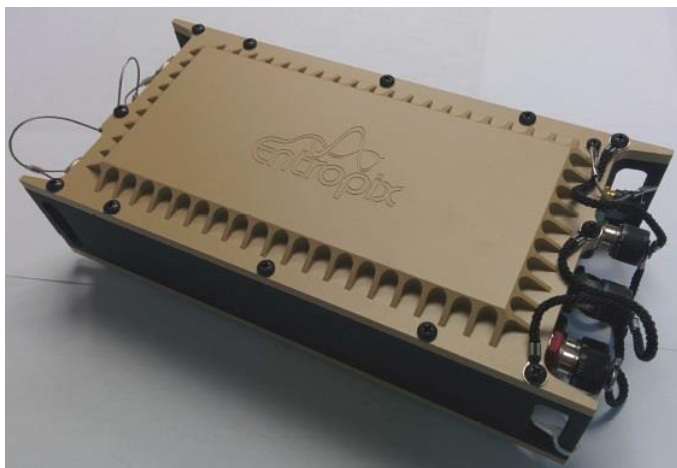


CORSAIR-HF Cygnus Antenna System **HF Direction-Finding and Geolocation System**

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Corsair Transceiver

The Corsair-HF product family is a complete solution for HF Direction-Finding and Geolocation, providing both a strategic and tactical capability at very low size, weight and power consumption. The Corsair supports a variety of configurations such as fixed-site, vehicular, maritime, airborne, and manpack. Corsair reduces logistics and cost by using common components. All configurations use the same Corsair Transceiver (and Calibration Transmitter). The Corsair system also uses a common user interface for all configurations based on RaptorX.

The Corsair-HF Cygnus Antenna System provides superior SWaP for any mobile platform, weighing less than 30 lbs (4 element system). and operating on a single BB-2590 for 15 hours. The Cygnus array is capable of fitting in a 3ft x 3ft x 3in space.

The Corsair-HF Cygnus Antenna System is designed for vehicular, maritime and airborne platforms and can function using 2 or 4 antenna elements.

The Corsair-HF Cygnus Antenna System can be set up and calibrated by one person in less than 10 minutes. The Cygnus system allows for independent element locations for installations on constrained platforms.

All relevant traditional Direction-Finding and Geolocation methods are supported including Angle-of-Arrival (AOA), Time-Difference-of-Arrival (TDOA), and Frequency-Difference-of-Arrival (FDOA). Corsair also supports the newer Geolocation by Spectral Analysis of Transforms (GSAT) algorithm (patents pending).



Corsair-HF Cygnus Antenna System (complete system)

Sophisticated analysis tools are provided for the operator through the RaptorX interface, including tools for handling for multiple talkers and interference. All HF analog modulations are supported including automatic tuning and demodulation. HF digital modulations are supported as an option.

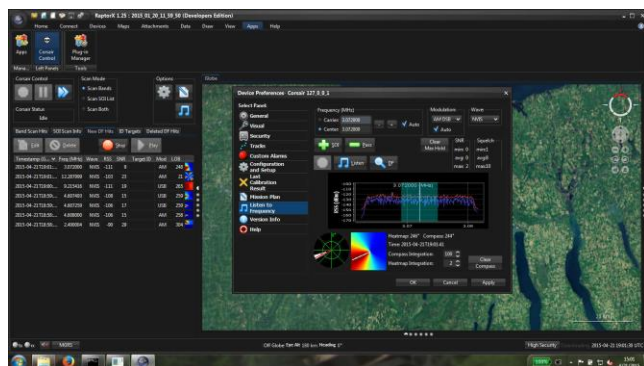
The Corsair Transceiver frequency range is 1.6 to 30 MHz, with full instantaneous bandwidth. Four channels are available. Three are receive only channels, and a fourth channel that may be configured as receive or transmit. (Transmit is for future electronic attack capability.)

The Corsair Transceiver contains embedded GPS for timing, but also supports an optional internal Chip Scale Atomic Clock (CSAC) for improved clock accuracy.



Corsair -HF Cygnus Antenna System (vehicular)

The Corsair-HF Cygnus System may be operated as a single node and provides DF as well as geolocation (using fusion). Alternatively, Corsair is compatible with BORESIGHT and JICD 4.2 systems to provide network support for Geolocation.



RaptorX User Interface

Corsair provides analysis tools to assist the operator.

Information is both presented in real time and recorded for non-real time analysis.

Corsair provides a programmable wideband search capability.

Corsair also supports programmable frequency sets for signals-of-interest. Different filtering criteria may also be specified.

All HF analog modulations are supported, and fully automatic tuning and demodulation is provided, including for LSB and USB. HF digital modulations are supported as an option.

For multiple talkers and interference, Corsair enables the target signal (only) to be separated for fusion of multiple instances.

Corsair – Cygnus System Specifications:

- Less than 30 lbs., for 4 element antenna array, on battery power.
- Single Node AOA Error: typically, less than 9°
- Array used for Listening and DF operations
- Minimum space required for array: 3ft x 3ft x 3in

Transceiver Specifications:

- *Frequency Range:* 1.6 to 30 MHz Wideband
- *Size:* 4.5"W x 2.5"H x 9.25"D
- *Weight:* 4.5 lbs.
- *Battery Life:* 15 hours on a single BB-2590
- *Power Input Range:* 12 VDC (9.5 to 18.0 VDC)
- *Temperature range:* -20° to +70°
- 4 channels, 3 receive only and 1 configurable for transmit or receive. Transmit for electronic attack (future).
- Designed to meet Mil-Std-810G
- IP data interface, 10/100 Mbps Ethernet
- Single node or networked (via IP interface)
- Supports all traditional methods: AOA, TDOA, and FDOA. Supports newer Geolocation by Spectral Analysis of Transforms (GSAT) algorithm.

Features:

- Integrated with Raptor X for map displays.
- Programmable wideband search and frequency sets for signals-of-interest including filters.
- Real time presentation and recording for non-real time analysis.
- Fusion of multiple targets and instances, including separation for multiple talkers and interference.
- Fully automatic tuning and modulation type identification. (including LSB and USB).
- Cygnus Antenna System can be used stationary and on-the-move
- Compatible with BORESIGHT and JICD 4,2 network Geolocation systems.
- Optional HF digital modulations.
- Optional Chip Scale Atomic Clock (CSAC) for increased clock accuracy.