TrellisWare TW-400 CUB

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TrellisWare The Small, Rugged, Sensor Handheld

TrellisWare TW-400 CUB is ideal for missions requiring sensor technology in a small form-factor handheld radio. CUB keeps your network low profile with an on board analog-to digital H.264 encoder, power conserving sleep modes, and local triggers.

CUB brings mobility and connectivity to critical situations or in challenging RF environments, including urban or rural, ground or air, in-ship, and long range distances. This portable radio a receiver, transmitter, and relay all in one and can be left unattended for remote sensor access and control.

CUB is powered by TSM™ delivering reliable and robust high-speed wireless IP networking coverage. TSM is a completely self-forming and self-healing infrastructure-less mobile mesh network with unmatched scalability. CUB maintains 12 independent cellular quality voice channels while simultaneously supporting multiple video streams, data, and Position Location Information (PLI).
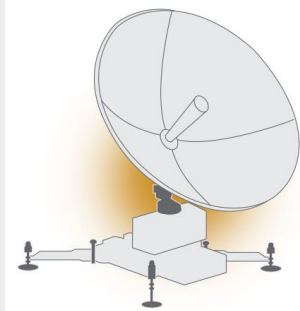
TSM Benefits

- ✅ Infrastructure-less MANET
- ✅ High-speed wireless IP networking
- ✅ Self-forming, self-healing
- ✅ Scalable to 200+ nodes
- ✅ Robust in harsh environments
- ✅ Non-routing network

TW-400 CUB Features

- ✅ Onboard H.264 video encoder and video server
- ✅ Sleep modes for extended operation time
- ✅ Connects multiple networks with gateway functionality

Connect Multiple IP Networks

Extend network range by cross-connecting multiple IP networks deployed. The CUB radio effortlessly bridges a TSM and an external IP network together with CUB's built-in gateway feature. In this way, connect to a very small aperture terminal (VSAT) for a satellite network link that works as a backhaul to a wider enterprise network.
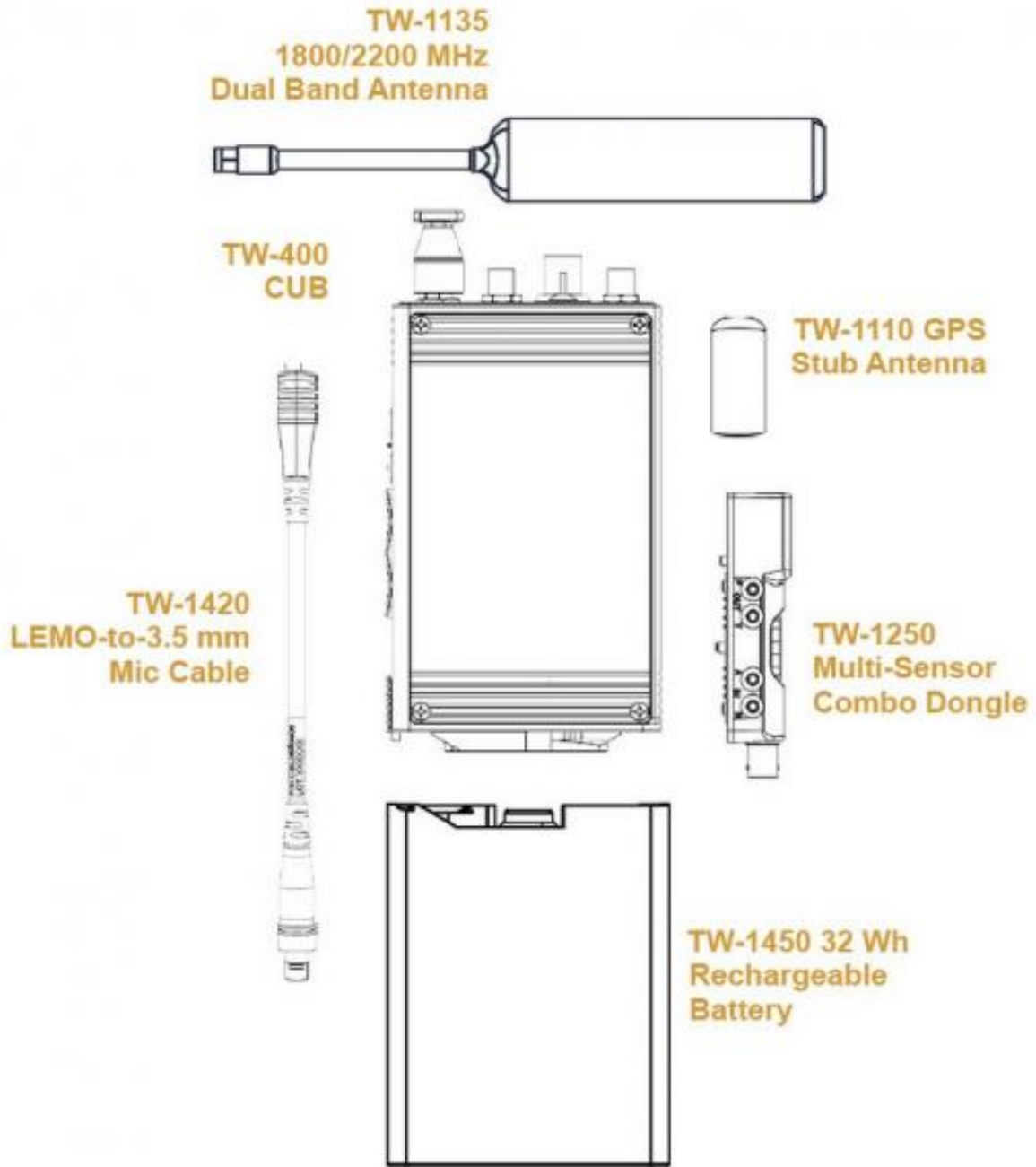
Sensor Dongle

