The Most Capable Soldier System Radio

TW SPIRIT 860 RADIO

TrellisWare's TW Spirit 860 is designed for next-generation soldier systems, public safety, and first responder requirements. Interoperable with all TrellisWare radios, the TW Spirit 860 radio supports a true flat network with massive scalability in a single radio frequency (RF) channel, while still delivering rapid position location information (PLI) updates for every radio.

KEY FEATURES

- Designed specifically for body-wearable applications with industry-leading size, weight, and power (SWaP) among body-worn mesh networking radios
  - Single data and power connector that supports Internet Protocol (IP) data and USB-C power delivery to support soldier hub devices and conformal wearable batteries
  - Ideal for use with body-worn wearable antennas, only requiring one antenna to achieve reliable performance (versus MIMO radios that require multiple antennas)
- Seamless data connectivity for all body-worn end-user equipment
  - Expansion port for Wi-Fi wireless connectivity for audio and data
- Full voice capability with dual push-to-talk (PTT) and up to 32 selectable talk groups
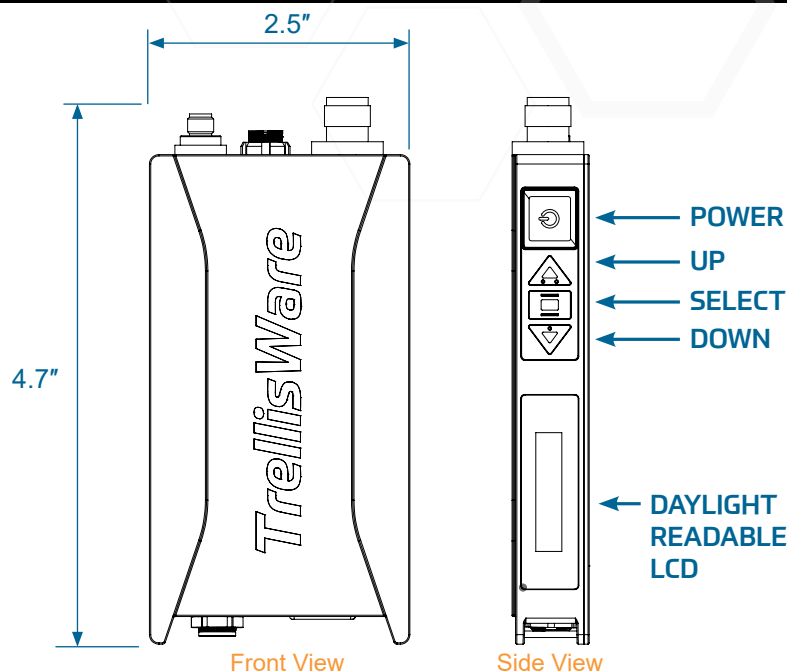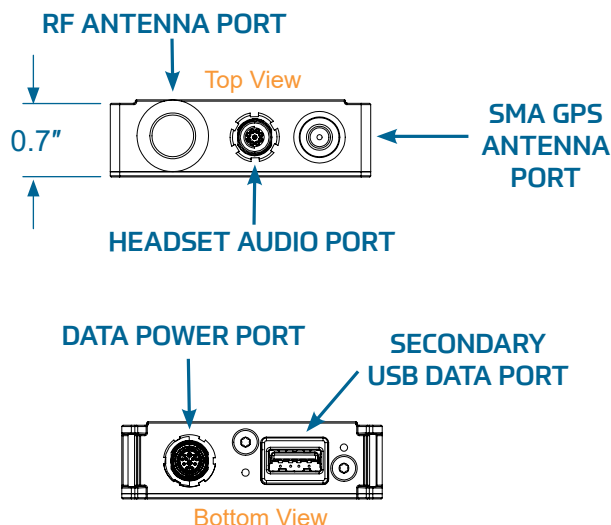- FCC/IC-certified configuration available

TRELLISWARE WAVEFORMS

TrellisWare's Barrage Relay technology provides proven network scalability and performance without compromising quality of service. The TSM waveform is a highly scalable and robust MANET waveform that supports over 800 nodes with simultaneous voice, data, video, and PLI operating in a single radio frequency channel. The optional Katana waveform combines resilient narrowband fast frequency hopping with tactical MANET, operating in highly contested radio frequency (RF) communication environments.

SCAN ME

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COMPONENTS

RF ANTENNA PORT

Top View

0.7″

SMA GPS ANTENNA PORT

HEADSET AUDIO PORT

DATA POWER PORT

SECONDARY USB DATA PORT

Bottom View

2.5″

4.7″

TrellisWare

POWER

UP

SELECT

DOWN

DAYLIGHT READABLE LCD

Front View

Side View

SPECIFICATIONS

Physical	
Overall Size	4.7 L x 2.5 W x 0.7 H in (119 x 64 x 19 mm)
Weight	0.5 lbs (249 g)
Frequency Range	• LUHF: 225–450 MHz • U-UHF: 698–970 MHz • L/S Bands: 1250–2600 MHz
Bandwidth/Channel Spacing	Wideband: 1.2, 3.6, 10, 20 MHz Narrowband: 6.25, 8.33, 12.5, 20, 25, 50 kHz
Transmit Power	.001 mW, .01 mW, .1 mW, 10 mW, 100 mW, 250 mW, 500 mW, 1 W, 2 W
Input Power	5–20 VDC
RF Connector	TNC
Headset Audio Port	9-Pin Connector – Supports Dual Push-To-Talk (PTT) and Two Simultaneous Talk Groups
Data/Power Port	12-Pin ODU Connector – Supports USB-C Power Delivery and Data
Secondary USB Port	USB-A Connector – Supports Data, Programming, and WiFi
Environmental	MIL-STD-810G IP67 without USB-A Cap IP68 with USB-A Cap
Operating Temperature Range	-20°C to +55°C (-4°F to +131°F)
Audio Encoding	AMR 5.9, MELPe
Waveforms	• TSM • NB LOS • Katana (optional)
GNSS	GPS

Networking Capabilities	
Network Coverage	• Barrage Relay • Multi-hop – Up to 8 Hops • 800 Nodes in a Single RF Channel • Robust in Harsh RF Environments • Up to 32 Mbps
Communication Services	• Simultaneous Voice, Data, and PLI • IP Support – IPv4, IPv6; Unicast, Multicast, Broadcast; TCP, UDP
Security	• AES-256 (FIPS 197)
Application Support	• Built-in Web Applications • Over the Air Remote Control • TW Connect • ATAK support

Specifications subject to change without notice.

*Expanded temperature range test results available.

Note: For military and public safety/security use. Please contact TrellisWare Customer Support at **support@trellisware.com** for FCC/IC radio options, or EU and UK declarations.

UKCA | CE

When Nothing Else Works

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To place an order, please contact your account manager. For more information, email sales@trellisware.com

Please access the most recent digital version of this datasheet on the TrellisWare Customer Support Site (site registration required).