inmarsat

LAND
SERVICES

INMARSAT GLOBAL GOVERNMENT

COMMUNICATIONS MADE CERTAIN

INMARSAT TRUSTED BY GOVERNMENTS · MOBILE · FLEXIBLE · GLOBAL · RELIABLE · SECURE ·

KA-BAND SERVICES

GLOBAL XPRESS

Inmarsat Global Xpress is a high-speed, satellite network from the trusted leader in mission-critical communications.

Global Xpress offers a choice of flexible on-demand connectivity or steerable high-capacity leases, both capable of delivering a wide range of bandwidth-intensive mobile applications.

SECURE, END-TO-END WIDEBAND CONNECTIVITY

Global Xpress is the first global Ka-band network and has been built specifically with government customers in mind. It delivers secure, end-to-end wideband connectivity for seamless airborne, naval and land operations worldwide.

And it comes from a trusted supplier that's been serving government customers with mission-critical communications for over 35 years.

Inmarsat's GX network was initially launched in 2010 and achieved full global service coverage in 2015, creating the world's first and only unified global mobile network. Operating in the Ka-band, Global Xpress integrates seamlessly with our L-band network to deliver powerful and reliable connectivity anytime, anywhere.

The GX5-10 program marks the beginning of the next phase of GX's evolution, enhancing global mobile coverage with a transformation in network capacity and service capability and ensuring GX remains at the forefront of commercial satcom innovation.

BANDWIDTH-INTENSIVE MOBILE APPLICATIONS

Global Xpress offers managed services for flexible connectivity on demand as well as steerable high-capacity leases. It's particularly suited to bandwidth-intensive mobile applications for:

- Airborne intelligence
- Surveillance and reconnaissance
- Special operations and expeditionary forces
- Live full-motion video
- Intelligence
- Command and control, and
- Theatre backhaul.

SEAMLESS MOBILITY, HIGHER PERFORMANCE

Wherever the next mission arises, Global Xpress has you covered with a network that's owned and managed solely by Inmarsat. Purposely designed for mobility, it will provide a continuous, consistent service as traffic is handed seamlessly across each spot beam, and from one satellite to another.

Because our network is global, Global Xpress delivers higher performance consistently – and when there are surges in demand, we direct additional beams to provide enhanced throughput and greater performance.

GLOBAL REACH AND ADDITIONAL CAPACITY

Global Xpress is the first global commercial network that's interoperable with MILSATCOM Ka-band networks, providing resilient, cost-effective augmentation.

Using contiguous commercial spectrum, it will provide global reach and additional capacity for those with existing Ka-band networks, and peer capabilities for those without.

HIGHEST SECURITY STANDARDS

The Global Xpress network is base-lined to satisfy US Mission Assurance Category (MAC) level III, with secure gateways and satellite commanding.

Secure Global Xpress offers enhanced security capable of MAC I/II levels.

COMPACT AND AFFORDABLE TERMINALS

Global Xpress delivers higher data rates through more compact and affordable terminals than those in the Ku-band. A broad portfolio of terminals are available for government applications in mobile, portable and fixed formats to suit all environments, from industry-leading manufacturers.

In a climate of continuing budget pressures, Global Xpress offers some respite with more affordable services and terminals.

MORE EFFICIENT USE OF BANDWIDTH

Ka-band is more efficient in its use of bandwidth, and because we own and manage the entire global network, we make better use of the satellite resources to achieve significant cost savings that deliver better value for your mission requirements.

Inmarsat has been operating the most reliable mobile satellite communications network for over 40 years. For enhanced availability and resilience, Global Xpress is complemented by our L-band services on the Inmarsat-4 satellites, which deliver 99.9 per cent network availability.

WORLD'S ONLY MULTI-BAND NETWORK

It's the only multi-band satellite network of its kind, underpinned by a fully-redundant and robust ground infrastructure.

L-BAND SERVICES

INMARSAT L-TAC UHF AND VHF

MOBILE COMMUNICATIONS IN THE FIELD

Designed with Government and Military in mind, Inmarsat's L-TAC service combined with Spectra's SlingShot system hardware enables existing in-service tactical radios to transparently access Beyond Line of Sight communications (BLOS) without the need to modify the radio hardware or the cryptos. The service can be leased for a fixed period (minimum 1 month) and provides a complementary service to existing UHF/VHF Satcom channel availability.

SlingShotTM combined with Inmarsat's L-TAC lease service is fully flexible and designed to meet security and reliability requirements cost-effectively. Once deployed, remote management and support is provided through a 24/7 network operation centre. The service offers a combination of reliable voice and data connectivity that is available globally, independently of local infrastructure. It is also quick to set up, providing a fully configured solution which needs minimal user intervention before deployment. Comms on the Move (COTM) solutions are available for Air/Sea/Land platforms and the dismounted soldier.

FEATURES

Designed to support in-service radios

- Supports UHF & VHF military and commercial frequencies
- Approved for Inmarsat I-4 constellation
- Omni-directional antennas
- Complements existing military capacity
- Utilises Narrow Beams, Customised Beams and Relocatable Beams
- Lease airtime for a minimum of 1 month
- Install in minutes to allow use of a platform of opportunity
- Data enabled
- Single, dual or up to 5 x carrier options using ANDVT
- HPW and ViaSat proven up to 56kbps

LTAC

BEYOND LINE OF SIGHT COMMUNICATIONS.

