receiver)
- Dimensions: H 50mm, W 50mm, D 18mm
- Weight: 63g

SDR-P

Small Form Factor UAV / UGV / USV, Body-worn, General Systems Integration

The SDR2x1W-P is a compact software defined radio transceiver with 2x1W RF output power. Leveraging DTC's industry-leading MeshUltra Mesh waveform and also capable of operating as a unidirectional COFDM Transmitter or Receiver, the SDR2x1W-P is ideally suited for UxV and commercial applications.

The SDR2x1W-P also includes a rich set of interface options including native Ethernet, dual USB and serial as well as an audio headset interface.

The SDR2x1W-P also offers the option of USB-C powering direct from a suitable end user device or USB-C battery (USB PD compliant).

Features

- 2x1W / 2x2W transceivers for use as IP Mesh radio, COFDM transmitter or receiver
- USB-C power option compliant with USB PD
- RNDIS support for Ethernet over USB
- Ethernet,RS-232 and RS485 data connectivity
- USB support for peripherals such as 3G/4G/Wi-Fi dongles
- 128GB in-built SD card storage
- Compact enclosure
- Very low power consumption, typically 10W IP Mesh

General Specifications

- Temperature range: -20°C to +55°C
- Power: 1W/2W (+30/33dBm) max per output, 2W/4W total
- Power input: 4-way circular USB2 with power delivery (USB PD) / 4-way Lemo
- DC input: 8V to 17.5V reverse polarity protected
- Power consumption: 10W typ. IP Mesh, 14W typ. COFDM TX single output, 24W typ. COFDM TX dual output, 6W typ. COFDM RX
- Dimensions: H 160mm (incl. connectors), W 75mm, D 24mm / H 27mm, W 100mm, L 200mm
- Weight: 456g approx.

SDR-R

Software Defined Radio (Robust)

The SDR-R is a COFDM digital video transceiver from Domo Tactical Communications (DTC), designed specifically for Point of View (PoV), body worn and concealment applications.

The SDR Robust provides a passively cooled IP66 rated enclosure ideal for outdoor, or body worn applications. Dependent on the applications loaded the platform can operate as a Transmitter, Receiver, Dual Encoder and IP Mesh Radio node. Further information on software capability can found in the SDRAPP datasheets.

With features such as an onboard ISM telemetry transceiver for control, PTZ and low-power standby, dual HD H.264 video encoders and multiple connectivity protocols, the SDR-R can be employed in a range of different applications, from commercial audio visual to military robotic and personal body-worn.

PA accessories can be connected for extended range.

Features

- 2x100mW COFDM transceivers for use as COFDM Transmitter, Receiver or IP Mesh
- Additional integrated telemetry transceiver in multiple operating bands for control, PTZ and low power standby
- Dual SD/HD-SDI video inputs for recording, transmission and analysis
- Microphone inputs and headphone output for recording, transmission or talkback
- Growing USB support for peripherals such as 3G/4G/Wi-Fi dongles
- Ethernet, RS232 and RS485 connectivity and 128GB built in storage
- Robust packaging with IP66 rated connectors
- Very low power consumption: typically 7.5W

General Specifications

- Temperature range: -20°C to +60°C
- Power input: 8V to 18V reverse polarity protected
- Power output: 1A pass-through (switchable)
- Typical power consumption: 7.5W (SD), 8.5W (HD), 9.5W (Dual)
- Dimensions: L 130mm, W 100mm, H 25mm
- L 130mm, W 100mm, H 30.5mm (UHF)
- Weight: 314-372g

MeshUltra™

Powering DTC

Innovators in Wireless IP Mesh Technology

Revolutionising Mesh Technology

MeshUltra™ is our most advanced Mesh waveform yet and it is supported by the industry's widest range of Mesh hardware platforms – from tiny modules, perfect for small drones, to the longest range ruggedized nodes, ideal for maritime or industrial applications. With frequency options spanning 340MHz to 6GHz and tri-band capable products, plus options for OEM integration, DTC can offer hardware solutions for every application.

