L3HARRIS®
FAST. FORWARD.

VORTEX® Sx

Next Generation of Secure, Flexible and Interoperable ISR Communications

Expanded frequencies and additional processing resources for capability growth set the VORTEX Sx apart from earlier VORTEX products—providing industry leading interoperability and capability.

PRODUCT DESCRIPTION

The L3Harris VORTEX Sx is the exportable variant to the popular, widely fielded VORTEX system. The transceiver provides real-time, Full-Motion Video (FMV) and other network data for situational awareness, targeting, battle damage assessment, surveillance, relay, convoy overwatch operations and other situations where eyes-on-target are required. Operating with a secure, unique waveform set, VORTEX Sx can be integrated with virtually all large airframes, UAVs and targeting pods in the air, as well as with all international ROVER® terminals and tactical operation centers on the ground. VORTEX Sx includes 256-bit AES encryption and is intended for nations with international waveform capability requirements.
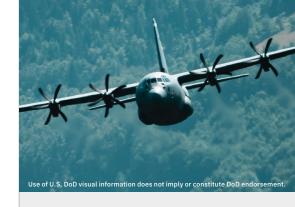
NOTABLE ENHANCEMENTS

> High-definition video

> Expanded S-Band and UHF bands

> 256-bit AES encryption

> Signal and waveform search

> Updated digital processing

> Improved RF performance

POTENTIAL APPLICATIONS

> Airborne communications

> Maritime communications

> Tactical Operations Center communications

> Vehicle-mounted communications

Combining High-Def Video and Radio Communications with Proven Reliability

KEY FEATURES

> **Secure digital communications**
  - **256-bit AES**

> **Multi-band reception and transmission**
  - **Five-band operation (UHF, L, S, C and Ku)**

> **High-Definition and Standard Definition video encoding/decoding**

> **Signal and waveform search**

> **Transmit capable**
  - **External transmitter control**
  - **Transmitter amp blank and enable signals**

> **Diversity transmission outputs**
  - **Two external transmitter interfaces**
  - **Diversity transmission from a single data source through two RF chains**
  - **Same or different bands**

> **Diversity dual-reception**
  - **Two external receiver interfaces**
  - **Diversity reception from a single data source with two receive antennas**
  - **Same or different bands**

> **Web browser GUI control**

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SPECIFICATIONS

PERFORMANCE CHARACTERISTICS

Transmit and Receive Bands[1]

> Ku-Band: 14.40 GHz to 14.83 GHz and 15.15 GHz to 15.35 GHz, 1.0 MHz steps

> C-Band: 4400 MHz to 4950 MHz and 5250 MHz to 5850 MHz, 1.0 MHz steps

> S-Band: 2025 MHz to 2110 MHz and 2200 MHz to 2500 MHz, 0.25 MHz steps

> L-Band: 1625 MHz to 1850 MHz, 0.25 MHz steps

> UHF: 225 MHz to 512 MHz, 1 kHz steps

Data Rates and Waveforms

> International

- 400 kbps, 3.5 Mbps, 10 Mbps, 45 Mbps

> International (Extended)

- 750 kbps, 1.5 Mbps, 3.0 Mbps, 6.0 Mbps

> Analog FM

> DVB-T: 3.75 Mbps to 21.11 Mbps (receive only)

Video

> High-Definition Video: 1080p30, 1080p25, 720p60, 720p50

> Standard-Definition Video: 480i29.97 (NTSC), 576i25 (PAL)

> H.265 HD (available via future software update)

> H.261 (decode only)

> H.264

> MPEG-2 (legacy-compatible)

> MPEG-4 part 2

> MJPEG

Encryption and Decryption

> 256-bit AES

PHYSICAL CHARACTERISTICS

SWaP

> Size: 4.75" (w) x 3.7" (h) x 8.6" (d) (12.1 cm x 9.4 cm x 21.8 cm)

> Weight: < 10 lbs. (<4 kg)

> Power: 9 to 32 VDC, approx. 45 watts[2] (typical)

Environmental

> Immersion: 1 meter of water for up to 30 minutes

> Shock: 20 G, 11 msec (terminal sawtooth peak), (operating)

> Altitude: < 70,000 feet (operating)

> Temperature: -40 °C to +70 °C (operating at MSL) -40 °C to +85 °C (non-operating)

PERFORMANCE CHARACTERISTICS

External Interfaces

> BNC HD-SDI and composite analog video in and out ports

> 100 Base-T Ethernet, IPv4 and IPv6 networking

> RS-232 (2 user channels, 1 GPS console)

> RS-422 (2 full-duplex user channels)

> Headset audio connection

> LED indicators

> Dual external SSPA and transmitter control

> Dual interfaces for external directional antenna control

> Dual DC bias RF receive (for external LNA)

			WAVEFORMS		
			International (Legacy)	International (Extended)	FM Analog
SUPPORTED FEATURES	Frequency Band	L		Tx/Rx	Tx/Rx
		S		Tx/Rx	Tx/Rx
		C		Tx/Rx	Tx/Rx
		Ku	Tx/Rx	Tx/Rx	
	Encryption[3]	AES	X	X	

1. Functionality for each frequency band requires compatible external amplifiers and antennas
2. Varies based on configuration and temperature
3. May be subject to export limitations

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1025 W. NASA Boulevard
Melbourne, FL 32919
t 833 537 6837
CSW.Products@L3Harris.com