Control all IP sensor traffic with CUB's sensor dongle accessory. Conveniently collect information, surveillance, and reconnaissance (ISR) for any mission, and leave it unattended as a ground sensor for perimeter or motion detection. The sensor dongle features an Ethernet connector, analog video input, power output providing a constant 3.3 V power

source, and low-voltage having trigger inputs and outputs.

Specifications

Size	4" (H) x 2.5" (W) x 0.9" (D)
Weight (R/T only)	10 oz
Frequency Range	1775–1815 MHz, 2200–2250 MHz
Occupied Bandwidth	20 MHz, Configurable to 4 MHz
Transmit Power	2 W
Input Power	6–18 V DC with Power Adapter
Battery Life	8 Hours with 32 Wh Rechargeable Battery
Environmental	MIL-STD-810G
Water Resistant	2 M Immersion
Connectors	LEMO Audio, SMA RF and GPS Antennas, 24-pin for Dongles
Data Rate	8 Mbps IP Throughput per Channel
Audio Encoding	AAC Audio, AMR 5.9 or MELPe
Audio Latency	3 Hop < 275 ms, 8 Hop < 400 ms
Video Encoding	MJPEG or H.264
Net Entry Time	< 1 Second
Waveform	TSM
Routing	Barrage Relay™ networking
Modulation	Constant Envelope

TW-1135
1800/2200 MHz
Dual Band Antenna

TW-400
CUB

TW-1110 GPS
Stub Antenna

TW-1420
LEMO-to-3.5 mm
Mic Cable

TW-1250
Multi-Sensor
Combo Dongle

TW-1450 32 Wh
Rechargeable
Battery

Common TSM Networking

Network Coverage	Mobile Ad-hoc Networking (MANET)
	Range – 26 Mile LOS per Network Hop
	Multi-hop – Up to 8 Hops
	200+ Nodes in a Single RF Channel
	Robust in Harsh RF Environments
Communication Services	Simultaneous Voice, Data, PLI
	12+ Cellular Quality Voice Channels
	Up to 12 Real-time Video Streams
	Built-in GPS
	IP Support – IPv4, IPv6; Unicast, Multicast, Broadcast; TCP, UDP
Security	AES-256
	OTAR, OTAZ
	Remote Disable
	RSA-2048
	SHA-256
Application Support	Built-in Web Applications
	Over the Air Remote Control

	APIs for 3rd Party Integration
	PLI with CoT, KML, and JSON
	Integration with Android™

Applications

☑ Sensor technology provides awareness of physical or environmental conditions

☑ Constant real-time intelligence for warfighters, first responders, miners, ISR, and in-ship

☑ Wear, access remotely, or leave unattended as a receiver, transmitter, and relay

☑ Robust RF connectivity in highly dynamic environments

☑ Operates with other TSM products

TW-400 CUB - Sensor - TrellisWare