MeshUltra™ incorporates multiple enhancements such as higher throughput, support for more nodes, multiple talk groups, quasi beamforming and cognitive radio capabilities.

Quasi-beamforming offers a significant increase in robustness and fault tolerance, while the new SQT 64QAM modulation mode and reduced metadata overhead allows even more data throughput. Cognitive radio features such as auto-adaptive modulation based on SNR for each individual mesh link, automatic mode switching and the RF-reactive Interference Avoidance Scheme allow MeshUltra™ to maintain maximum capacity links in the most challenging conditions.

Time and again, DTC Mesh excels not just on the datasheet or in the lab but in the most demanding real-world applications.

Now, DTC MeshUltra™ offers our most capable and flexible Mesh yet.

BANSHEE Tactical Radio

Mobile Broadband Edge Network

The Batthefield of Things™ Ecosystem connects soldiers, drones, robots, loitering munitions, and other sensor end points to enable at the-edge data, intelligence, and communications. It provides battlefield commanders never before seen accessibility and situational awareness.

Features

- Supports up to 256 users
- Integrated Mesh Radio
- Dual 2x 250mW LTE Bands
- CSFS Compatible
- Onboard Computer

General specifications

- Frequency range: Multiple Band Configurations available in Commercial LTE bands (700MHz - 6GHz) Standard option is Band 66 + 46
- Operating Modes: Stand-alone, or agile mesh network
- Power Consumption: Max 75W, Typical Use: 50W
- Power Requirements: 20-40 VDC with AC power options available
- Wireless Transmission: OFDM, Frequency Division Duplex (FDD) and Time Division Multiple Access (TDMA), Multiple Input Multiple Output (MIMO)
- Channel Size: Up to 20MHz (configurable per 3GPP specifications)
- Channel Spacing: 1 MHz
- Max TX Power: 2 RF modules of 2 x 250 mW MIMO. 14 power level settings
- Temperature: Operational: -40°F to +131°F (-40°C to +55°C)
- Storage: -40°F to +158°F (-40°C to +70°C)
- Size: 11.50W x 17.20 H x 4.45 D in (29.21 W x43.68 H x 11.30 D mm)
- Weight: Approx. 17lbs (7.71 kg) w/ 2 x BA 2590 batteries (user density and configuration dependent)

BANSHEE Tactical Radio

4G/LTE Mobile Broadband Edge Network

The Batthefield of Things™ Ecosystem connects soldiers, drones, robots, loitering munitions, and other sensor end points to enable at the-edge data, intelligence, and communications. It provides battlefield commanders never before seen accessibility and situational awareness.

Features

- Supports up to 800 users
- Integrated Mesh Radio
- Dual 2x 5W LTE Bands
- CSFS Compatible
- Onboard Computer

General specifications

- Frequency range: Multiple Band Configurations available in Commercial LTE bands (700MHz - 6GHz) Standard option is Band 2 + 66
- Operating Modes: Stand-alone, or agile mesh network
- Power Consumption: Max 360W, Typical Use: 280W (50%, Capacity: 255W
- Power Requirements: 90-264 VAC, DO Compatible Option
- Wireless Transmission: OFDM, Frequency Division Duplex (FDD) and Time Division Multiple Access (TDMA), Multiple Input Multiple Output (MIMO)
- Channel Size: Up to 20MHz (configurable per 3GPP specifications)
- Channel Spacing: 1 MHz
- Max TX Power: 2 RF modules of 2 x 5 watt MIMO. 14 power level settings
- Temperature: Operational: -40°F to +131°F (-40°C to +55°C)
- Storage: -40°F to +158°F (-40°C to +70°C)
- Size: 11.50W x 17.20 H x 4.45 D in (29.21 W x43.68 H x 11.30 D mm)
- Weight: Approx. Approx. 24.25 lbs(11 kg) -pending option selection

Battlefield Connectivity

MANET (Mobile Adhoc NETwork) Dynamic Self-healing, Self-forming MESH Radios for NLOS, Urban and Subterranean Missions

