

AIRBORNE SOFTWARE-DEFINED RADIO (ASDR)

Ruggedized airborne next-generation data link

L3Harris' high-performance, environmentally rugged, wideband data link provides maximum flexibility for airborne military applications in demanding operational environments.

PRODUCT DESCRIPTION

The ASDR is a compact 1/4 ATR ruggedized SDR featuring native integration with the L3Harris 28-inch Ku-band SATCOM antenna. It provides full-duplex communication across L-band and extended frequency ranges with data throughput up to 45 Mbps. Leveraging

embedded Compact Multi-band Data Link (CMDL™ 2i) technology, the ASDR delivers seamless interoperability across L3Harris radio platforms operating Common Data Link (CDL) waveforms suitable for use with geostationary satellite constellations such as SES and Intelsat.



SPECIFICATIONS

DATA RATES	
STD-CDL Rev H.	200 kbps to 45 Mbps
Bandwidth Efficient (BE-CDL) Rev C	200 kbps to 45 Mbps (Modes 1-15, 101-105)
Optional	Tactical (1.6-6.4 Mbps), International (0.7-42 Mbps), VNW (50 kbps to 5 Mbps)

SWAP PERFORMANCE	
Dimensions	12.52" (L) x 2.25" (W) x 7.62" (H) 31.8 cm (L) x 5.7 cm (W) x 19.3 cm (H) (without connectors)
Power	18-32 VDC input; 36 W typical, 42 W max
Weight	10 lbs (4.5 kg)
MTBF	>10,000 hrs at 25°C

ENVIRONMENTAL (MIL-STD-810H)	
Altitude	50,000 ft (15,240 m) (Op) 65,000 ft (19,812 m) (Non-Op)
Temperature	-55°C to 71°C (Op) -55°C to 85°C (Non-Op)
Shock	20g 11ms Sawtooth (Op)
Vibration	4.62 gRMS (Op) 1.43 gRMS (Non-Op)
Qualifications	Humidity, fungus, rain, dust, salt fog, explosive atmosphere

EMI	
Compliance	MIL-STD-461G compliant

RF CHARACTERISTICS

BAND	FL (MHz) ¹	RL (MHz) ¹	STEP SIZE (KHz) ²	PWR OUT (dBm) (MIN TO MAX)	PWR IN (dBm) ³
Ku	15150-15350	14400-14830	1	-20 to +10	-70 to 0
C	4400-4990	5250-5850	1	-20 to +10	-70 to +20
S	2025-2110	2200-2500	1	-20 to +10	-70 to +20
L	950-2025		1	-20 to +10	-70 to +20

- 1. Forward Link and Return Link frequency ranges are floppable
- 2. Listed steps sizes represent the hardware capability; selected waveform may restrict the step size
- 3. Represents the minimum required receive range. Lower range sensitivities vary based on waveform

INTEGRATED SATCOM SOLUTION

Airborne Terminal 28" SATCOM Antenna with ASDR

Legend:

- ETH over Network
- Fiber Optic
- High-capacity Two-way Datalink
- ISR Sensor

Components:

- GEO
- Remote GCS
- Local GCS
- Equipment Shelter (RF Switch Matrix, Modems)
- 6.3m PGST
- 4.0m MGST
- 4.0m MGST Mobility Trailer
- 28" Ku Antenna + ASDR (Sold Separately)

End-To-End Capability:

- EO/IR Turret (Nose Mounted)
- CDL Data Link
- Ground Antenna
- Ground Station
- Actionable Intelligence

ASDR-DS-001

Airborne Software-Defined Radio (ASDR)

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