

EDL - Mini Digital Data Link

Small, Affordable, Lightweight, Modular

Aeronix's 802.16 UAV Mini Data Link is a fan cooled small, affordable, lightweight, modular, and scalable data link that enhances a mini UAV's security and range. Aeronix can customize the packaging and functionality to meet customers' requirements. The 802.16 UAV Data Link provides guaranteed UAV control, high quality video transmission, data security, and adaptive data rates with flexible bandwidths for extended range. The size, weight, and power consumption is perfect for small and mini unmanned vehicles.

At approximately 8 cubic inches, and less than 5 ounces, the 802.16 UAV Mini Data Link currently provides the capability of inter-flight communications (command and control, video, etc.) to and from a UAV. Its software programmable architecture provides greater flexibility in waveform choice and allows users to easily upgrade to future waveforms without changing hardware.



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.

Tactical 802.16+

- AES TRANSEC with 256 bit key (no latency).
- Additional PSK modulation modes.
- 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.
- Implements the Point to Multi-point portion of the IEEE 802.16-2004 Specification.
- QoS built into 802.16 waveform.
- SCA Compatible architecture.
- Waveform supports distances to 250 miles.
- **Waveform of ARMY WIN-T LAW Radio**



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

www.aeronix.com

EDL - Mini Digital Data Link

Small, Affordable, Lightweight, Modular



Networking	
Waveform	Tactical 802.16 / LAW Modulations Supported: BPSK, QPSK, QAM16, QAM64, 8PSK, 16PSK
Network: Point to Multipoint	Network includes one Base-Station with multiple Subscribers Total of 20 subscribers 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 throughput.
Network Routing	Routing configuration via automatic setup modes and user configuration
IP I	IPv4 and IPv6 Support
Operating System	Linux general purpose processor operating system
Channel Tuning Steps (MHz)	Channel tuning steps are user configurable via the GUI, SW upgradeable to custom steps if required.
Uncoded Burst Rate (Mbps)	Maximum radio burst transmission capability at maximum channel width of 28 (Mbps)

Radio Specifications	
RF Freq.	2.4 MHz
Channels Supported	12 (User Configured via GUI)
Channel BW	3.5, 7.0, and 14 MHz
Channel Tuning Steps	Configured in 1 MHz steps via GUI
RF Output Power	800mW (2W peak)
Noise Figure	<4 dB

Future Enhancements	
Waveform	Relay option Ad Hoc Mode in 2012

Connector Interfaces	
Network I/O	Ethernet 10/100
Low Speed I/O	RS232
Timing I/O	1PPS
Media I/O	RS170 / NTSC Video In / Out Audio Capable
RFI	Single RF SSMC antenna interface

Physical Characteristics	
Size	3.9" x 2.1" x 1"
Weight	~ 5 oz
Power	< 9 watts

Environmental	
Altitude	Up to 60,000 ft
Shock	150g (z axis), 50g (x, y)
Chassis	Unsealed
Cooling	Fan cooled

Management Features	
Remote Management	Radios can be configured remotely over the network via USER login via GUI
User Interface	Web Based GUI Serial Command IF SNMPv3 Capable
Software Selectable BS / SS	Radios can be configured via GUI selection as either a base-station or subscriber-station.

Security	
TRANSEC Cover	AES256 Cover - Discover for network management information. Configured on/off via user GUI.
Data Cover	AES256 Cover - Discover for data. Configured on/off with TRANSEC control above.
DSCP QoS Capability	Support for HAIPE Qos Descriptors via user GUI
Pedigree	U.S. design and manufacture
FIPS 140-2	Future



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

www.aeronix.com