MESH (RTV&A) SENSORS HF (6110/6120) VHF (6150) MULTIBAND (6170) UHF (6160)

SATCOM AND SERVICES

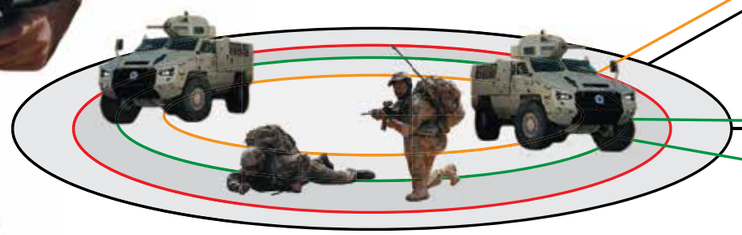
BATTALION MAIN

BRIGADE HQ

BATTALION TOC

COMPANY TOC

UAV



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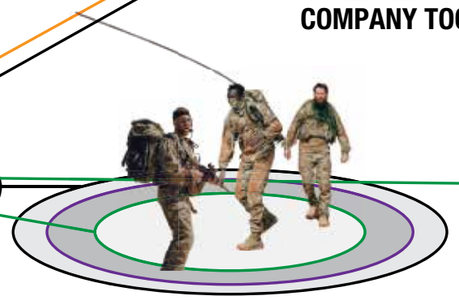

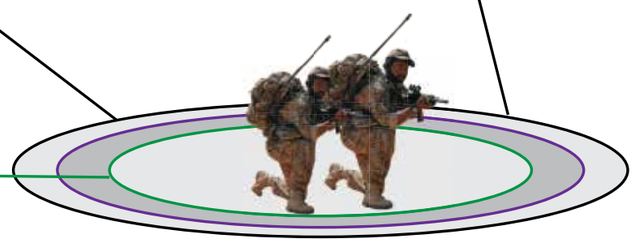

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ON THE FRONT LINE

TACTICAL SOLUTIONS

PRODUCT OFFERING

CODAN COMMUNICATIONS | DTC

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TACTICAL COMMUNICATIONS PORTFOLIO

SENTRY-H 6120-BM

HF BASE, MOBILE

Codan's Sentry-H 6120-BM delivers a rugged Software Defined Radio (SDR) solution for military organisations that demand uncompromised, secure long range voice and data communications. With 150W RF power, it has been specifically designed to deliver the smallest and lightest form factor for no-fuss integration into base and mobile platforms. In close consultation with military customers, the 6120-BM has been optimised for ease-of-use and features an ergonomic smart handset with a colour, high-resolution multi-language interface and a variety of other capabilities.

FEATURES

- SDR Future-proof software defined design
- Fully backwards compatible with existing Codan radios
- Rugged smart handset with colour display and integrated GPS and loudspeaker mode
- Multi-language, intuitive user interface
- Optimised for mobile and base deployment
- 1.6–30 MHz
- 150 W PEP RF output
- Digital Voice, MELPe, TWELP
- STANAG 4539 (3G ALE)/MIL-STD-188-110A/B data waveforms (up to 19k2 bps)
- AES-256 digital COMSEC/CES 128 (full backwards compatible)
- Frequency Hopping
- MIL-STD-188-141B ALE (JITC certified)
- DSP noise reduction
- Fully Waterproof (IP67)
- MIL-STD-810G compliant for shock and vibration and environmentals
- IP/USB Connectivity
- Interoperable with Codan Patrol 2110M Manpack
- H-250 Connector support to Audio and external encryption devices, COTS/MOTS
- GPS force tracking solutions available
- Worldwide Codan service and support
- Over The Air Zeroise (OTAZ) capability