BENEFITS

- Keep existing technology and security
- Network interoperability
- Resilient beyond line of sight worldwide connectivity
- Reliable communications on the move
- End users can prioritise traffic access between military and commercial satellite networks
- Maximum flexibility in high tempo and concurrent operations
- Excellent cost optimisation
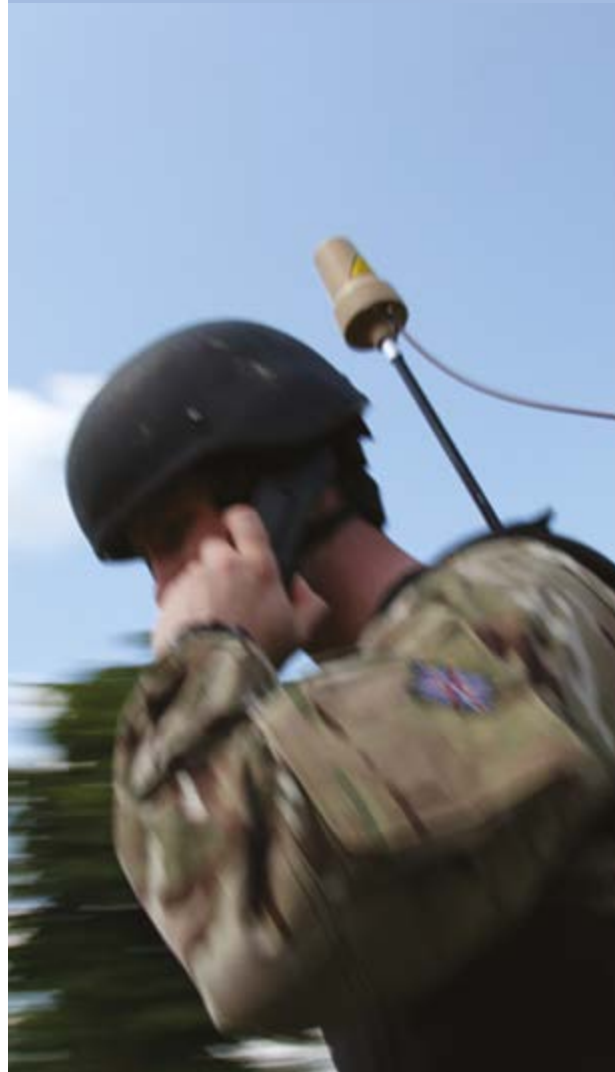
CUSTOMER CHALLENGE

Military users need to exercise command and control of widely dispersed forces in austere environments without the delay of deploying terrestrial infrastructures or the operational burden of protecting and sustaining them. UHF TACSAT channels are in short-supply and expensive.

REQUIREMENT

Increase the number of TACSAT channels available to military users for voice and data over tactical, theatre and strategic distances using existing tactical radios.

SOLUTION

Inmarsat's world leading communications network includes the unique capability to provide single-hop L-L band relay from an existing global constellation of geostationary satellites. A small, external adaptor (SlingShotTM) for military radios allows low-latency voice and data regional communications with the additional option of connecting to an out-of-theatre rear base command node.

PUBLIC SAFETY SCENARIO

For regular VHF users, L-TAC offers a fast-to-deploy and cost-effective capability for extending terrestrial coverage, either in remote terrains where there is no local VHF repeater or where natural or criminal action has destroyed the repeater. The provision of an L-TAC capability provides remote teams with a means of communication without the expense of a massive rollout of radio repeaters in an extended area.

In a public safety scenario, the existence of both UHF and VHF L-TAC variants will enable normally disparate teams such as military, police and civil agencies to work more closely together. Despite the fact that they may all be using different radio types and frequency bands, by taking out an L-TAC lease, they can interconnect with each other without the current need for a retransmission facility.

CAPABILITY OVERVIEW

CONFIGURING INMARSAT L-TAC

SCENARIO

The Joint Force Commander has decided he needs to expand into the rebel held territory to the west. The lead reconnaissance foot patrol supplies a steady flow of intelligence as it moves forward, constantly in touch with battle group HQ, well to its rear, without pausing to set up antennas. The mounted elements of the main assault force maintain communications with patrols and the HQ as they manoeuvre to the north, far beyond the range of HF combat radio.

The battle group commander speaks securely and reliably on the move to a sector hundreds of kilometres away, and to flanking coalition partners, while logistic elements follow to the rear, ready to establish the new forward base, maintaining contact without the need for range-extension stations or the technical challenges of mobile HF radio. Thanks to Inmarsat's L-TAC service, mobile BLOS communications are available inexpensively and with minimum additional training to all those with an operational need.
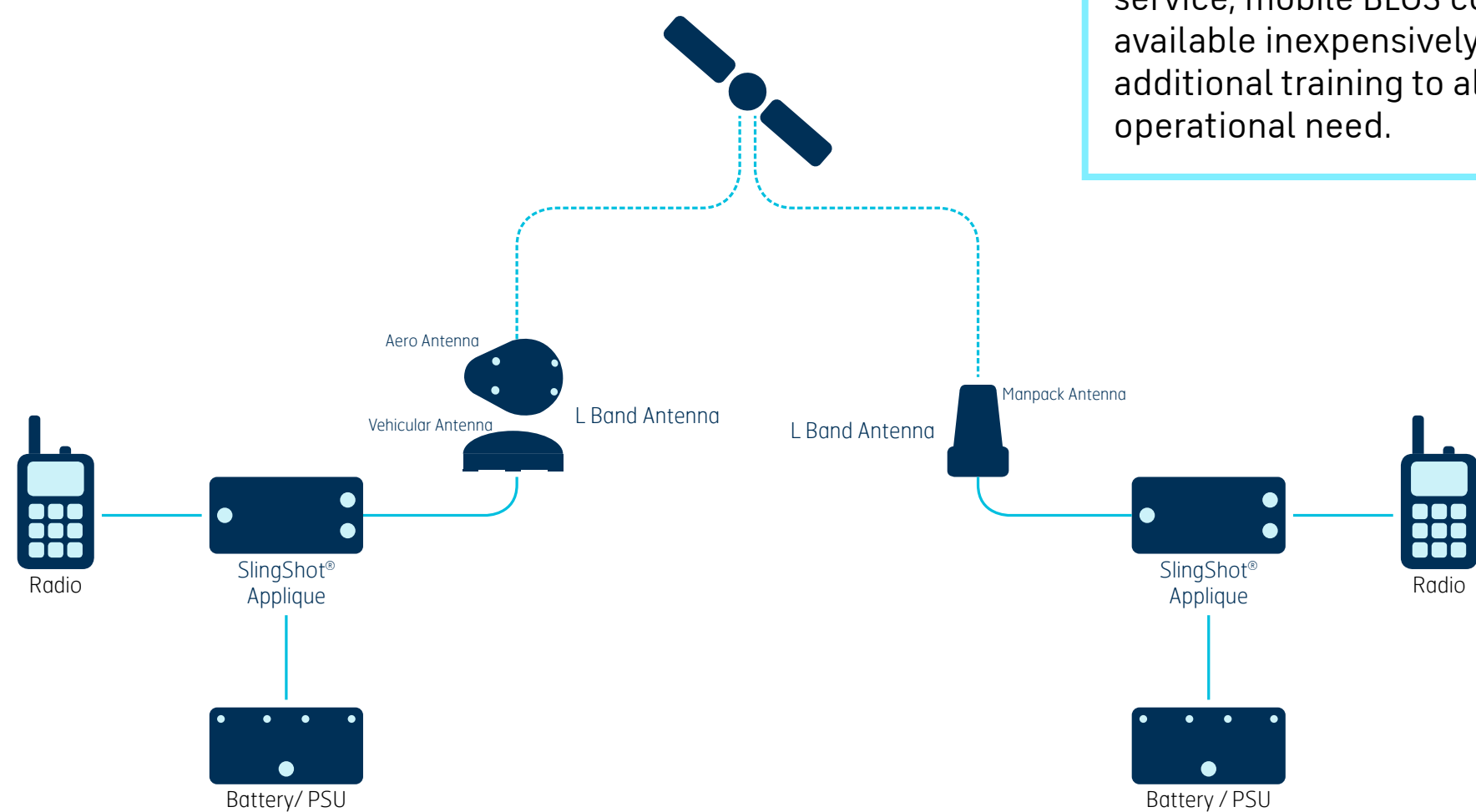

