

RIO™ SOCORRO

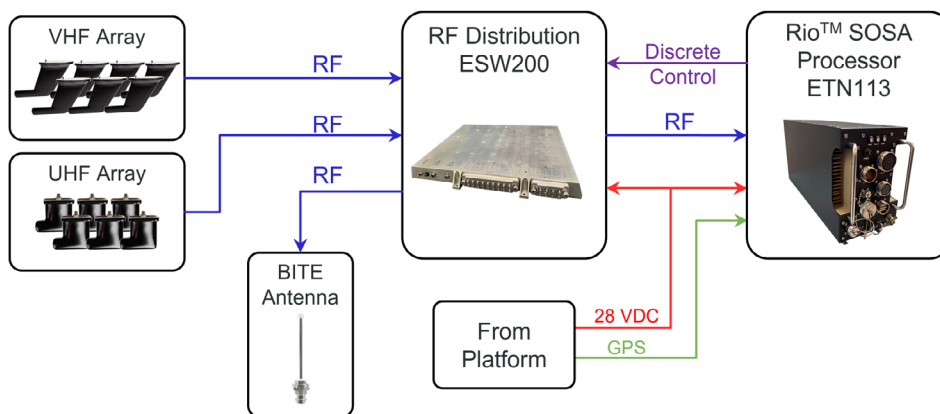
Radio location and monitoring system

Rio Socorro is a radio location and monitoring system that aids maritime law enforcement, search and rescue, disaster response and maritime traffic management. The DF system is capable of receiving, detecting and locating search and rescue (SAR) beacons to have a direct impact on the survivability of a person on sea or land.

Search and rescue beacons include:

- > Emergency Position Indicating Radio Beacon (EPIRB) – Maritime Use
 - 406 MHz SARSAT beacon
 - 243 MHz SAR beacon
- > Emergency Locator Transmitters (ELTs) – Aircraft Use
 - 4 406 MHz SARSAT beacon
 - 121.5 MHz homing beacon for older generation ELTs
- > Personal Locator Beacons (PLBs) – Handheld Units
 - 406 MHz SARSAT beacon

In addition to detecting/demodulating SAR beacon signals, the Socorro system can also demodulate and present audio generated by push-to-talk radios. The system operates in a frequency range of 20 MHz to 3 GHz and can perform multiple operations (search, copy, DF, etc.) simultaneously.



L3Harris' radio location and monitoring system consists of the following equipment:

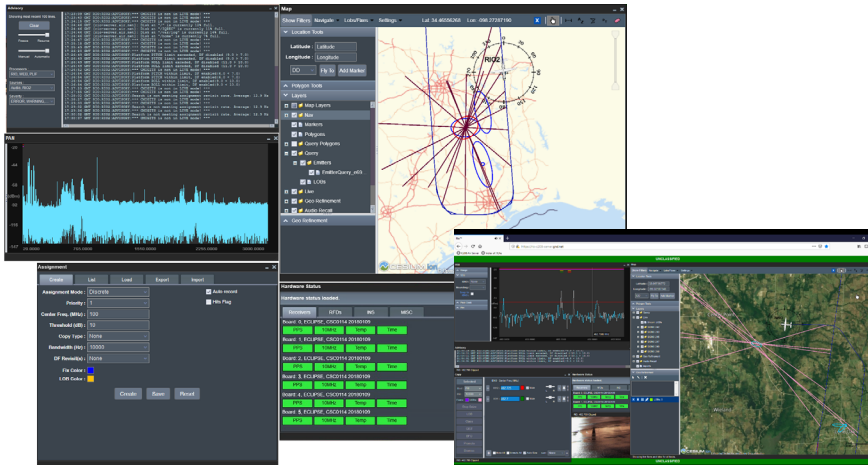
- > Rio Grande receiver - ETN113
- > Radio Frequency Distribution (RFD) unit – ESW200
- > UHF/VHF Antenna Array Elements – (7) EAN177 and (6) EAN178
- > Graphical user interface – Rio Web Client (RWC)

THE RIO SOCORRO SYSTEM CONSISTS OF THREE MAIN COMPONENTS:

- > The Rio Grande RF Sensor
- > The ESW200 RFD Unit
- > The VHF/UHF antennas

RIO WEB CLIENT

Interfacing with the Rio Socorro system is achieved through the use of a Graphical User Interface (GUI) referred to as the Rio Web Client (RWC). RWC is a highly adaptable, configurable and versatile GUI offering real-time data over a broad radio frequency spectrum. RWC is designed to be user centric and intuitive allowing the operator to fully concentrate on vital search and rescue missions.



Flexible and unrestricted by a particular platform or type of service, Rio can easily be adapted to any moving platform that provides accurate navigation data with manned/unmanned aircraft being the typical Rio installation platform. A web browser is the only software required to operate the Rio system.

SYSTEM SPECIFICATIONS

RIO SOCORRO KEY PARAMETERS	
Weight	42 lbs (19 kg)
Power	28 VDC, 528 W
Frequency Coverage	20 MHz - 3 GHz
Instantaneous Bandwidth	125 MHz (DF) 750 MHz (S&C)
Receiver Ch Qty	12
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

RIO SYSTEM CAPABILITIES

- > **Search:** Fully automatic band/directed search, adaptive noise threshold; 2 MHz to 3 GHz search/DF/copy
- > **DF/Geo/Precision Geo:** N-Channel DF, Boresight/dynamic cal; RF BITE/ Automatic 95% error ellipse
- > **Classify:** Auto modulation classification for 24 types (AM/FM/Digital)
- > **Copy:** Real-time streaming audio: Up to 64 concurrent audio streams are possible



Rio™ Socorro

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