GENERAL SPECIFICATIONS

- Frequency Range: TX: 1.6–30 MHz; RX: 250 kHz–30 MHz
- Power Output: 150 W PEP
- Modes: J3E USB/LSB, AM (A3E Rx, H3E tx), CW/LMCW/UMCW (J1A, A1A)
- Receiver Sensitivity: -125dBm (0.12uV)
- Channels: 1000
- Programmable Contacts: 500
- Programmable Networks: 20
- Scan Rate: Up to 8 Channels per second
- RF Input / Output Impedance: 50 Ω (N-Type)
- Input Voltage: 10 V to 35 V DC
- Supply Current: Rx: 650 mA; Tx: average speech 5 A (analogue)
- Channel Filters: 500 Hz, 2.4 kHz, 2.75 kHz, 3 kHz (software defined)
- Frequency Stability: ±0.3 ppm
- Operating temperature range: -30 to +60°C
- Environmental: MIL-STD-810-G for shock, vibration, humidity, blowing dust, leakage, immersion, fungus, altitude
- Protection: Over-voltage/under-voltage/over-temperature/reverse polarity
- GPS: RFU: external antenna, Handset: embedded receiver/antenna (GPS, GLONASS and Beidou)
- Size: RFU 220 mm x 66.5 mm x 190 mm, Handset: 67 mm x 210 mm x 72.5 mm
- Weight: RFU: 2.82 kg; Handset: 280 g (no cable)
- Language Support: Multiple language user interface and documentation

BASE

The 6120-BM can be easily adapted to a base station use with simple desktop or rack mount options as well as a universal mounting system for custom mount solutions. The 6120-BM will operate from a wide range of DC input voltages making it suitable for battery/solar powered sites. For AC mains applications the 6120-BM transceiver can be combined with the fully ruggedised/waterproof 3320 Sentry power supply to provide reliable, continuous duty operation, with standby battery backup if needed.

The 6120-BM has standard power output of 150W, however, for enhanced communications ranges or high volume data operation this may be increased to 500 or 1000W using the Codan 3061/2 external rack mount power amplifier.

MOBILE

The small size and fully integrated design of the 6120-BM provides an excellent solution for mobile platforms, particularly where available space is at a premium. The 2230 Smart Handset provides full configuration and control of the radio and enables remote location of the RF Unit for installation flexibility. This convenience is further enhanced by the Handset's embedded loudspeaker and GPS capabilities, alleviating the need for these as separate accessories in many cases.

The wide 10V to 35V DC input voltage handling means that the 6120-BM can be directly connected to the battery supply of a wide range of vehicle types without the need for expensive and bulky voltage convertors.

ACCESSORIES

A range of military specification accessories are offered to support the deployment of the 6120-BM into both temporary and permanent fixed station deployment.

- Tactical base antenna and mast solutions
- Vehicle / base antenna tuners
- Vehicle shock mounts
- General mounting accessories
- H-250 audio accessories
- H-250 remote speaker
- 3320 rugged power supply
- Morse key
- Crosspatch HF/VHF/UHF
- Telephone interconnect
- 500 W / 1kW booster amplifiers
- External GPS antennas

3046 Tuner

HF NATO antenna base whip

H-250 Remote Speaker

9300 Vehicular Antenna

SENTRY-H 6110-MP

HF MAN PORTABLE

Codan's Sentry-H 6110-MP delivers a rugged man portable Software Defined Radio (SDR) solution for military organisations that demand uncompromised, secure voice and data communications, while on the move. The 6110-MP forms an integral part of the Sentry-H product family that meets the demands of the modern battlefield whilst offering full backwards compatibility with legacy products. The 6110-MP is one of the smallest, lightest form factor manpack HF radios available, delivering a powerful 30W RF power and up to 79 hours of battery life in less than 4.7 kg of weight without compromise on any capabilities.

FEATURES

- Software Defined Radio
- 30 W power output
- Man portable usage up to 79 hour battery life
- Rugged and waterproof
- MIL-STD-810G design
- Lightweight and compact
- Rugged smart handset with colour display and integrated GPS
- Dual handset control
- Intuitive icon based colour display
- Multi-language user interface
- Tactically aware: dedicated sound and light controls
- Embedded GPS
- Built in front panel speaker
- IP connectivity over Ethernet/Wi-Fi and USB
- Exceptional RF performance
- Digital voice message call
- Standards based: MIL-STD-188-110A/B (STANG 4539) Data (up to 19k2 bps), FED-STD-1045, MIL-STD-188-141B ALE, 3G ALE (STANAG 4538)
- AES-256/CES-128 COMSEC
- ECCM
- Designed for MOTS BB-2590 style battery
- Worldwide Codan service and support
- Over The Air Zeroise (OTAZ) capability

