

802.16 EDL - Mini Digital Data Link

Small, Affordable, Lightweight, Modular



Developed in Cooperation with
NAVAIR

Low SWaP Digital 802.16 Data Link

H.264, MPEG 2/4 Video
Compression (Adjustable Ratio)
Secure Data Transfer (TRANSEC)
Software Programmable

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.
- 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 UAV Mini Data Link is a fan cooled small, affordable, lightweight, modular, 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 10 cubic inches, and less than 5 ounces, the 802.16 UAV Mini Data Link currently provides the capability of interflight 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.



Physical Characteristics		Specifications	
Size	4.6" x 2.25" x 1"	RF Interface	<ul style="list-style-type: none"> • Single RF connector • 2.4GHz wireless freq • 5 MHz channel spacing • Supports 12 channels • Peak 2W RF output
Weight	~ 5 oz		
Power	< 10 watts		
Performance		Media Interfaces	<ul style="list-style-type: none"> • Telemetry RS232 • 1PPS • RS170/NTSC video In/Out • Audio capable
Data Throughput	<ul style="list-style-type: none"> • 18.72 Mbps max Over the Air (OTA) • 16 Mbps IP traffic 		
Access Demand	Dynamic partitioning of uplink/downlink capacity		
Rate Adaptation	<ul style="list-style-type: none"> • Automatic mode • User configurable fixed mode 		
User Interface	<ul style="list-style-type: none"> • Serial • Command line 	TRANSEC	Data and protocol coverage using AES (256)
		Waveform	802.16d WirelessMAN_OFDM Point to Multipoint (PMP)
Environmental		Future Enhancements	
Altitude	Up to 60,000 ft	Waveform	<ul style="list-style-type: none"> • Roadmap to mobility with planned software upgrade (802.16e) • Software Defined
Shock	150g (z axis), 50g (x,y)		
Chassis	Unsealed		
Cooling	Fan cooled		

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