# RIO™ GRANDE COMINT SYSTEM

Provides multithreaded COMINT for theater-level situational awareness and threat warnings to multiple operators with a SOSA aligned architecture

Rio Grande is the latest technology, leveraging decades of investment in advanced, multichannel coherent systems. It is a full-featured COMINT system covering 2 MHz (HF) to 8 GHz (SHF) leveraging 12 or 16 coherent software-defined receivers and five million lines of software from L3Harris' largest SIGINT systems. It uses open architecture, provides theater-wide coverage and is sized for multiple operators. It can also operate autonomously using Rio Virtual Operator. Operators can be airborne or remotely located anywhere in the world. Rio Grande creates COMINT processing threads continuously as it adapts instantaneously to the threat environment resulting in dozens of outputs from search, detect, geolocation and copy functions. An external RFD that can support multiple antenna arrays is required for full coverage N-Channel DF.
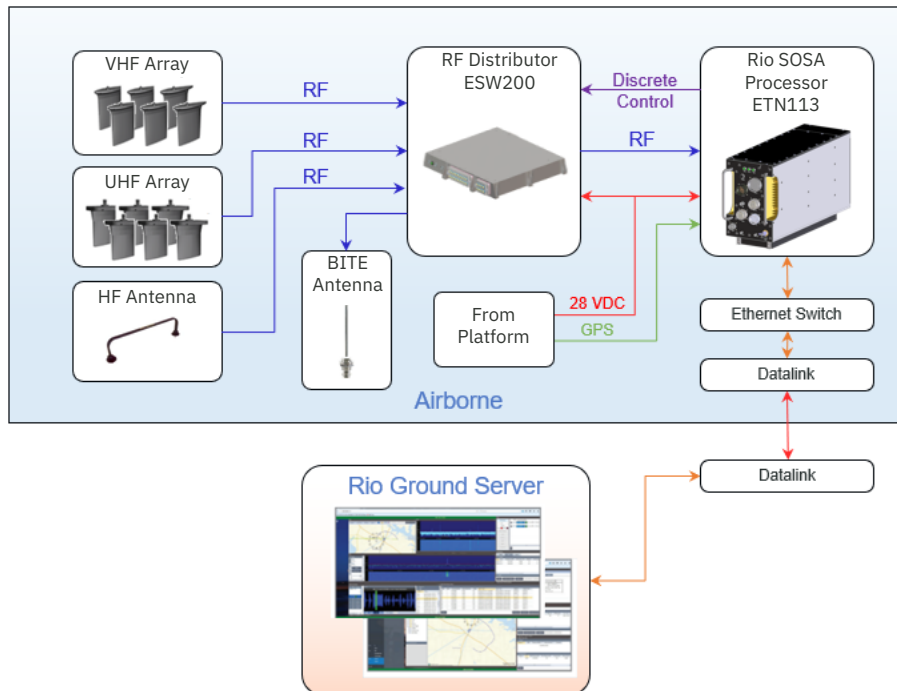
SPECIFICATIONS	
Weight	42 lbs (-1) 45 lbs (-2)
Power	28 VDC, 525 W (-1), 635 W (-2)
Frequency Coverage	2 MHz - 8 GHz
Instantaneous Bandwidth	125 MHz (DF) 750, 1250 MHz (S&C)
Receiver Ch Qty	12 (-1) 16 (-2)
Dynamic Range	80.4 dB (25.6 kHz BW)
Sensitivity (at RP)	-112.6 dBm (25.6 kHz BW)
Architecture	3U VPX SOSA
Size	10.6 H x 6.39 W x 20.4 D in (26.9 H x 15.5 W x 45.7 D cm)
Minimum SNR	3 dB, modulation dependent
Modulation Types	24 modulation types natively including: AM, FM, SSB, FSK, BPSK, QPSK, OQPSK/SQPSK, QAM and MSK
Geolocation Techniques Supported	N-channel or commutated DF/Advanced Geo Engine and Precision Geo (JICD 4.2.1)
Datalink Bandwidth	Uplink as low as 10 Kbps/downlink as low as 100 Kbps BLOS/LOS, ground-air internet protocol
Data Products	Lines of Bearing, Geolocations, Audio, Digitized Signal Output, Metadata, NCCT, Cursor on Target
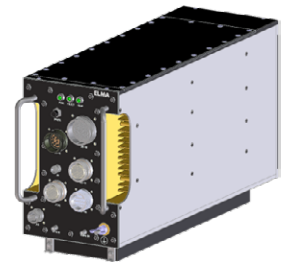
FEATURES

> 12 or 16 coherent receiver channels for simultaneous search, detect, copy, special signals and N-channel DF/beam forming

> Supports third-party plugins for special signal processing

> Member of L3Harris scalable COMINT family — common software and future upgrades

> Open C2 interface

> Remote or local operators using as little as 100 Kbps of IP datalink

> High-resolution maps for situational awareness display signal locations and Rio/aircraft tracks

> Operates in a non-pressurized environment

> Real-time audio and digitized RF recording and playback for later analysis

> Supports up to 30 operators

> Uses omni-directional antenna arrays for collection and geolocation

> Joint Interface Control Document (JICD) compliant; interoperable with Theater Net-Centric Geolocation (TNG) networks for multi-platform precision geolocation

> Network Centric Collaborative Targeting (NCCT) interface

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Airborne diagram showing VHF Array, UHF Array, HF Antenna connecting via RF to RF Distributor ESW200, BITE Antenna, From Platform (28 VDC, GPS), Rio SOSA Processor ETN113, Discrete Control, Ethernet Switch, Datalink, and Rio Ground Server.

RIO™ GRANDE SYSTEM DIAGRAM AND WORKSTATION DISPLAYS

Rio Grande uses a thin client graphical user interface — any workstation can run Rio Grande using a web browser.

Rio™ Grande COMINT System

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L3Harris Technologies, Inc.

1025 W. NASA Boulevard
Melbourne, FL 32919

L3Harris.com