GENERAL SPECIFICATIONS

- Frequency Range: TX: 1.6–30 MHz; RX: 250 kHz–30 MHz
- Power Output: 30 W RF± 1dB (two-tone or voice), user-programmable in 1W steps (low/medium/high)
- Modes: Single Sideband USB, LSB (J3E), AM (H3E), CW (J2A), AFSK (J2B), FSK (F1B), ISB (B7D or B2B), Software Defined
- Receiver Sensitivity: SSB: -125 dBm (0.12 uV) for 10dB SINAD
- Channels: Up to 1000 entries
- Programmable Contacts: Up to 500 entries
- Programmable Networks: Up to 20 networks (simultaneous scanning)
- Frequency Stability: ±0.3 ppm
- Operating temperature range: Operational at –30 to +60°C; 95% RH maximum, non-condensing
- Environmental: MIL-STD-810G (Immersion (1 hr at 1 m), Shock, Drop, Vibration, Humidity, High temp, Low temp, Blowing Dust, Salt Fog, Fungus, Contamination, Altitude)
- GPS: Embedded receiver/antenna (GPS, GLONASS and Beidou) and external antenna support
- Size: 284mm (without handles, 324 with handles) x 246 mm x 96 mm (L x W x H) including battery compartment
- Weight: Less than 5 kg including BB-2590 battery
- Language Support: English, Spanish, Russian, Chinese, French, Arabic, Dari, Pashto and Portuguese

- Compact and lightweight
- Intelligent performance
- High power
- Secure communications
- Exceptional digital and analogue voice clarity
- Intuitive operation

PORTABLE

The 6110-MP is comfortable to carry, packed with easy-to-use features and ideal for all types of terrain and weather conditions, complying with the toughest environmental standards including MIL-STD-810F.

ACCESSORIES

The Sentry-H 6110-MP radio is fully customisable to your specific mission requirements with software enabled capabilities and a wide range of peripherals and accessories.

- Batteries
- Battery chargers
- Grounding kit
- Tactical antennas
- Backpacks

Batteries

Battery charger

Battery charger

Multi-bay charger

Tape and collapsible whip

Grounding kit

Tactical broadband antenna

Backpack

SENTRY-V 6150

VHF HANDHELD, MAN PORTABLE, BASE, MOBILE

Codan's 6150 family military band VHF radio provides a rugged solution for users who require communications with a tactical edge: designed and tested to all the environments faced on the modern day battlefield, offering users the ability to pass critical information across the area of operation in real time. The 6150 family increases operational efficiency and awareness for those in the immediate area and back to command elements.

STANDARD FEATURES

- 30-88 MHz frequency range
- Digital Voice (MELPe/CVSD)
- Available in hand held, man portable, vehicular and base configurations
- GPS
- Fully Waterproof (IP67)
- Just two switches and two buttons for complete radio operation
- Backlit LCD display
- Squelch control with power-saving mode
- Multiple audio accessories

ADVANCED FEATURES

- AES-256 COMSEC
- ECCM

GENERAL SPECIFICATIONS

- Frequency Range: 30 to 87.975 MHz
- Channels: 2320
- Programmable Channels: 10
- Data transmission rates: 1.2 / 2.4 / 9.6 / 12.0 / 19.2 / 24 kbp/s
- Modulations: F3E, F1D, F2D, F1E, F2E
- Operating Modes: Simplex, two-frequency simplex
- Power Supply: 7.2V (12-24V base/man portable)
- Frequency Stability: ± 5 ppm
- Autonomy (hand held only) (1:1:8 and 1W RF) >10 hours for NiMH battery; >24 hours for Li-Ion battery
- Sensitivity: F3E: ≤ 0.5µV (SINAD 12 dB); F1D: ≤ 0.7 µV (up to 9.6 kb/s); ≤ 2.0 µV (over 9.6 kb/s)
- Audio Bandwidth: 400 to 2500 Hz
- Audio Distortion: ≤ 7%
- Dimensions (hand held only) (H x W x D) 212 mm x 91/76 mm x 43 mm
- Weight (hand held with battery) 940 g
- Temperature range: Operational: -32°C to +50°C; Extreme: -40°C to +71°C
- Environmental: MIL STD 810F, NO-58-A213