ANTENNA

	L-BAND VEHICULAR ANTENNA	L-BAND MARITIME ANTENNA	L-BAND MANPACK ANTENNA	L-BAND AVIATION ANTENNA	L-BAND LOW PROFILE ANTENNA
SHORT TITLE	Ae-V	Ae-MT	Ae-M	Ae-A	Ae-LP
SPECTRA PART NUMBER	SG-SS-2001A	SG-SS-2002	SG-SS-2003	SG-SS-2004	SG-SS-2006
SIZE (MM)	146 x 72	150 x 142	76 x 153	111 x 143 x 38	205x 153 x 40
WEIGHT (G)	667	705	305	385	600
APPROVALS	FCC Part 15 Canada 310 DTM: Inmarsat 1401	FCC Part 15 Canada 310 DTM: Inmarsat 1401	FCC Part 15 N/A DTM: Inmarsat 1401	TSO-C 132 in progress DTM: DO-160D RTCA: DO-210D	CE DTM: Mil Std 810G DTM: Mil Std 461F
COLOUR	Khaki	Grey	Khaki	White	Black
CONNECTORS	RF-SMA	RF-SMA	RF-BNC	RF-TNC	RF-TNC
STANDARD MOUNTS	Mag-Mount Base	Pole-Mount Bracket	Screw-Mount	ARINC-743 footprint	
OPTIONAL MOUNTS	Antenna Mount Clamp Set	Antenna Mount Clamp Set	Antenna Mount Clamp Set Elevated Pole Set Extendable System	n/a	
FREQUENCY RANGE	1525 to 1660 MHz				

APPLIQUE

	UHF MILITARY BAND MANPACK	UHF MILITARY BAND VEHICULAR/MARITIME	VHF MILITARY BAND MANPACK	VHF MILITARY BAND VEHICULAR/MARITIME	VHF COMMERCIAL BAND MANPACK	VHF COMMERCIAL BAND VEHICULAR/MARITIME
SHORT TITLE	UHF-M-M	UHF-M-VMT	VHF-M-M	VHF-M-VMT	VHF-C-M	VHF-C-VMT
SPECTRA PART NUMBER	SG-SS-1002	SG-SS-1001	SG-SS-1004	SG-SS-1003	SG-SS-1006	SG-SS-1005
INPUT FREQUENCY BAND	240 - 311 MHz	240 - 311 MHz	58 - 88 MHz	58 - 88 MHz	144 - 174 MHz	144 - 174 MHz
SIZE (MM)	170 x 75 x 30	170 x 87 x 30	204 x 75 x 30	204 x 87 x 30	170 x 75 x 30	170 x 87 x 30
WEIGHT (G)	507	489	605	550	507	489
COLOUR	Matt Black	Matt Black	NATO Green	NATO Green	Matt Grey	Matt Grey
RF POWER INPUT REQUIRED	2 - 4 Watts	2 - 4 Watts	3 - 10 Watts	3 - 10 Watts	3 - 10 Watts	3 - 10 Watts
INGRESS PROTECTION	IP67					
APPROVALS	CE MIL-STD - 810G MIL-STD - 461F					
ENVIRONMENTAL	-26° to +58°C Operating					
CONNECTORS	DC Power: LEMO RF Input: TNC RF Output: SMA					

Network diagram labels

Aero Antenna

Vehicular Antenna — L Band Antenna — Manpack Antenna

L Band Antenna

Radio — SlingShot® Applique — Battery/ PSU

SlingShot® Applique — Battery / PSU — Radio

BATTERY

	BATTERY CAP 2590 & 5590	BATTERY CAP MBITR & 152	OPS ROOM MAIN CVTR.
SHORT TITLE	BC-2590/5590	BC-MBITR/152	PSM-AC
SPECTRA PART NUMBER	SG-SS-3009-0.5 SG-SS-3009-1	SG-SS-3010-0.5 SG-SS-3010-1	SG-SS-3004
INPUT POWER	Standard 5590/2590 Battery interface	Standard MBITR/152 Battery Interface	100 - 240V AC
SIZE (MM)	119 x 70 x 33	67 x 39 x 53	139 x 53 x 32
WEIGHT (G)	325	183	247
COLOUR	Black		
INGRESS PROTECTION	IP55 (When connected)	IP67 (When connected)	IP41 (Indoor only)
APPROVALS	CE Mil-Std - 810G MIL-Std - 461F		CE
ENVIRONMENTAL	-26° to +58°C Operating		Indoor use only
CONNECTORS	DC Power: LEMO		AC in: C13 IEC DC Output: Bulgin MicroBuccaneer

