CUBIC™

Government Validated Protected Waveform
Adopted by CDL Executive Agent

Features

- Low power requirement and small size and weight footprint provide flexibility in installation and compatibility with short-range tactical UAS, Launched Effects, and larger manned and uncrewed vehicles

- Multi-band reception and transmission (L and S with C available) enables operation anywhere in the world

- Compliant encryption (U.S. and Coalition) facilitates flexible and tested secure communications

- Integrated 2-watt power amplifier simplifies integration and further reduces terminal footprint

- Transmit and receive data to provide high-capacity IP channels for voice, data, and video

- CDL Common Control Interface provides open architecture/open standard compliance

Expeditionary-1 (EX-1) Software Defined Radio

Cubic's Expeditionary-1 (EX-1) Software Defined Radio provides front line tactical ISR communications that are crucial for air, ground and maritime forces operating in contested and highly contested Electro-Magnetic Spectrum threat environments.

The EX-1 is an environmentally rugged and compact data link system. It enables protected datalink communications to a variety of platforms to include Group 2-3 Uncrewed Aircraft Systems (UAS) platforms and Ground and Air Launched Effects (LE) to be compliant with the Department of Defense (DoD) Common Data Link (CDL) standard, while ensuring ISR and Command and Control (C2) data transmissions are secure and joint interoperable.

The EX-1 is a multi-band radio specifically designed to address limited size, weight and power (SWaP) constraints of smaller ISR platforms. The EX-1 can be paired with antennas / amplifiers for longer range, or use an optional integrated 2W PA for manpack / mobile / short range use. The radio supports L and S bands with C band available and includes the latest encryption technology.

Expeditionary-1 (EX-1) Software Defined Radio

Specifications

General Features
Low SWaP multi-band full duplex CDL radio
Ethernet Interface

Encryption
Type 1 Ready

Waveforms
Bandwidth Efficient CDL (Modes 101 and 104)
BE CDL Mode 300 Series

Other Waveforms Available
Standard CDL
Bandwidth Efficient CDL (Modes 1-8 and 105)
466 ER
Tactical 1.6, 3.2, 6.4

Physical Specifications	
Size	5.6" L x 3.0 " W x 1" D
Weight	1.18 lbs
Power	10-18W depending on waveform and internal PA output setting

Operational Frequency Ranges	
C-band	4400 MHz – 4990 MHz
S-band	2025 MHz – 2500 MHz
L-band	1710 MHz – 1850 MHz
L-band	1300 MHz – 2000 MHz

Transmit output power
2W internal PA with 1W at connector output*

without external PA

Data Interfaces
Command Interface: SNMP MIB Compliant to CDL Rev E
User Data Interface: IPv4/6

Environmental and EMI/EMC Specifications (Designed)	
Environmental	Vibration and Shock Humidity, MIL-STD-810F
EMI/EMC	MIL-STD-461E
Operating Temperature	-40C to +71C
Operating Altitude	50,000 ft

The Expeditionary-1 Software Defined Radio is the latest evolution of Cubic's miniaturized software-defined radios with encryption. For more than two decades, Cubic has designed, manufactured, integrated and deployed radios for the DoD-mandated ISR CDL which is used universally by tactical and strategic airborne, terrestrial and maritime vehicles.

Cubic Defense
www.cubic.com/assured-data-link

9233 Balboa Avenue
San Diego, CA 92123

© Cubic Defense Assured Data Link Solutions SDR Transceivers
REV 16_24FEB2025