SECURE COMMUNICATIONS

The 6150 family is integrated with AES-256 encryption in addition to analogue and digital scramblers. Encryption key allocation provides network security levels within the formation and improved protection complimenting the entire network.

SELECTIVE CALL SYSTEMS

The 6150 radio provides selective call capability between individual users or between groups of users. Up to 81 individual IDs are available with the ability to also create IDs for up to 9 groups, each with up to 9 members each.

SDS

The Short Data Service has been developed to quickly and efficiently display pre-defined messages over the network. This minimizes network activity and increases network efficiency with clear concise user defined meanings.

RADIO PROGRAMMING AND MANAGEMENT

Frequency, transmission type and output power can be preset for each of the 10 network allocations.

Programming the 6150 family can be performed:

- Directly from the radio user interface
- Through the programming software
- Cloning directly from radio to radio
- Using a Fill Gun

Complimented by emergency zeroise function the radio can be quickly erased in the field by an operator, adding an extra layer of protection to network security.

6150-HH (5W) HAND HELD

6150-MP (20W) MAN PORTABLE

6150-BM (50W) BASE, MOBILE

ACCESSORIES

BATTERIES

Various types of batteries are available for the radio:

- NiMH 7.2 V/2000 mAh
- Li-Ion 7.2 V/4400 mAh

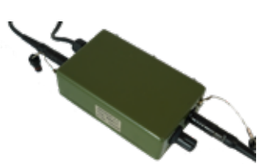
The Li-Ion battery offers greatly improved charge duration over a standard NiMH battery.

WIDE RANGE OF ACCESSORIES

- Headsets with PTT (including in-the-ear)
- Long, medium and short antennas
- Battery chargers
- Fill gun
- Vehicle adapter
- RF 50W power amplifier
- Carry cases

Long, medium and short antennas

Power Amplifier



6150 family to 6160 family cross frequency interoperability

Console (mobile use)

SENTRY-U 6160-PR

UHF HANDHELD, BASE, MOBILE

Codan's Sentry-U 6160-PR (Personal Radio) provides secure Inter and Intra team communications. Designed for action on the forward edge and specialized units who need a robust real time reporting network to conduct vital operations. Technology enhancements within this product over traditional Personal Role Radios (PRRs) decrease the risk of detection and interception.

FEATURES

- Compact and lightweight
- Full-duplex voice/data operation
- VOX operation
- Wireless PTT operation
- AES-128 COMSEC
- Built in GPS
- LPD waveform
- Multiple network and grouping
- Simplex digital voice
- Data transmission: up to 125 kb/s
- Various accessories available

GENERAL SPECIFICATIONS

- Frequency Range: 2405 to 2480 MHz (unlicensed ISM band)
- Number of programmable pre-sets (channels) 16
- Channel raster: 5 MHz
- Voice encoding method: CVSD
- Max data rate: 125 kb/s
- GPS receiver in-built (with internal or external antenna)
- Transmitter RF power 100 mW; 400 mW; 650 mW
- Audio output: 250 mW @ 8 Ohms (internal speaker); 20 mW @ 32 Ohms (external speaker)
- Radio range in open area: up to 1200m
- Operation time: (Tx/Rx/S'By = 1/7/16) up to 17 h (for 650 mW) (depending on operation mode)
- Power Supply: 2 x AA battery (NiMH or alkaline)
- Dimensions (without antenna) 115 x 69 x 37mm
- Weight (without batteries) 345g

6160-PR mobil docking station

Five-position charger

VOICE INFORMATION

The network ID voice announcement, heard via the headset earpiece or internal speaker, allows the operator to switch between networks rapidly and intuitively - attention is focused on the mission in hand, and not the radio.

