

Fire Beast

Embeddable multi-channel transceiver



For more information, please contact:
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Fire Beast leverages the widely fielded Beast and Beast+ platforms in an embeddable, ruggedized package to support detect, direction-finding, and attack of adversary SOIs. This multi-function device demodulates, direction-finds, and surveys numerous push-to-talk, data, and cellular protocols. This robust feature set is housed in a low-SWaP, mountable form factor suitable for embedding in anything from server stacks to low-visibility applications.

FIELD PROVEN TECHNOLOGY

Thousands of CACI sensors have been fielded in diverse applications for special operations, conventional military, and law enforcement. CACI sensors have been game-changers wherever they have been utilized. CACI continually invests in adding capabilities and enhancements to its hardware platforms, integrating customer feedback and technological advancements. Fire Beast evolves as your mission requirements change.

ROBUST DPTT SIGNAL SUPPORT

Fire Beast supports numerous push-to-talk, data, and cellular protocols with a special emphasis on digital push-to-talk (DPTT) waveforms, including DMR (Hytera, MOTOTRBO, Kenwood, Tytera), NXDN, P25, and Tetra and can detect and DF additional waveforms. With the addition of the Wideband DF Antenna, the Fire Beast can detect, identify, and direction-find commercial frequency hopping signals.

CACI

FUTURE PROOF

CACI continually invests in adding capabilities and enhancements to this hardware platform. Integrating customer feedback and technological advancements, Fire Beast will adapt as your mission requirements change.

WIDEBAND I/Q STREAMING

Fire Beast can stream to a client computer capable of storing, visualizing, and processing the data. The data stream is VITA 49.2 compliant and offers drop-in compatibility with many third- party software applications. Streaming Bandwidth options include up to 16 MHz through 1Gb Ethernet or 100 MHz through the USB 3.0 connector.

VERY LOW SWAP-C

Leveraging state-of-the-art custom CACI RF transceiver hardware, Fire Beast features a custom, tightly integrated a cutting-edge System-on-Chip (SoC) baseband processor to provide a flexible, compact, low power Software-Defined-Radio (SDR) platform. Fire Beast digital processing and RF down-converters are partitioned to minimize SWaP while offering optimal RF and digital processing performance for its class.

3RD-PARTY ANALYSIS INTEGRATION

Integrates with several analysis, detection, and survey applications including:

- SNARE: survey tool for cellular, DMR, UAS, IOT.
- OmniSig: AI-enabled signals classification.
- SCEPTRE: signal processing suite for real-time or offline analysis.
- GOTS SW: information available upon request.

DIRECTION FINDING SOLUTIONS

CACI offers a full line of direction-finding antennas, each of which supports intercept and DF simultaneously and is ruggedized for use in a variety of harsh environments. In addition to the flagship Multiband DF Head, CACI's direction-finding portfolio includes Dismount for a lower physical profile and wideband for a broader mission set and to support frequency hopping (FHOP) missions.

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FIRE BEAST SPECIFICATIONS	
Number of receivers	3
Simultaneous demodulators	16
Radio receive frequency range	500 kHz - 6 GHz
Instantaneous bandwidth (IBW)	50 MHz
Receive modes	WFM, NFM, SFM, WAM, AM, NAM, USB, LSB, CW, DMR, P25, NXDN, TETRA, CUAS, FHSS, TPMS
Rx frequency resolution	10 Hz minimum
Transmit	Tx capable w/optional external PA (RF and control)
Antenna connector type	3x SMA RF In, 1x SMA RF Out, 1x SMA WiFi, 1x SMA GPS
Impedance	50 ohms
Input voltage	9-18 VDC
Battery life	Up to 5 hours depending on mission profile
Operating temperature	-20° C to 55° C
Dimensions	1.565” H x 6.5” L x 5.32” W
Weight	2.5 lbs
Environmental	Designed to meet MIL-STD-810G
PART NUMBER	DESCRIPTION
MD1029-1000-01	Assy, fire beast multi-band embeddable receiver
Please contact your CACI representative to discuss available kit options and products to meet your operational needs.	

Dismount multiband DF antenna

- 120 MHz – 1GHz frequency range.
- 8.9” high x 3.5” deep.
- 2.25lbs (without cabling).

Multiband DF antenna

- 120 MHz – 1GHz frequency range.
- 13.6” high x 3.5” deep.
- 3lbs (without cabling).

Wideband DF antenna

- 30 MHz-6 GHz frequency range.
- 22” high x 3.5” deep.
- 4lbs (without cabling).
- Supports N-channel DF.

DISMOUNT POWER AMPLIFIERS

Available for both low band and wideband frequency ranges, CACI power amplifiers can be used with compatible CACI systems in dismount and land mobile operations and are compatible with a variety of antenna options.

