

VORTEX[®] vs. VORTEX[®] S

PRODUCT FAMILY COMPARISON

The Industry Standard for Next-Generation Secure, Flexible and Interoperable ISR Communications.

The L3Harris VORTEX S Family of Transceivers is the upgrade for the popular and widely fielded VORTEX system. Expanded frequencies, additional processing resources for capability growth, Crypto Core Modernization and other enhanced features set it apart from earlier VORTEX products. Still with diversity transmission and reception, VORTEX S transforms sensor-to-shooter networking via increased levels of collaboration and interoperability.

INTERNATIONAL COALITION INTEROPERABILITY

The VORTEX S Family of Transceivers is available in three different configurations, ensuring game-changing capabilities are available to each coalition nation¹

- > The VORTEX Se is suitable for US and FVEY use, employing NATO/US waveforms and the KIV 700A crypto core. AES encryption is included
- > The VORTEX Sc is intended for all NATO and authorized coalition nations, employing the NATO/US waveforms and the CCM 700A crypto core. AES encryption is included
- > The VORTEX Si is available to any NATO or coalition nation, employing the same waveforms as the VORTEX Se and VORTEX Sc, but without integrated modernized cryptographic core. AES encryption is included



Legacy VORTEX Connector Panel



VORTEX S Connector Panel

1. Export authority subject to US Government approval for each purchase.



Use of U.S. DoD visual information does not imply or constitute DoD endorsement.

Combining High-Def Video and Radio Communications with Proven Reliability

STILL THE PROVEN VORTEX

- > Proven form factor
- > Multi-band Rx and Tx
- > Diversity operation for both transmit and receive
- > Secure digital communications
- > Ruggedized for air and ground operation

POWERFUL NEW VORTEX S FEATURES

- > HD video with (future) simultaneous encode/decode
- > Crypto Core Modernization
- > Full NSA Certification
- > S-Band Expansion: Added 2025 – 2110 MHz
- > UHF Band Expansion: Increased to 225 – 512 MHz
- > New Waveforms: BE-CDL mode 105, DDL receive and DVB-T receive
- > Advanced Waveform Search
- > Cold temperature operation, down to -40° C

FEATURE	LEGACY VORTEX	VORTEX Se	VORTEX Sc	VORTEX Si
Exportability	US/FV-EY		NATO/Coalition	
Intended User Nations	US/FV-EY		NATO/Coalition	
Frequency Bands				
UHF	400 MHz to 470 MHz, 1 kHz steps	225 to 512 MHz, 1 kHz steps		
L-Band	1710 MHz to 1850 MHz, 0.5 MHz steps	1625 MHz to 1850 MHz, 0.25 MHz steps		
S-Band	2200 to 2500 MHz, 0.5 MHz steps	2025 MHz to 2110 MHz and 2200 MHz to 2500 MHz, 0.25 MHz steps		
C-Band	4400 to 4940 MHz, 1.0 MHz steps	4400 to 4950 MHz, 1.0 MHz steps and 5250 to 5850 MHz, 1.0 MHz steps		
Ku-Band	14.40 to 14.83 GHz, 1.0 MHz steps 15.15 to 15.35 GHz, 1.0 MHz steps			
General Capabilities				
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, 45 watts (typical – varies based on configuration and temperature)			
Video Encode/Decode	Standard-Definition Video: 480i29.97 (NTSC), 576i25 (PAL) H.261 (decode only) H.264 MPEG-2 (legacy-compatible) MPEG-4 part 2 MJPEG	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	Legacy Type 1 256-bit AES	KIV 700A Cryptographic Core Modernization 256-bit AES	CCM 700A Cryptographic Core Modernization 256-bit AES	256-bit AES
Waveforms Supported	CDL: 200 kbps to 45 Mbps BE-CDL: 200 kbps to 45 Mbps rev B Modes 1 to 15, 101 to 104 Tactical: 1.6 Mbps to 6.4 Mbps DDL: 1.5 Mbps and 4.5 Mbps (receive only) VNW: 50 kbps to 5 Mbps Legacy ROVER 455k: 455 kbps (receive only) ROVER 466ER: 466 kbps Analog FM	CDL: 200 kbps to 45 Mbps BE-CDL: 200 kbps to 45 Mbps Modes 1 to 15, 101 to 105 Tactical: 1.6 Mbps to 6.4 Mbps DDL: 1.5 Mbps and 4.5 Mbps (receive only) VNW: 50 kbps to 5 Mbps Legacy ROVER 455k: 455 kbps (receive only) ROVER 466ER: 466 kbps Analog FM DVB-T: 3.75 Mbps to 21.11 Mbps (receive only)		
Networking	IPv4/IPv6			
External / User Interfaces				
Video	RS-170 Analog Video Input/Output (NTSC)	HD-SDI (SMPTE 292) RS-170 Analog Video Input/Output (NTSC/PAL)		
RS-232	2 user channels, 1 GPS console			
RS-422	2 full-duplex user channels			
Ethernet	100 Base-T, Layer 3 Routing			
Interface Layout				
J1	Power, 9-pin D connector			
J2	COMSEC Fill, 9-pin micro-D connector			Not used
J3	Mission Data Interface (Red I/O), 51-pin micro-D connector			
J4	Administration Port and Remote Indicators 15-pin micro-D connector			
J5	RF Device Interface (Black I/O), 37-pin micro-D connector			
J6	Video In, SMA (50 Ohm)	Video In, BNC (75 Ohm)		
J7	Video Out, SMA (50 Ohm)	Video Out, BNC (75 Ohm)		
J8	RSSI 1, SMA	Signal moved to J5		
J9	RSSI 2, SMA	Signal moved to J5		
J10	Receiver 1, SMA (50 ohm)			
J11	Receiver 2, SMA (50 ohm)			
J12	Not used	Removed		
J13	Not used	Removed		
J14	Transmitter 1, SMA (50 ohm)			
J15	Transmitter 1, SMA (50 ohm)			
Environmental				
Altitude	30,000 feet (9,100 m) (operating)			
Temperature	-20 °C to +60 °C (operating, ambient), -20 °C to +70 °C (operating, cold plate or forced air) - -40 °C to +85 °C (non-operating)	-40 °C to +60 °C (operating, ambient) -40 °C to +70 °C (operating, cold plate or forced air) -40 °C to +85 °C (non-operating)		
Immersion	1 meter of water for up to 30 minutes			
Shock	20 G, 11 msec (terminal sawtooth peak) (operating)			

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L3Harris Technologies is an agile global aerospace and defense technology innovator, delivering end-to-end solutions that meet customers' mission-critical needs. The company provides advanced defense and commercial technologies across air, land, sea, space and cyber domains.

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