

802.16 High Performance Digital Data Link

Modular, High Bandwidth, Ruggedized



- ✓ Digital 802.16 Data Link
- ✓ Secure Data Transfer (TRANSEC)
- ✓ Software Programmable
- ✓ 70dB Adjacent Channel Rejection
- ✓ Ruggedized

Key Features

802.16+

- AES TRANSEC with 256 bit key (no latency).
- Additional PSK modulation modes.
- 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.
- Implements the Point to Multi-point portion of the IEEE 802.16-2004 Specification; Software upgradeable to 802.16e.
- Hard-MAC/Soft-MAC split moves MAC code into host domain.
- QOS built into 802.16 waveform.
- SCA Compatible architecture.

Applications

C², VoIP, Data, Video, including:

- **Air Relay** - Over-the-hill communications link for VOIP voice, data, video, and imagery.
- **UAV Data Link** - High speed secure data link from UAV to ground collection station.
- **Long Distance Direct Distribution** Direct distribution of imagery and information to soldiers on the move. Low speed backhaul to carry health and position information.

Aeronix's 802.16 High Performance Data Link is a small, affordable, lightweight, modular, scalable data link. Aeronix can customize the packaging and functionality to meet customers' requirements. Comprised of an RF power head and 3u CPCI modem



board set, the 802.16 High Performance Digital Data link provides guaranteed QOS, data security, and adaptive data rates with flexible bandwidths for extended range. The size, weight, and power consumption is perfect for small unmanned vehicles. The RF power head is an environmentally sealed unit with option adapter plates for pole mounted configurations.

At ~400 cubic inches, and approximately 10 pounds, with future size/weight reduction possible, the 802.16 High Performance Data Link currently provides communication capability (command and control, video, etc.) between multiple platforms. Its software programmable architecture provides greater flexibility in waveform choice, and allows users to easily upgrade to future waveforms without changing hardware.

Physical Characteristics		Specifications	
Size	10" x 8" x 5"	RF Interface	<ul style="list-style-type: none"> • Tx and Rx RF connectors • 4.8 or 5.6 GHz wireless frequency • 20 MHz channel spacing • Supports 9 or 5 channels • Transmit output power 0 dBm average
Weight	~ 10 lb		
Power	~ 130 watts		
Enclosure	NEMA-4		
Performance		Media Interfaces	<ul style="list-style-type: none"> • Telemetry/control RS422 • Ethernet (auto sensing) • 1PPS
Data Throughput	<ul style="list-style-type: none"> • 65.45 Mbps max Over the Air (OTA) • 58 Mbps IP traffic 	TRANSEC	Data and protocol encryption using AES (256)
Access Demand	Dynamic partitioning of uplink/downlink capacity	Waveform	802.16d WirelessMAN_OFDM Point to Multipoint (PMP)
Rate Adaptation	<ul style="list-style-type: none"> • Automatic mode • User configurable fixed mode 	Future Enhancements	
User Interface	<ul style="list-style-type: none"> • Serial and Ethernet • Supports DHCP • Easy browser-based configuration utility • Command line 	Waveform	<ul style="list-style-type: none"> • Roadmap to mobility with planned software upgrade (802.16e) • Software Defined



1775 West Hibiscus Boulevard ■ Suite 200 ■ Melbourne Florida 32901 ■ Tel.(321) 984-1671 ■ Fax.(321) 984-0366

www.aeronix.com