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Trusted Mobile Communications
for the U.S. Government

Low Profile BGAN

Unmanned concealed broadband satellite terminal with global coverage

A force multiplier

Low profile BGAN supplies the high-speed IP communications needed to make electronic surveillance and intelligence a powerful force multiplier.

The U. S. Homeland Security, Border Security, Intelligence Community and Department of Defense missions require collection of real-time intelligence on a 24-hour basis. Moreover, it needs to be done in a cost-effective manner, and without exposing government personnel to unnecessary risks.

A wide range of high-performance, unattended electronic systems is now widely available to meet this need. These include electro-optical, radar, acoustic and seismic sensor suites. All these systems depend, however, on access to broadband IP data communications.

In covert or discreet applications the equipment which delivers these communication needs to be capable of being hidden and must be remotely operable, with good battery life.

Inmarsat and Hughes have jointly developed a solution to this requirement. The Low Profile BGAN comms system is in two parts:

- A rapidly deployable lie-flat antenna
- A robust remotely operable BGAN terminal

The antenna is placed on a flat surface and oriented in the direction of the satellite. It can then be covered with a light layer of soil or vegetation. The terminal is then connected to the IP feed from the surveillance and intelligence gathering systems. It can be configured to lie dormant until woken by a command over the network or a locally generated alarm signal from a connected sensor.

The system is designed to form the backbone of future discreet smart surveillance solutions. The global coverage of Inmarsat's I-4 network allows Low Profile BGAN to be deployed rapidly with sensor systems to cover a gap in existing surveillance infrastructure, to deal with a rapidly developing situation, or to exploit a fleeting window of intelligence opportunity.

Because it has a very long battery life, can be remotely operated, and can be very effectively hidden, it offers the opportunity to extend the reach of a surveillance network into areas where manned observation posts would be impractical, unsafe or simply not cost effective.

How does it work?

The Low Profile BGAN antenna is built around a solid-state multi phased array that provides a 30 to 60 degree view angle when laid flat. The antenna can be tilted toward the satellite to achieve higher elevations if required. An arrow on the antenna's cover indicates the direction in which the antenna needs to be pointed, and audio pointing tones are also generated to a 3.5mm jack socket. The antenna can be covered with a thin layer of any non-metallic material.

The unit is silent in operation, and both modem and antenna are IP-67 rated. The wake-on-trigger and wake-on-signal power management regime delivers very long battery life.

Government applications

Coastguards and border forces need to detect, recognize, identify and track static and moving targets. Police and intelligence units need to observe personnel, equipment and installations of interest.

Security personnel need to protect sensitive perimeters of critical installations. In every case their effectiveness can be multiplied many times by deploying advanced sensor technology connected using Low Profile BGAN.

Key features

- Compatible with any IP sensor system
- High data rates supporting real-time video and audio
- Remote control via SMS
- Lie-flat operation
- Ultra-low power consumption
- Simple installation without PC
- Minimal pointing required
- GPS built-in

Key benefits

- Allows high performance sensors to be rapidly deployed at zero notice
- Fills gaps in existing sensor networks
- Reduces the need for trained manpower
- Reduces the exposure of personnel to unnecessary risks
- Can be used for discreet and sensitive operations

Unique risk mitigation tool

What makes Low Profile BGAN unique is the way that it provides the full capability of a classic BGAN terminal in a package that is optimized for unattended covert operations in a hostile environment. It thus provides streaming and standard IP services throughout the global footprint of Inmarsat's I-4 constellation.

The lie-flat capability, generated by the use of an advanced solid-state phased-array antenna, differentiates Low Profile BGAN from all other terminals. Remote operation and advanced power-management reflect the design principles of maximizing cost and operational effectiveness while minimizing the exposure of personnel to risk.

Covert, discreet, ruggedised

The lie-flat antenna enables the unit to be hidden in a number of ways. Experience shows that simply placing the unit up on the top of a flat-topped building or ISO container can often be enough to prevent casual discovery. The fact that the antenna can be covered with soil or other material offers many other concealment options. The unit can also be supplied with a number of ready-moulded covers (such as simulated bark) for specific applications.

In consequence, the unit is suitable for a wide range of covert or discreet applications, in which discovery of the sensor and communication systems might alert the subject of surveillance, or cause interference with, or destruction of, the system.

Discreet and reliable

Remote Management

Remote operation is a powerful capability which makes it possible to cover an area of intelligence responsibility with reduced manpower – or allows existing manpower to go further. Low Profile BGAN's sophisticated power management capability takes this effect even further. Remote wake-on-SMS or local automatically trigged power-up allow the system to operate for extended periods in stand-by mode, which enables ultra-low power consumption and thus extended battery life.

The less often that batteries need to be replaced, the fewer personnel are needed to execute battery replacement. This also results in less frequent exposure to potentially hostile conditions, and reduces the risk that the location of discreet sensors will be compromised.

The BGAN network, reliability, where and when you need it

A BGAN terminal provides simultaneous voice and broadband data. BGAN is available across the globe, with the exception of the extreme polar regions, providing connectivity wherever your mission take you. BGAN services are delivered via the Inmarsat-4 network, with 99.9 percent satellite and ground network availability and an operational lifespan expected into the 2020s. BGAN supports the latest IP services, as well as traditional circuit-switched voice and data, and integrates seamlessly with corporate networks and legacy applications. It supports all major VPN products and encryption standards.

About the Inmarsat U.S. Government Business Unit

Inmarsat is a trusted provider of global, mobile satellite communication services that meet the mission-critical needs of the U.S. defense, intelligence, homeland security and civilian organizations. Since 1979, Inmarsat has delivered highly reliable, secure and affordable satellite services that satisfy expeditionary, maritime and aeronautical communication requirements anytime, anywhere.

The Inmarsat U.S. government business model reaches the market through value-added resellers, partners and service providers who enhance its services with specialized solutions government users need. For more information, please visit **inmarsat.com/government.**

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