	UPSU UNIVERSAL POWER SUPPLY	AA BATTERY CASSETTE	BATTERY ADAPTER 2590 / 5590 FOR UPSU	BATTERY ADAPTER MBITR / 152 FOR UPSU
SHORT TITLE	PSU-U	BC-AA	BA-2590/5590	BA-MBITR/152
SPECTRA PART NUMBER	SG-SS-3002	SG-SS-3013	SG-SS-3011-0.6	SG-SS-3012-0.6
INPUT POWER	12 - 28 VDC	x8 AA Batteries	SStandard 5590/2590 Battery interface	Standard MBITR/152 Battery Interface
SIZE (MM)	107 x 68 x 38	189 x 43 x 40	118 x 80 x 40	67 x 38 x 13
WEIGHT (G)	290	295	215	100
COLOUR	Black			
INGRESS PROTECTION	IP67	IP67	per Battery	per Battery
APPROVALS	CE	CE	n/a	n/a
ENVIRONMENTAL	-26° to +58°C Operating	-26° to +58°C Operating	n/a	n/a
CONNECTORS	DC Input: Bulgin MicroBuccaneer DC Output: LEMO	DC Output: LEMO	UPSU Connector: LEMO	UPSU Connector: LEMO

PTT BGAN

Unrivalled resilience to terrestrial voice and data networks through satellite augmentation using the world leading BGAN network

THE PROBLEM:

Lack of coverage - No radio link extensions across sites and large areas resulting in no means of communication when outside traditional radio coverage

Safety - No ability for staff tracking outside radio coverage

Maintenance cost - Extensive maintenance cost for ageing radio networks

Lack of cross agency / department talk groups - Inability to communicate between different radio networks and / or frequencies

Redundancy - No means of backup communication when the LMR/ DMR infrastructure is down

THE CHALLENGE:

Find a solution that allows government Push-To-Talk (PTT) radio users to be fully interoperable with all other radio users and have crisis proof communications using their existing equipment.

THE SOLUTION

Inmarsat's BGAN Push-to-Talk (PTT) Solution combines real-time telemetry data transfer from critical assets with seamless Push-to-Talk voice communication, with satellite coverage that extends beyond the limits of terrestrial networks.

The solution is built upon our highly reliable BGAN service, which operates with 99.9% network availability, ensuring connectivity when you need it.

The solution utilises low form factor BGAN terminals like the Cobham EXPLORER 325 and 323, which are perfect for mounting on vehicles, locomotives and other machinery. The EXPLORER 323 terminal is the first of its kind, equipped with Inmarsat Class 12 type approval, which when combined with the smart PRISM PTT radio communications system, can be easily integrated to extend voice communications beyond line of sight.

THE TERMINAL

BENEFITS:

- Improve situational awareness and assessment: send and receive situation reports, real-time images/videos between operational teams and control centre

- Optimise units dispatch: send dispatch information to units based on real-time GPS positioning,

- Improve response time by optimising route: access to real-time information regarding traffic, providing access to live-route planner

- Optimise coordination of emergency teams response: ability to communicate with all deployed teams at the same time delivering the capability for teams to communicate with each other

- Improve medical assessment time: first responder personnel can access patient medical file and use telemedicine to provide fast treatment and send ahead videos and images from the scene

- The M2M capability delivers a reduction in vehicle maintenance costs, unexpected failure and repair time through access to vehicle telemetry allowing predictive maintenance

- Improve collaboration with other units/agencies: Ability to communicate with teams/individual deployed in remote areas to communicate aid requests, safety status, group messaging and sharing images/videos across wider group

- Always available seamless communication on-the-move and on-the-pause: real-time monitoring of the emergency

- No installation cost: Solution installed on vehicle roof via magnet mount: easy installation that can be moved be moved between vehicles

- One solution can support multiple users: Vehicle can be used as a communication hub for multiple users, leveraging existing equipment such as phones, existing handset, IoT (medical connected devices)

- Predictable budgeting allowing forces to anticipate cost by including it in budget

EXPLORER 323: ULTRA-COMPACT COMMS-ON-THE-MOVE BGAN TERMINAL.

EXPLORER 323 is an ultra-compact BGAN terminal for voice and data communication on-the-move. The one-piece system consists of a combined transceiver and switched beam antenna with integrated Wi-Fi. It is designed for robust and durable use with no moving parts. Simply place the terminal on the roof - it is easily mounted with optional magnetic mounts - and connect your phone to the EXPLORER app or log onto the wireless network with your PC to turn the vehicle into a mobile communication hub.

BGAN

BGAN

Rapidly deployable, easy to operate, reliable satcom for the government user

BGAN is the market leading mobile satellite communications service, providing reliable, cost-effective global data and voice at the same time using compact, light-weight portable terminals.

Government users in the 21st Century need constant access to the full range of internet, voice and video services. Wherever they are in the world, whether moving rapidly to a remote trouble spot, working in a military headquarters deployed to a foreign country or providing first-class medical care in a remote corner of their own country, they demand high-availability communications that give them reliable access to the information and services essential for them to do their job.

Whilst many governments operate their own satellite constellations to support their ministers, officials and staff as they go about their business, few can match the range of capability and the technical sophistication on offer from Inmarsat. The most advanced commercial communications constellation ever launched, Inmarsat's fourth generation satellites are expected be in operation well into the 2020s, providing you the reassurance that you are choosing a stable platform that will support your needs now and in the future.

Whether chosen as a flexible, stand-alone primary terminal or as a complement to services available from national or other networks, BGAN provides government users the capability to meet challenges head on, delivering high-speed state-of-the-art IP connectivity while also supporting core voice and legacy data services.

Based on 3G standards, BGAN provides constant, simultaneous access to voice and high-speed data services, on a global basis. You can send and receive email with large file attachments, comfortably run complex applications and make voice calls all at the same time – and do it more affordably than ever before. Terminals are light-weight, portable and quick and easy to set up. What is more, you can rest assured that each one has been tested and approved to Inmarsat's own exacting standards to ensure that it is fully compatible with the BGAN network.

IMPROVING OPERATIONAL EFFICIENCY

Delivering secure, reliable connectivity. Globally.