QUICK PROGRAMMING

The compact rugged fill gun programmer offers off-line programing in the field without the need for additional IT devices. Radios can be rapidly reconfigured to meet mission demands whilst still deployed.

ENCRYPTION

The 6160-PR has optional built in AES-128 encryption for users who require an extra layer of network security.

EMERGENCY ERASING

With the 6160-PR emergency zeroise function the radio can be quickly erased in the field by an operator, ensuring network protection.

ACCESSORIES

- Radio holster - MOLLE system to mount directly to an operator's equipment
- Wide range of headsets
- Wireless PTT switch (WPPT)
- Double wireless PTT switch (DWPTT)
- One and five bay chargers for charging battery in radio
- Adapter for the mobile set
- Handset for operation with vehicular set
- Mobile antennas
- Programmer ("fill gun")
- Cable set
- Cross frequency interoperability

Single ear headset

Wireless PTT

Fill gun

Vehicular dome antenna

6150 family to 6160 family cross frequency interoperability

SENTRY-M 6170-HH

MULTIBAND HANDHELD, BASE, MOBILE

Codan's Sentry-M 6170-HH is an advanced, secure and easy to operate handheld Military Software-defined Radio (SDR) designed for use in the harshest environments worldwide.

With continuous spectrum coverage from 20 MHz through to 520 MHz, the 6170 provides simultaneous voice, data and situational awareness (APP-6 NATO standard for tactical BMS), whilst offering network security with COMSEC, NETSEC and ECCM / TRANSEC.

FEATURES

- 20 - 520 MHz - spectrum coverage
- Simultaneous Voice, Data and Situation Awareness (SA)
- ECCM in GNSS denied environments
- Software Defined Radio architecture
- Large sun-readable colour display
- Embedded GPS
- Modular Solution – Jerk and Run
- Available in 50W Base / Vehicular configuration
- Dual PTT
- MELP 2400bps
- AES-256 COMSEC
- ECCM 300hps
- Multiple waveforms

GENERAL SPECIFICATIONS

- Frequency range: Handheld: 20 to 520 MHz Base/Mobile: 30 to 520 MHz
- Power output: Handheld: 0.1W, 1W, 5W Base/Mobile: 5W, 20W, 50W
- Programmable channels: 1000
- Input voltage range: Handheld: 12V DC (nominal) Mobile / Base 19V to 33V DC (27V nominal)
- Frequency stability: ±1 ppm
- Compliance: MIL STD 810F, EMC MIL-STD-461G
- Channel spacing: FM: 25kHz AM: 8.33kHz, 25kHz
- Transmit specifications: Spurious and harmonic suppression: >50dBc
- Digital voice: MELPe 2400 / CODEC2
- Size: Handheld: 220 x 86 x 44 mm (Excluding Antenna) Vehicle dock: 270 x 180 x 90 mm 50W Amplifier: 270 x 180 x 187 mm
- Weight: Handheld: <1 kg (with Battery and Antenna) Vehicle dock: 2 kg Power amplifier: 9.5 kg
- Battery: Rechargeable 10.8V 6.6Ah Li-Ion
- Battery life: 10.5h at 1:1:8

Sentry-M 6170-BM

CODAN SENTRY-M 6170-BM

Codan's Sentry-M 6170-BM is a modular addition to the 6170- HH handheld radio, coupling a vehicle adaptor and a 50W power amplifier. This extremely robust unit provides the same advanced feature set as the handheld radio, with the benefit of additional range provided by higher power and more efficient antenna solutions.

This configuration offers selectable power output levels at 5W, 20W or 50W and a variety of supported accessories including external speakers, handsets and a range of vehicular/base antenna solutions.

The Sentry-M 6170-BM features a modular design. Where required the radio can be quickly removed from the vehicle adaptor, fitted with an antenna and used in handheld configuration.

