

# 802.16 EDL 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

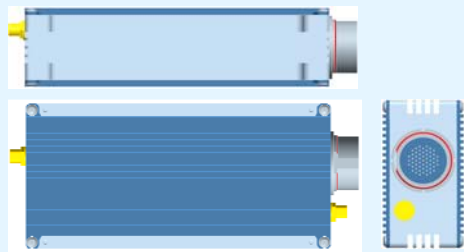
### 802.16+

- 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 Multipoint portion of the IEEE 802.16-2004 Specification.
- QOS built into 802.16 waveform.
- SCA Compatible architecture.

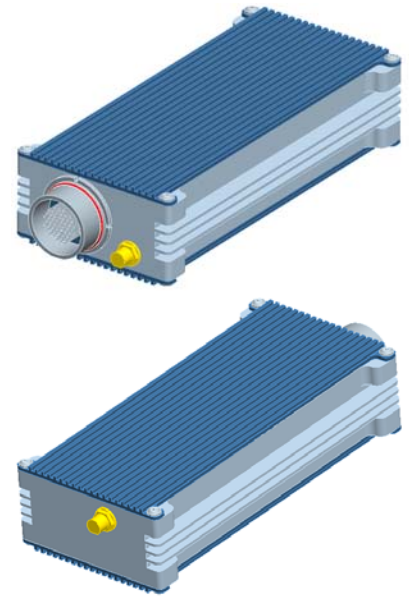
### Applications

C<sup>2</sup>, 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 Data Link is a sealed, 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.



*802.16 UAV Digital Data*

At approximately 24 cubic inches, and less than 12 ounces, the 802.16 UAV 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	6.00" x 2.75" x 1.48"	RF Interface	<ul style="list-style-type: none"> <li>• Single RF connector</li> <li>• 2.4GHz wireless freq</li> <li>• 5 MHz channel spacing</li> <li>• Supports 12 channels</li> <li>• Peak 2W RF output</li> </ul>
Weight	~ 12 oz		
Power	< 10 watts		
Performance		Media Interfaces	<ul style="list-style-type: none"> <li>• Telemetry RS232</li> <li>• 1PPS</li> <li>• RS170/NTSC video In/Out</li> <li>• Audio capable</li> </ul>
Data Throughput	<ul style="list-style-type: none"> <li>• 18.72 Mbps max Over the Air (OTA)</li> <li>• 16 Mbps IP traffic</li> </ul>		
Access Demand	Dynamic partitioning of uplink/downlink capacity		
Rate Adaptation	<ul style="list-style-type: none"> <li>• Automatic mode</li> <li>• User configurable fixed mode</li> </ul>	TRANSEC	Data and protocol coverage using AES (256)
User Interface	<ul style="list-style-type: none"> <li>• Serial</li> <li>• Command line</li> </ul>		
Environmental		Waveform	802.16d WirelessMAN_OFDM Point to Multipoint (PMP)
Altitude	Up to 60,000 ft		
Shock	150g (z axis), 50g (x,y)		
Chassis	Sealed		
Cooling	Conduction Cooled	Future Enhancements	
		Waveform	<ul style="list-style-type: none"> <li>• Roadmap to mobility with planned software upgrade (802.16e)</li> <li>• Software Defined</li> </ul>

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