

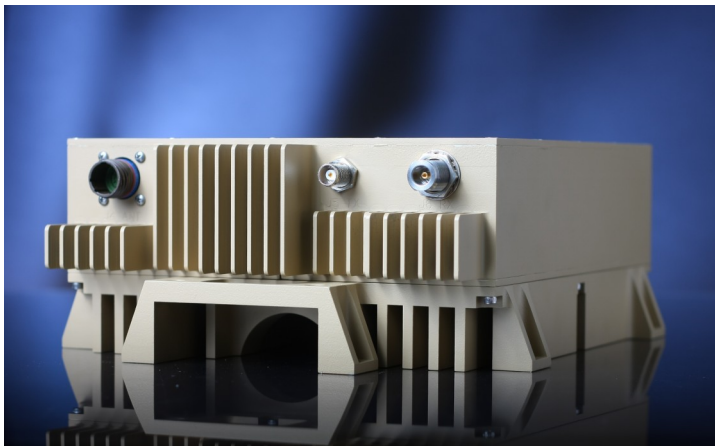
# LAW-ANR

Tactical 802.16 Based Advanced Network Radio



The Aeronix LAW-ANR (Advanced Network Radio) is a sealed, small, affordable wireless networking radio. It leverages proven OFDM technology to deliver high-speed Ethernet throughput to stationary tower and on-the-move vehicular ground, air, and sea platforms.

The LAW-ANR is a software radio design and is based upon the Aeronix Tactical 802.16 / LAW waveform. Tactical 802.16 / LAW is leveraged upon the IEEE 802.16-2004 specification but includes MAC and PHY layer enhancements for TRANSEC security, high-speed mobility, operation in high-noise environments, and network robustness. It's software programmable architecture provides flexibility in waveform choice, and allows users to easily upgrade to future capabilities planned for release with the Tactical 802.16 waveform. With rack, vehicle, and pole mount options, the LAW-ANR provides an affordable, flexible, long range, high bandwidth networking solution.



## Tactical 802.16 / LAW Waveform

- AES TRANSEC with 256 bit key (no latency)
- Implements the Point to Multi-point portion of the IEEE 802.16-2004 Specification
- IEEE 802.16 modulations plus additional PSK modulation modes for high multipath environments
- Software Reprogrammable as needed for application specific requirements
- Doppler correction for ground-to-air and air-to-air operation
- Supports 1PPS Reference for enhanced timing performance
- QoS over HAIPE support
- SCA Compatible architecture
- Waveform supports distances to 250 miles.
- **Waveform of ARMY WIN-T LAW Radio**

## Applications

C<sup>2</sup>, VoIP, Data, Video, including:

- **On-the-Move Vehicular** - Flexible, on-the-move voice, video, and data link
- **Backhaul** - Supports applications in which high bandwidth, long range throughput is required
- **Air Relay** - Over-the-hill communications link for VoIP voice, data, video, and imagery.
- **Long Distance Direct Distribution** Direct distribution of imagery and information to soldiers on the move.
- **UAV Data Link** - High speed secure data link form UAV to ground collection station.

[www.aeronix.com](http://www.aeronix.com)



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Networking	
Waveform	Tactical 802.16 / LAW Waveform with modulations for: BPSK, QPSK, QAM16, QAM64, 8PSK, 16PSK
Network: Point to Multipoint	Network includes one Base-Station with multiple Subscribers. A total of 20 subscribers are supported.
Network::Point-to-Point	High performance mode with reduced overhead . User configured mode via GUI.
Uplink / Down Link Ratio	Ratio is user configurable via GUI slide bar. Max = 70%, Min = 30% of aggregate throughout.
Network Routing	Routing configuration via automatic setup modes and user configuration
IP Support	IPv4 and IPv6 Support
Operating System	Linux general purpose processor operating system
Channel Tuning Steps	1 MHz channel tuning steps are user configurable via the GUI. Tuning is SW upgradeable to custom steps if required.
Uncoded Burst Rate (Mbps)	72 Mbps maximum radio burst transmission capability at maximum channel width

Management Features	
Remote Management	Radios can be configured remotely over the network via USER login to the GUI
User Interface	Web Based GUI Serial Command IF SNMPv3 Capable
Software Selectable Base/ Subscriber Station	Radios can be configured via GUI selection as either a base-station or subscriber-station.
LED Status	LED status is available for BS/SS Configuration, Tx Status, Rx Status, and Alarm

Security	
TRANSEC Cover	AES256 Cover for network management information. Configured on/off via user GUI.
Data Cover	AES256 Cover - Decover for data. Configured on/off with TRANSEC control above.
DSCP QoS Capability	Support for QoS over HAIPe via user GUI configuration
Pedigree	U.S. design and manufacture
FIPS 140-2	Planned 1Q12

Radio Specifications	
RF Freq.	C-Band: 4.6-4.8 GHz Unlicensed 5.8 GHz.
Channels Supported	9 / 12 (User Configured via GUI)
Channel BW	10 and 20 MHz
Channel Tuning Steps	Configured in 1 MHz steps via GUI
RF Output Power	Radio 0 dB External power amplifier provided as option
Noise Figure	< 8.5dB

Connector Interfaces	
Network I/O	Ethernet 10/100/1000
Low Speed I/O	RS232
Timing I/O	1PPS
Smart Antenna / PA Interface	Proprietary Interface
RF	Tx—TNC Male Rx—N-Male

Physical Characteristics	
Size	8.0" x 8.5" x 2.75" Rack Mount 8.0" x 8.5" x 3.6" Vehicle Mount 8.0" x 8.5" x 3.6" Pole Mount
Weight	~ 10 lbs.
Power	< 30 Watts, POE and 10-52 VDC

Environmental	
Chassis	Sealed, Weatherproof
Shock	Vehicular ready
Cooling	Conduction

Future Enhancements	
Waveform	Relay option Ad Hoc Mode in 2012



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