INTUITIVE USER EXPERIENCE

The Sentry-M 6170's high-resolution colour display with an intuitive User Interface (UI), automatic screen brightness and backlit keypad, users can operate the radio to its full potential with minimal training. The customisable UI can also be user configured to show mission critical information such as power output, signal quality, mode of operation and radio ID when receiving signal.

Allocation of special function macros allows the user to toggle a large range of options, including power level, operational waveform, COMSEC and TRANSEC allocation with the press of a single key.

Smart network select enables the radio network administrator to set pre-predefined COMSEC, TRANSEC and frequency allocation for each of the 1000 programmable channels. With radio hot-swap functionality and emergency zeroise, the operator can ensure network security and continued communication in the event of radio compromise.

ADVANCED WAVEFORMS AND FEATURES

With high quality analog and digital voice (2.4kbps MELPe), the Sentry-M 6170 enables the use of multiple waveforms, creating an adaptable multi-role radio that can be tailored on the fly to meet mission specific requirements. With the flexible SDR platform, radio network modifications are applied easily in the field with the supplied FillGun or PC connection.

Adaptable to existing software architecture through the radio Application Programming Interfaces (APIs) coupled with an internal GPS receiver/antenna. Sentry-M 6170 can be integrated with virtually any customer supplied control system or SA (Situational Awareness) software.

The Sentry-M 6170 inbuilt network cross patching brings the ability to connect directly any third-party device with Carrier Operated Relay (COR) and Push To Talk lines (PTT), seamlessly merging radio networks and relaying mission critical voice communications.

Codan's RF and software engineering teams can collaborate with client engineers to design bespoke sovereign modes and waveforms according to specific end-user requirements.

ACCESSORIES

The Sentry-M 6170-HH has a full suite of accessories supporting different operational requirements, including:

- Headsets
- Shock Mounts
- Battery Charger
- PC / Network connections through USB, Ethernet (RJ-45 and RS-232)
- PTT Device
- Battery
- Pouches

Multiple antenna solutions to suit any requirement are available, full band (20-520MHz) through to band specific with increased gain and transmit properties e.g. 20-108MHz.

Single ear headset

Four-position charger

Fill gun

Personal battery charger

RIOS

RADIO INTER-OPERABILITY SYSTEM - ANY TO ANY VOICE DEVICE

Codan's RIOS (Radio Interoperability System) is a suite of devices intended to allow radio to radio to IP voice communications, secure from end to end. Encrypted and clear radios from any band (e.g. HF, VHF, UHF, satellite) can be bridged together and broken out onto IP links (e.g. LTE internet, fibre, microwave, Ethernet) to allow 'software' users on Windows computers, iOS/Android smartphone apps or VoIP phones to talk directly to radio assets on the ground.

RIOS is hardware compatible with any device with a microphone and speaker, meaning GSM or POTS telephone networks can also be easily linked into these same RoIP talkgroups. RIOS operates transparently to any encryption standards - communications channels remain 'red' between radio devices, are decrypted by the connected radio going into the RIOS, and then re-encrypted again by a different outgoing radio connected to the RIOS.

FEATURES

- Interoperability for all types of communications including radio, smartphone and computers
- Deploy immediately to the most challenging environments with a standalone FAA-compliant case
- Connect to all signaling platforms including HF, VHF, UHF, cellular and satellite phones
- Network to anywhere in the world including Ethernet, satellite or wireless IP highly-efficient network integration
- Common radio configurations pre-set
- RIOS lite smartphone app with control and video function

GENERAL SPECIFICATIONS

- 2 - 32 hardware ports and unlimited software connections
- Ruggedised USB port
- External PTT input
- DC Input: 9 to 36 V DC
- Weight: 9.5 kg (31 lbs) with Battery
- Dimensions: 22.6 cm H, 55.1 cm W, x 35.8 cm D (8.9" H x 21.7" W x 14.1" D)
- Housed in a Pelican iM 2500 case with lid organiser
- Includes:
  - RIOS Gateway Controller software application
  - Lind power adaptor for ruggedised laptop
  - AC mains to DC power supply and line cord
  - Ruggedised laptop

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