GLOBAL COVERAGE

The BGAN service is accessible globally except in the extreme polar regions. Whether deploying a police and counter-terrorism team to a remote flash point in an austere border region or sending a military liaison and reconnaissance group to a distant country in support of an international aid effort, BGAN ensures that you are never out of touch. Wherever you need to be. However quickly you need to get there.
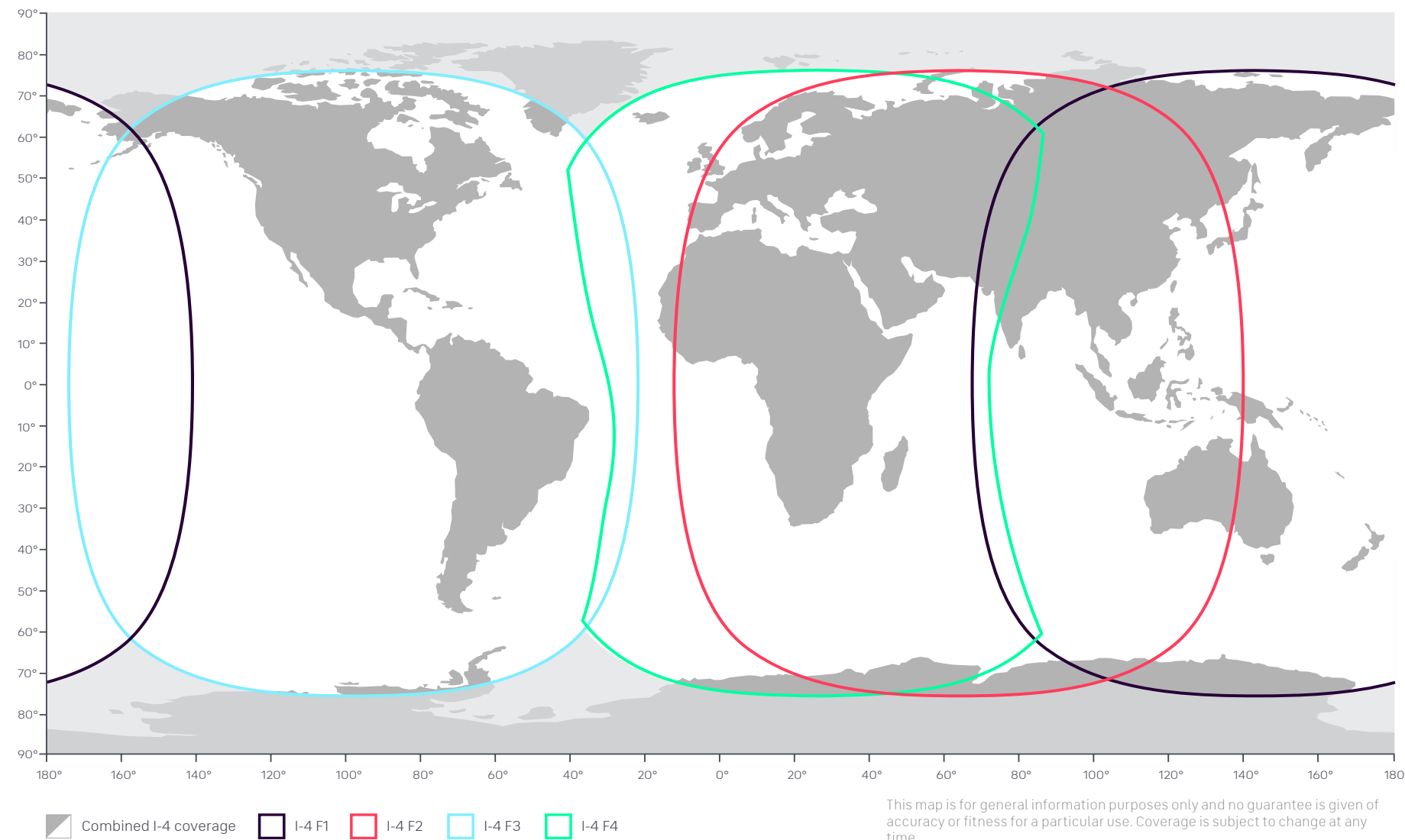
SUPERIOR PERFORMANCE

BGAN provides fast, cost-effective access to IP data-services. Whether you need fast, stable streaming services to send and receive high quality video or your role demands reliable, always-on connectivity to your office intranet for email access and collaborative tools on the move, BGAN allows you to use complex applications with confidence.

Simultaneous voice and data capability means that operational services can be running online and you can still access email, your intranet and make voice calls – all via a single, compact terminal.

This map is for general information purposes only and no guarantee is given of accuracy or fitness for a particular use. Coverage is subject to change at any time.

Combined I-4 coverage I-4 F1 I-4 F2 I-4 F3 I-4 F4

UNRIVALLED RELIABILITY

Inmarsat understands the needs of the government user and the importance of having confidence that your communications will work at the critical moment exactly when they are needed. The government user often will not have a second chance when the moment has been lost. BGAN provides the highest levels of network availability. Inmarsat's fourth generation satellites form the most sophisticated commercial constellation in operation today, with redundancy engineered into both space and ground segments. By adding I6 to our existing I4 fleet, we will deliver more capacity overall through additional spectrum and extend the life of our L-band services through to 2040. Longer life and increased capability for your existing terminals is provided for all BGAN services

COMPLETE SECURITY

Inmarsat has long experience of providing secure communications to government and military customers. All BGAN traffic is passed over a secure, private carrier network and Inmarsat's continuous ongoing security programme ensures its networks continue to meet international standards and customer requirements. However, we also understand that, at times, government users have their own unique requirements for the security of their information and need even greater confidence in its level of protection. Therefore our network also supports the use of additional security products such as VPNs, ISDN and IP cryptos. We also have available covert terminals for users with special operational requirements.

Whether you need additional protection for your information or the ability to stay in touch when operating covertly, explore the range of possibilities in a detailed discussion with our sales and engineering teams.

EASY INSTALLATION AND INTEGRATION

BGAN terminals operate in static locations or "On The Pause" and a wide range is also available for use in vehicles on the move. These can be quickly and easily installed across your entire fleet. Terminals operate globally, with a simple and intuitive interface.

