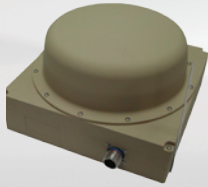


FASTEST, MOST EFFICIENT REAL-TIME SITUATIONAL AWARENESS



Ground Vehicle System



Aviation System



Selected to upgrade the US Army and Marine Corps Blue Force Tracking network, ViaSat brings real-time situational awareness and better networking capabilities to the warfighter with BFT-2. ViaSat's next-generation Blue Force Tracking transceivers provide dramatic improvements in situational awareness through faster Position Location Information (PLI) refresh rates and greater information throughput features. This BFT-2 system delivers improved network efficiency and reduces the Department of Defense's total operational expenditure for the specified capability.

With BFT-2, network users can achieve real-time position accuracy by operating through a Ground Vehicular Transceiver or Aviation Transceiver to one of up to ten satellite channels back to a Satellite Ground Station (SGS). The average round-trip message latency through the network has been demonstrated and proven to be less than two seconds.

ViaSat's antenna element design offers more predictable performance and improved system reliability on both the vehicular and aviation systems. The Ground Vehicular Transceiver is a single line replaceable unit (LRU) that measures 8.75" square (excluding connectors), is less than 5" tall, and is compatible with mounts designed for the MT-2011. The Aviation Transceiver is a two-LRU design that separates the RF assembly from the modem assembly to offer better aerodynamic performance.

The next-generation network also adds FIPS 140-2 Level 2 data link security to protect warfighters from adversarial traffic analysis and data probing.

The BFT-2 system delivers trusted, high-performance operation, even in the harshest MIL-STD environments. ViaSat's transceivers have successfully completed MIL-STD-461, 464 and 810 testing.

BFT-2 AT-A-GLANCE

FASTER

- » Download situational awareness information and other IP-based data up to 100 times faster and upload data up to 60 times faster than the BFT-1 system.
- » Refresh situational awareness PLI in as little as 2 seconds every 30 seconds or 50 meters of travel (configurable time and movement parameters).

MORE EFFICIENT

- » Employ over eight times the number of remote users with the same space segment of the BFT-1 system
- » Operate more efficiently with legacy or new-generation commercial L-Band satellites.
- » Optimize network performance for varied satellite link conditions using hundreds of symbol rate, chip rate, and FEC rate combinations.

SECURE

- » With an embedded, NIST-Certified, FIPS-140-2 Level 2 AES-256-bit based transmission security (TRANSEC) module, the system ensures secure connectivity and protects sensitive communications.

SCALABLE

- » Provision, manage, and control up to 200,000 transceivers operating worldwide on leased Satcom channels over 8 Satellite Ground Stations 24 hours a day, 7 days a week (24x7).

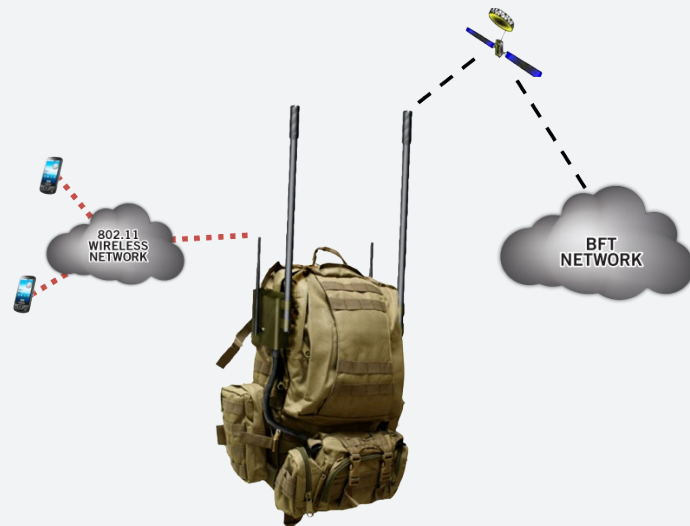
ADVANCED TECHNOLOGY

- » Based on ViaSat's battlefield-proven ArcLight® technology, the enhanced COTM waveform provides improvements in capabilities specific to situational awareness users.
- » Technology enables future enhancements without needing to replace hardware.

FUTURE CAPABILITIES

Future capabilities may include vehicular wireless extensions and non-vehicular (man-packable) configurations for the dismounted warfighter or paratrooper.

Integration of wireless technologies in either the ground mobile or man-packable configuration will enable vehicle-to-vehicle communications or the use of secure smartphone technologies, providing direct interaction between the wireless-enabled warfighter and the lower tactical internet.



SPECIFICATIONS

NETWORK CONFIGURATION

Topology Hub-Spoke with Instantaneous PLI Reflection
Carrier Symbol Rates Variable to operate on different MSS L-band satellites

Modulation

- ▶ **Forward Link Type** QPSK

Forward Link Technique Time Division Multiplexing

- ▶ **Return Link Type** Spread GMSK
- ▶ **Return Link Technique** Code Re-use Multiple Access

FEC & Rates

- ▶ **Forward Link Type** LDPC & BCH
- ▶ **Forward Link Technique** Several code rates
- ▶ **Return Link Type** PCCC
- ▶ **Return Link Technique** Multiple code rates

Spread Spectrum

- ▶ **Forward Link** Optional on low performing satellites
- ▶ **Return Link** Several spread factors

Throughput

- ▶ **Forward Link** 122 kbps and higher
- ▶ **Return Link** 3 kbps and higher per transceiver

PLI Latency <2 seconds

TRANSMISSION SECURITY

Link Encryption AES 256-bit bulk encryption of the user data plane and the network control data plane

NIST Certification FIPS-140-2 Level 2

Traffic Load Masking Generation of fill bursts

ENVIRONMENTAL & PHYSICAL

Temperature Range

- ▶ **Operational** -40° C to +71° C
- ▶ **Storage** -55° C to +85° C

Relative Humidity 100% Condensing

Shock/Vibration MIL-STD 461, 464 & 810 Compliant

Dimensions (WHD)

- ▶ **Ground Mobile** 8.75 x 4.75 x 8.75 in
- ▶ **Aviation** 4.0 x 3.56 x 11.0 in (RF assembly)
4.50 x 5.95 x 4.50 in (modem assembly)

Weight

- ▶ **Ground Mobile** 6 lbs
- ▶ **Aviation** 2.8 lbs (RF assembly) 2.4 lbs (modem assembly)

ELECTRICAL

Prime Power 20-33 vdc

Power Consumption <2.5VA

IMPROVED PERFORMANCE	ORIGINAL BFT SYSTEM	VIASAT BFT-2 SYSTEM
Refresh of Friendly Force Positions	~5 minutes	<2 seconds
Download speed	2.6 kbps	122 kbps and higher
Upload speed	0.27 kbps	3 kbps and higher
Message capacity (msg/min) based on Inmarsat-4 200-kHz narrow spot beam channel	~600	7,500+ Forward 5,000+ Return
Transmit / Receive	Half Duplex	Full Duplex
IP network capable	No	Yes
Type 3 data security	No	Yes
Supports sending data files & text messages	No	Yes
MIL-STD Environmental, EMI, EMC Qualified	No	Yes

CONTACT

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