

**Wireless Communication  
Mesh Network (WiCM)****Mesh Network Node - OCU****TECHNICAL SUPPORT**

Schafer provides in-house engineering expertise to support custom robotic and communication product development and integration with access to ISO 9001 and AS 9100 Certified facilities.

**NETWORK SOLUTIONS**

A mobile ad hoc mesh network open architecture supports interoperability by providing a common radio, waveform, and data protocol that allows different platforms to operate together and exchange all forms of digital data.

**OCU SOLUTIONS**

Situational awareness software is operable on a Windows XP laptop or other computer to allow operators to interact with robotic platforms, airborne vehicles, and sensors networks. Displays show node location, network topology, map views, icons/images, quality of service, real-time video. Users can communicate by instant messaging (IM), voice-over-IP (VOIP), and exchange data files.

**Self-Aware, Self-Healing Mobile Ad Hoc Mesh Network WiFi Node  
Schafer Part No.: WICM4.1-OCU**

The Mesh Network Node integrated into an AMREL OCU Laptop Computer offers a flexible, interoperable, and affordable solution for your tactical communication needs. Employing ruggedized COTS electronics with WiFi radios, the Node OCU is ready to integrate into the device bay of an AMREL Computer to provide wireless connectivity for command, control, communications and data transfer. The Node will link your computer into a self-aware and self-healing mobile ad hoc mesh network while also providing a relay of other signals throughout the network without needing to be reconfigured.

The mesh network will support simultaneous transmission of real-time video, voice, data and situational awareness information. With the SCALE v4.1 Software on the computer, the information is easily displayed on the screen in a variety of customizable windows. The Node OCU With WEP or AES 128 bit digital encryption ensures that all data is secure during transmission.

A modified Device Bay from AMREL Computers is used to host the SCALE v4.1 Software and can be used as an integrated mesh network node within the computer or as a standalone node in a robot or paired with a sensor.

**CONTACT US**

For more information on any of our products or services please visit us on the Web or contact us directly.

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## System Specifications

Frequency Bands:	2.4GHz, 4.9GHz, 5.8GHz and Others (Specify When Ordering)
Bandwidth:	20MHz, Multiple Channels per Waveband, OFDM Waveform
Transmit Power:	400mW (Typical, Other Powers Available)
Operating Voltage:	9-48VDC (5W Power Consumption) Supplied Through AMREL Device Bay Connector or Power Over Ethernet
RF Antenna:	3 dBi Omnidirectional, TNC-Male Connector, 50Ohm, 9in Length
GPS Antenna:	Active (Amplified) Right Angle SMA-Male, RG174/U Cable
Data Interface:	IPv4 Through Ethernet (RJ45 x 2), Other Options Available.
Data Protocol:	802.11, UDP Multicasting or TCP
Enclosure Rating:	Call for details
SWaP:	2.3lbs (1.05kg), 6.1 x 3.3 x 1.4in (155 x 84 x 34mm) for device without 9in Antenna
Operating Environment:	Temperature: -40°C to +85°C Humidity (non-condensing): 20% to 90%
Security:	WEP Layer 2 or AES 128 Bit Layer 2 OpenVPN/OpenSSL Layer 3 Available
Software:	Embedded Linux OS on Node

#### Call About Customization

Custom Products Are Available, Please Contact Advanced Program for Details.

#### SERVICES AVAILABLE:

- Technical Support
- Installation and Setup
- Maintenance
- Integration and Testing
- Application Support
- Hardware Support
- Software Support
- Customization
- Guaranteed Warranty

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