Total flexibility. Supports the latest technologies and your older applications

BGAN supports the latest IP services, as well as circuit-switched voice and data for your legacy applications. You can choose between a standard, contended IP service and a service providing a guaranteed data rate on demand – with the ability to select the rate according to your application. Various types of terminal are available, each of which offers different performance capabilities via approved hardware.

COST-EFFECTIVE

BGAN's high performance and flexibility need not come at a high price.

Terminal costs are low and a wide choice of airtime pricing packages allows you to match the service precisely to your needs. And there is no need to commit to a lengthy contract. BGAN makes global, mobile voice and data services more accessible than ever while allowing you to reduce the cost of ensuring that government end users always have the communications they need, where they need them to be able to carry out their role.

BGAN offers affordable communications that allow ministers and their staff to travel the world while remaining constantly in touch with their capital cities; that offer defence, security and blue-light responders the highest levels of operational readiness, effectiveness and agility; and allow citizen-facing departments to ensure that the same high-grade services are consistently available to everybody, at all times, regardless of whether they are in the urban centres or in the most remote highland villages. BGAN connectivity makes it possible for governments to provide the services that citizens deserve and expect in a digital age.

The range of BGAN terminals and service plans make it ideal for almost all government users. Services range from low usage machine-to-machine plans to high capacity assured access and guaranteed rates on-demand for streaming video. Whether your requirement is for a simple SCADA solution or reliable streaming of high-resolution full motion video, there is a BGAN service plan that meets your requirement.

APPLICATIONS

- Stand-alone or complementary to dedicated government satellite
- Mobile or static operation from portable, vehicle or fixed terminals
- Email and webmail
- Remote access to the internet or to company or department intranet
- Secure voice and data communications
- SMS and instant messaging
- Videoconferencing
- Watch or send Full Motion Video
- Store and forward video

KEY BENEFITS
STANDARD IP

Ideal for email, internet and intranet access via a secure VPN connection, at speeds up to 492 kbps over a shared (contended) channel.

STREAMING IP

The BGAN X-Stream ™ service delivers guaranteed data rates on demand up to 384 kbps. Choose the data rate on a case by case basis, depending on your application.

A new High Data Rate service streaming service provides the fastest, non-contended data rates. BGAN HDR will provide a minimum throughput of 580 kbps with its full channel option, but users can expect to see an average speed of 600-700 kbps, reaching as high as 800 kbps. Channels can also be bonded together to provide speeds greater than 1 Mbps.

ASSURED ACCESS

A guaranteed data rate within a defined geographic region that can be shared between more than one terminal.

VOICE

Make voice calls at the same time as accessing your data applications. Voicemail is also available. Group 3 fax is supported via the voice channel.

ISDN

Supports ISDN at 64 kbps for your legacy applications.

SHARED CORPORATE ALLOCATION PLAN

Choose a shared allocation plan that allows you to share your chosen data package between a small or large group of terminals. Ideal for departments and agencies who need a number of different terminals operating

TERMINALS

PORTABLE AND FIXED TERMINALS

		HARRIS RF-7800B-DU024	Low Profile BGAN	EXPLORER 710	EXPLORER 510	HUGHES 9202	HUGHES 9211
MANUFACTURER		Harris	Hughes	Cobham	Cobham	Hughes	Hughes
DIMENSIONS WxHxD AND WEIGHT		24.1 x 24.1 x 6.5cm 2.8 kg	IDU: 253 x 176 x 53 mm 2.2kg ODU: 240 x 240 x 29 mm 1.2kg	279 x 332 x 52mm 3.5kg (inc battery) Antenna: 1.9kg Transceiver: 1.6kg	202 x 202 x 51.8 mm 1.4kg	216 mm x 216 mm x 45 mm 1.4kg	232 x 292 x 51 mm 2.019kg
PORTABLE/FIXED		Portable	Portable and Fixed	Portable and Fixed	Portable and Fixed	Portable and Fixed	Portable and Fixed
STANDARD IP		Up to 432 kbps	448 Kbps	Up to 492kbps (send and receive)	Up to 464 kbps	Up to 464 kbps	Up to 464 kbps
STREAMING IP		32, 64, 128 kbps		32, 64, 128, 176, 256kbps BGAN X-Stream™, BGAN HDR 650kbps	32, 64, 128 kbps	32, 64, 128 kbps	Up to 650 Kbps
VOICE AND FAX				Via RJ-11, 3.1kHz audio or IP handset	EXPLORER Connect App for IOS and Android*:	Two-line RJ-11, 802.11 WLAN	Two-line RJ11 connector
ISDN		Voice (4 kbps), data (64 kbps)		64kbps via RJ-45	Standard voice: 4 kbps Premium voice: 3.1 kHz audio, 64 kbps	RJ45 connector (ISDN)	Ethernet connection (RJ45)
OTHER DATA INTERFACES		Ethernet, USB	Ethernet RJ-45, USB	2 x Ethernet, USB, WiFi	WLAN Access Point, USB	RJ45 connector,	Ethernet connection (RJ45)
INGRESS PROTECTION			IP-67	IP-52 (transceiver) IP-66 (antenna)	IP-66	IP-55	IP-55

