

# SOL8SDR-H

## Special Role Radio (MANET)

### Overview:

Based on DTC's game-changing SOL08 Software Defined Radio (SDR) platform, the SDR-H is equally at home operating as a tactical ad hoc network (MANET) IP Mesh node, a P2P COFDM transmitter or a P2P receiver streaming video to a tablet PC. The SDR-H also offers dual on-board HD-capable video encoders and support for a variety of different camera interfaces including HDMI (with optional cable), an "open mic" full duplex audio channel, in-built GPS receiver and on-board SD card storage as well as 2W of total output power.

The Special Role Radio joins DTC's versatile family of IP Mesh and P2P COFDM radios designed to meet the requirements of a diverse range of surveillance and battlefield applications. It combines a familiar "soldier radio" physical form factor, bulletproof construction and simplified user interface with the ability to use standard MBITR-style battery packs, chargers and holsters.



### Features and Benefits:

- Standard and MIMO IP Mesh capability
- Dual high profile HD H.264 independent video encoders
- 2W total output power
- 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
- Growing USB support for peripherals such as 3G/4G/Wi-Fi dongles
- Ethernet, RS232 and RS485 connectivity and 128GB built in storage
- Low power consumption, typically 7.5W to 10W based on encoder output
- Battery life - up to 12 hours
- Range NLOS - >1.5km single hop; >15km air to ground
- Designed to MIL-STD-810G

### Product Information:

#### Product Includes

AP009562	GPS/GLONASS antenna SMA
SA4288	USB support stick
SA4425	SOL8SDR-H Ethernet cable

#### Accessory Options (sold separately)

AP009603	MBITR battery charger 1-way
AP009604	MBITR battery charger 4-way
AP009679	2dBi omni antenna 225-512MHz, TNC (m) whip
AP009680	2.15dBi omni antenna 1.00-1.50GHz, TNC flexi gooseneck
AP009681	2.4dBi omni antenna 1.85-2.60GHz, TNC flexi gooseneck
AP010118	3.5dBi omni antenna 4.40-5.90GHz, TNC flexi gooseneck
AP010166	SOL8SDR-H MBITR AN/PRC148 battery 7.0Ah
CA3472	Cambion to data and power in/out
CA3473	Cambion to USB and power in/out
CA3474	Cambion to data, USB and power in/out
SA4283	HDMI input cable
SA4368	ODU 16-way to Ethernet, headphone and microphone cable
CAMBHD	Bullet HD-SDI camera, Picatinny mount and coaxial cable
SOL8SDI	HDMI/composite to SDI converter

#### Related Documents

Resource ID 100271	SOL8SDR-H Hardware Guide
--------------------	--------------------------

# SOL8SDR-H

## Special Role Radio (MANET)

### Technical Specification:

#### I/O

COFDM transceiver 1	TNC socket 50Ω
COFDM transceiver 2	TNC socket 50Ω
GPS/GNSS	SMA socket 50Ω
SD/HD-SDI video input	DIN 1.0/2.3 socket 75Ω
HDMI video input	24-way spring probe connector
Power input	24-way spring probe connector MBITR AN/PRC148 battery
Power output (12V)	24-way spring probe connector 16-way circular connector
USB	24-way spring probe connector
Data	24-way spring probe connector
Gigabit Ethernet	16-way circular connector
Microphone/line input	16-way circular connector
Headphone output	16-way circular connector

#### COFDM Transceivers

Required application	*SDRAPP-TX or *SDRAPP-MESH
Power	1W (30dBm) per output, 2W (33dBm) total
Power step	0.25dB incremental control
Tuning range	Frequency variant dependent
Tuning step	125kHz

#### Receiver

Required application	*SDRAPP-RX
Sensitivity	Up to -110dBm
Streaming Output	Single service (first received)
Tuning range	Frequency variant dependent
Tuning step	125kHz

#### Video

Required application	*SDRAPP-ENC
Digital input	SD/HD-SDI (supports SOL8SDI option for HDMI/composite) HDMI via side connector option

#### Audio

Required application	*SDRAPP-ENC or *SDRAPP-MESH
Headphone output	Mono headphone driver
Analogue input	High gain microphone stereo pair 10V microphone bias (cable dependent)
Digital input	SD/HD-SDI de-embedding

#### Data

Data configuration	1k2 to 115k2, 7/8 bit, no/odd/even parity
Data interface	RS232 or RS485 or USB peripherals

#### Storage

Medium	Internal microSD 128GB (>8 hours recording at max DVB-T bitrate) (>29 hours recording at max NB bitrate)
--------	--

#### Control

Rotary switch	Off, config select (on) and zeroise keys
USB	PC application control and SD card mounting
Ethernet	PC application control and file download Web GUI control and file download
Access	User, Super User and Admin accounts

#### Physical

Dimensions (excluding protrusions)	128mm (L), 67mm (W), 38mm (D)
Weight	634g

# SOL8SDR-H

## Special Role Radio (MANET)

### Technical Specification (con't):

#### Power (ext PSU)

DC input	8V to 18V reverse polarity protected
Power consumption	Up to 20W (RMS) dependent on mode and peripherals, 10W typical Mesh mode

#### Environment

Standard	Designed to meet MIL-STD-810G
Temperature range	-20°C to +60°C
Cooling	Passive
Sealing	IP68

#### Frequency

032047	320-470MHz
114150	1.14-1.50GHz
167235	1.67-2.35GHz
198270	1.98-2.70GHz
440500	4.40-5.00GHz

#### Software License Code

*SDRAPP-ENC	SDR Application IP Encoder
*SDRAPP-TX	SDR Application COFDM Transmitter
*SDRAPP-RX	SDR Application Receiver
*SDRAPP-MESH	SDR Application IP Mesh NETNode
*SDRAPP-IAS	SDR Application Interference Avoidance Scheme
SDRAPP-GOLD	All Gold level SDRAPPs (incl. MESH)
SDRAPP-PLATINUM	All Platinum level SDRAPPs (incl. MESH/IAS)
AES128TX	AES128-bit Encryption License
AES256TX	AES256-bit Encryption License

\*Refer to separate datasheets for SDRAPP requirements

Export of encrypted products is subject to United Kingdom regulatory export controls.

For further information contact your Sales Account Manager, one of our Regional Sales Offices, or email [solent.enquiries@domotactical.com](mailto:solent.enquiries@domotactical.com)

**DTC – Herndon (Headquarters)**  
2303 Dulles Station Boulevard  
Suite 205  
Herndon, VA  
20171, USA

T: +1 800 665 4648

**DTC – Tampa**  
3845 Gateway Centre Boulevard  
Suite 360  
Pinellas Park, FL  
33782, USA

T: +1 727 471 6900

**DTC – Solent**  
Fusion 2, 1100 Parkway  
Solent Business Park  
Whiteley, Hampshire  
PO15 7AB, UK

T: +44 1489 566 750

**DTC – Randers**  
Haraldsvej 64B  
DK-8960  
Randers SØ  
Denmark

T: +45 8791 8100

**DTC – Singapore**  
21 Media Circle  
Infinite Studios #05-06  
Singapore  
138562

T: +65 6339 0508