



Military Product Offering

DTC

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Tactical Communications Portfolio

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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





SDR-R 2W

Small Form Factor UAV / UGV / USV, General Systems Integration

The SDR-R is a ruggedised software defined radio transceiver with 2x1W RF output power. Leveraging DTC's industry-leading MeshUltra™ waveform and also capable of operating as a unidirectional COFDM Transmitter or Receiver, the SDR-R provides a passively cooled IP68 rated enclosure ideal for integration into long range UxV and outdoor concealment applications.

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

Features

- 2x1W transceivers for use as IP Mesh radio, COFDM transmitter or receiver
- USB support for peripherals such as 3G/4G/Wi-Fi dongles
- Ethernet and RS-232 data connectivity
- 128GB in-built SD card storage
- IP68 ruggedized enclosure
- Very low power consumption, typically 7W IP Mesh

General Specifications

- Temperature range: -20°C to +55°C
- Power: 1W (+30dBm) max per output, 2W total
- Power input: 7-way Fischer
- DC input: 8V to 17.5V reverse polarity protected
- Power consumption: 7W typ. IP Mesh, 14W typ. COFDM TX single output, 24W typ. COFDM TX dual output, 6W typ. COFDM RX
- Dimensions: H 157mm (incl. connectors), W 75mm, D 21mm
- Weight: 430g approx.



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





MeshUltraTM

Powering **DTC**

Innovators in
Wireless IP Mesh
Technology

Revolutionising Mesh Technology

MeshUltraTM 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.

MeshUltraTM 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 MeshUltraTM 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 MeshUltraTM offers our most capable and flexible Mesh yet.