VEHICULAR TERMINALS

		EXPLORER 325	HUGHES 9450-C11	GLOCOM GX-10	GLOCOM GX11	EXPLORER 323	EXPLORER 727	HUGHES 9350-C10	HARRIS RF-7800B-VU104
MANUFACTURER		Cobham	Hughes	Glocom	Glocom	Cobham	Cobham	Hughes	Harris
DIMENSIONS WxHxD AND WEIGHT		Terminal 231 x 278 x 41mm 2.4kgs Antenna 349 x 128mm 3.6kgs	Terminal 234 x 281 x 46mm 2.3kgs Antenna 252 x 119mm 2kgs	Terminal 260 x 256 x 44mm 2.8kgs Antenna 494 x 153mm 5.5kgs	Terminal 260 x 210 x 44mm 2.4kgs Antenna 252 x 119mm 1.86kgs	97 / Ø321 mm (incl. mounts) 3.6kg	Terminal 247 x 270 x 43mm 2.5kgs Antenna 477 x 160mm 6kgs	Terminal 260 x 256 x 50mm 2.8kgs Antenna 494 x 153mm 5.5kgs	20 x 51cm 12.6 kg
STANDARD IP		Up to 448 / 464kbps (send / receive)	Up to 448 / 464kbps (send / receive)	Up to 492kbps (send and receive)	Up to 448 / 464kbps (send and receive)	Up to 200 kbps	Up to 492kbps (send and receive)	Up to 492kbps (send and receive)	Up to 492kbps (send and receive)
STREAMING IP		32, 64, 128kbps	32, 64, 128kbps	32, 64, 128, 256kbps	32, 64, 128 kbps	16, 32 kbps	32, 64, 128, 256kbps2 BGAN X-Stream™ on-the-pause	32, 64, 128, 256kbps	32, 64, 128, 256kbps
VOICE AND FAX		1 RJ-11 port for voice	Via RJ-45 ISDN handset, via ISDN TA with two RJ-11 ports for voice or 3.1kHz for audio / fax	Via RJ-45 ISDN handset, via ISDN TA with two RJ-11 ports for voice or 3.1kHz for audio / fax	Via RJ-45 ISDN handset, via ISDN TA with two RJ-11 ports for voice or 3.1kHz for audio / fax	WI-FI / Web Interface EXPLORER Connect App	2 RJ-11 ports for voice and 3.1kHz audio / fax	Via RJ-45 ISDN handset, via ISDN TA with two RJ-11 ports for voice or 3.1kHz for audio / fax	Falcon III manpack radios
ISDN		N/A	56 / 64kbps	56 / 64kbps	56 / 64kbps		56 / 64kbps	56 / 64kbps	Voice (4 kbps), data (64 kbps)
OTHER DATA INTERFACES		2 x Ethernet	4 x Ethernet, Wi-Fi with extended standard connector	Ethernet, Wi-Fi, USB	Ethernet, Wi-Fi with extended standard connector, USB	1 x WLAN interface 1 x LAN interface	4 x Ethernet, USB	Ethernet, Wi-Fi with extended standard connector, USB	Ethernet, USB
INGRESS PROTECTION		IP 31 (terminal) IP 56 (antenna)	IP 54 (terminal) IP 56 (antenna)	IP 54 (terminal) IP 56 (antenna)	IP 54 (terminal) IP 55 (antenna)	IP66	IP 31 (terminal) IP 56 (antenna)	IP 54 (terminal) IP 56 (antenna)	

BGAN HDR

A portfolio of high data streaming rates for broadcasters, media organisations and governments looking to deliver superior video quality anywhere in the world.

HDR STREAMING RATES

BGAN HDR supports a portfolio of four channel streaming rates including symmetric and asymmetric options so you only pay for the data you need.

CELLULAR FAILOVER

BGAN HDR can also be used as a dependable back-up solution to cellular bonding.

EASY TO USE

No technical expertise or training is needed to set up and use BGAN HDR. The terminal is plug and play, so you can establish a connection within minutes.

FULL CHANNEL STREAMING RATE

BGAN HDR will provide a minimum throughput of 580kbps with its full channel option, but users can expect to see an average speed of 600-700kbps, reaching as high as 800kbps.

GLOBAL COVERAGE

BGAN HDR is available across the globe, with the exception of the extreme Polar Regions, providing connectivity wherever your business or operations take you.

GENERAL APPLICATIONS

- Time-critical data transfer
- Video conferencing

BUILT-IN BONDING

You can double the streaming rates by bonding two terminals together, enabling connection speeds over 1Mbps, which was previously only possible on a VSAT uplink.

RELIABLE NETWORK

BGAN HDR services are delivered via the Inmarsat-4 network, with 99.9 per cent satellite and ground network availability and an operational lifespan expected into the 2020s.

BESPOKE APPLICATIONS

Telemedicine, VTC, ISR, Live video broadcasting/streaming

LOW PROFILE BGAN

A FORCE MULTIPLIER

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

Border forces, police, internal security departments and the military all need to collect realtime intelligence on a 24 hour basis. Moreover, they need to do so in a cost-effective way, and without exposing their personnel to unnecessary risks.

A wide range of high-performance, unattended electronic systems are 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 IP data communications.

In covert or discreet applications the equipment which delivers these communications 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 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.

The terminal draws very little power ensuring that once installed and concealed the user doesn't have to return as frequently putting themselves and the operation in jeopardy.

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.

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

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 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 optimised 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 BGAN NETWORK, RELIABILITY, WHERE AND WHEN YOU NEED IT

A BGAN terminal provides simultaneous voice and data. BGAN is available across the globe, with the exception of the extreme polar regions, providing connectivity wherever

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 a reduced risk that the location of discreet sensors will be compromised.

your business or operations take you. BGAN services are delivered via the Inmarsat-4 network, with 99.9 per cent 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.

MACHINE TO MACHINE

Our suite of global machine-to-machine (M2M) services enables you to monitor and manage your remote assets.

Whether you need full visibility of your transport fleet, or to backhaul data from a remote corner of your utility network, or simply to connect your SCADA applications, we have an M2M solution to help improve your operational efficiency.

BGAN M2M

A reliable, global, two-way IP data service designed for long-term machine-to-machine management of fixed and mobile assets.

Connects monitoring and control applications in remote, unmanned locations, giving you full visibility and management of your dispersed assets across an entire operational area.

FEATURES

For customers with data volume requirements ranging from megabytes to gigabytes, such as real-time surveillance or high-volume metering and telemetry.

A 3G satellite network service, it provides full IP data connectivity supported by remote terminal management, debugging and configuration options. Using robust and lightweight hardware, BGAN M2M enables a wide range of M2M applications.

GLOBAL COVERAGE

BGAN M2M is accessible across the globe except in the extreme polar regions.

PERFORMANCE AND LATENCY

Send data using BGAN Standard IP at a rate of up to 448kbps with a low latency from 800* milliseconds, assuring real-time visibility of critical data.

EASILY INTEGRATED

Simple for field teams to set up and integrate with bespoke applications, and to maintain without technical expertise or training.

ROBUST TERMINALS

BGAN M2M is accessed through a range of certified terminals for mobile and fixed use, providing remote management and performance options to suit different operational needs.

RELIABLE NETWORK

Operates over our global satellite and ground network, with 99.9 per cent availability and an operational lifespan expected well into the 2020s.

ENHANCED SUPPORT

Free firmware upgrade over the Inmarsat-4 network, so field personnel do not have to be deployed to visit remote sites to perform the task.

AFFORDABLE

Low hardware costs with subscription-based price plans, no minimum connection fee and minimum billing increments.

BESPOKE APPLICATIONS

- IP SCADA for data backhaul
- Asset tracking
- Fixed monitoring – remote surveillance
- Fixed monitoring – remote telemetry
- Fixed monitoring – remote tracking
- Friendly force tracking
- Mobile monitoring – remote surveillance
- Mobile monitoring – remote telemetry
- Mobile monitoring – remote tracking
- Oil well head telemetry and monitoring
- Railway track and crossings
- Remote control of assets
- Remote personnel tracking
- Road signs
- Secure and encrypted ATM/PoS solution
- Smart Grid
- Smart metering
- Telemetry – SCADA
- Weather, environmental monitoring

GENERAL APPLICATIONS

- ECDIS
- GPS location data look-up-and-send
- IP SCADA
- SCADA
- Surveillance

ISATDATA PRO

A global two-way short message service for machine-to-machine (M2M) communication.

Enables government end users to track and monitor their fixed or mobile assets, giving them increased visibility of business operations, enhanced efficiency, and greater safety and security for their assets, cargo and drivers – while lowering operational costs.

IDP 680

IDP 690

IDP 800

IsatData Pro is a global satellite data service designed for two way text and data communications with your assets, anywhere, anytime.

Whether used for managing trucks, fishing vessels or oil & gas equipment, IsatData Pro increases business efficiency, lowers operation costs and enables compliance with government regulations. Applications include transferring electronic documents and vehicle telemetry information, text-messaging remote workers and maintaining up-to-date driver logs and many more.

The IsatData Pro service is designed for mission-critical applications. All messages are delivered within seconds, making IsatData Pro ideal for sending information to people operating in high-risk areas, reporting alarm conditions and retrieving logs from remote equipment during an emergency.

SMART DATA TERMINALS

Customers looking to use the IsatData Pro satellite service have a choice of using field-ready terminals or embedding the modem (IDP-100) into existing systems. Within the terminal family of products, customers can choose between terminals designed for land-based (IDP-680) or maritime (IDP-690) applications.

ISATDATA PRO HARDWARE FEATURES

Integrated GPS for location-based services

- Environmentally-sealed enclosure for outdoor installations
- Low-power modes for battery-powered applications
- Peripheral interfaces for connecting to analog, digital and serial devices
- Serial interfaces for connectivity to RS485/J1708 and Modbus interfaces
- Programming capability and user tools for quick customization to meet business needs

APPLICATIONS

- Send electronic documents including logistics, forms and billing signatures
- Text-message drivers and remote workers
- Collect and send logs required to meet transportation and government regulations
- Collect and transmit telemetry information from vehicles and heavy equipment
- Download report logs from environmental data logging equipment
- Send pressure, volume and other sensor information from remote well sites
- Aggregate, monitor and communicate information from smart grid sensors in near real-time

KEY BENEFITS

High messaging capability

- Send and receive more data to allow better visibility of business operations and risk management
- Communicate information to remote workers and assets where previously not affordable or available

BEST VALUE

- Equip fleets and asset groups of all sizes with competitive hardware and airtime pricing
- Accurately budget communication costs without roaming charges
- Choose Inmarsat - a leader of mobile satellite services for the past 30 years whose current constellation is expected to remain in service beyond 2020

ROBUST AND RELIABLE SERVICE

- Receive notification of events within seconds
- Install customizable, environmentally-sealed terminals anywhere, even in harsh environments

ISATPHONE 2

The IsatPhone 2 from Inmarsat. Designed to work with the most reliable satellite communications network in the world.

IsatPhone 2 is the latest addition to our handheld satellite phone portfolio, offering a range of new features to ensure you stay connected in even the most extreme and remote locations.

IsatPhone 2 is a tough phone for a tough world. The robust handset has been engineered to cope with anything that nature can throw at it – from searing heat to icy blasts, desert sandstorms or monsoon rain.

And with fast network registration, an unrivalled battery life offering 8 hours' talk time and up to 160 hours on standby, you know you can always depend on IsatPhone 2.

What's more, IsatPhone 2 gives you the excellent voice clarity and call stability you expect from the world-leading Inmarsat network.

RELIABLE NETWORK

Operates over our global I-4 satellite network, ensuring reliable call stability and seamless roaming worldwide.

GLOBAL COVERAGE

IsatPhone 2 coverage is worldwide, apart from the Poles. Calls are made via a single, global network so there are no roaming charges.

ROBUST HANDSET

Engineered to withstand the most extreme conditions, IsatPhone 2 operates at -20°c to +55°c, has humidity tolerance up to 95 per cent, and is dust, splash and shock resistant (IP65, IK04).

STAY CONNECTED

Location services, including tracking and an assistance button, keep people updated with your GPS co-ordinates when it matters. Receive notification of inbound calls, even with the antenna stowed.

GLOBAL ASSISTANCE

IsatPhone 2 customers on monthly plans can benefit from free-of-charge worldwide emergency assistance from GEOS. Once configured, a single push of the assistance button will send a message to the GEOS' 24/7 emergency response centre, who will get in touch with you, and liaise with the most appropriate emergency services to get you the help you need.

LONG BATTERY LIFE

Network registration in under 45 seconds, plus unrivalled battery life – with 8 hours of talk time and up to 160 hours on standby.

EASY TO USE

Easy-to-use interface, with large high-visibility, scratch-resistant transflective display that's readable even in bright sunlight.

OTHER FEATURES

- eCompass for enhanced pointing
- Alarm
- Minute minder
- Microphone muting
- Speakerphone
- Bluetooth
- Contact synchronisation With MS Outlook 2007 (PC).
- OS compatibility: Windows 10, Windows 8, Windows 7 and Windows XP.

LANGUAGES SUPPORTED

Arabic, Chinese, English, French, Japanese, Portuguese, Russian, Spanish, Turkish.

WE CONNECT THOSE WHO PROTECT

inmarsat.com/government