



SwiftBroadband



SwiftBroadband provides voice and high-speed data, simultaneously, through a single installation on a global basis.



High-speed, IP-based voice and data

SwiftBroadband is an IP-based packet-switched service that provides a symmetric 'always-on' data connection of up to 432kbps per channel. In Standard IP mode, the service is shared with other concurrent users of the system, providing a 'best effort' service. SwiftBroadband can also provide a pre-determined quality of service through streaming classes of 32, 64 or 128kbps. Higher bandwidth can be achieved by combining channels, currently up to two per installation.

SwiftBroadband provides a high-quality voice channel with the full functionality of land-based fixed phone services and a generic SMS service. For backward compatibility, it also provides a circuit-switched ISDN service.

It is possible to have a combination of multiple packet-switched services with one circuit-switched service active at the same time.

The end-user experience depends on the native performance of SwiftBroadband, as well as any performance-enhancing technologies that are being used eg. data compression, IP and application optimisation.

Features

- Standard IP data – currently up to two channels per aircraft:
 - Up to 432kbps per channel over a high-gain antenna
 - Up to 332kbps over an intermediate-gain antenna
- IP data streaming on demand at 32, 64, 128kbps – can be combined for higher rates
- Simultaneous voice and high-speed data:
 - Packet data (TCP/IP) and ISDN
 - Circuit-switched voice and VoIP
- Standalone or simultaneous operation with Inmarsat's Aero H/H+ and Swift 64 services
- GPRS and UMTS compatible
- Compliant with ARINC 781
- Support for high-assurance applications, including NATO secret and NSA Type-1 encryption systems providing remote mobile access to classified networks – STU-III/IIb, STE, KIV-7, Brent and HAIPE devices including KG-175 TACLANE, KG-235 Sectera, KG-250 Altasec, subject to verification testing

Requirements

The following is required to operate SwiftBroadband:

- SwiftBroadband avionics - the satellite modem to access the service
- An aircraft antenna capable of receiving SwiftBroadband and related equipment, eg. Diplexer, LNA, HPA and cabling
- An agreement with a SwiftBroadband service provider

Aircraft without an Inmarsat system

For new aircraft, airframe manufacturers can advise if SwiftBroadband avionics are an option either as SFE or BFE. For aircraft already in use, SwiftBroadband avionics manufacturers can advise on recommended equipment and STC status.

Upgrading an existing Inmarsat installation

Users can upgrade to SwiftBroadband, depending on the equipment already installed on the aircraft.

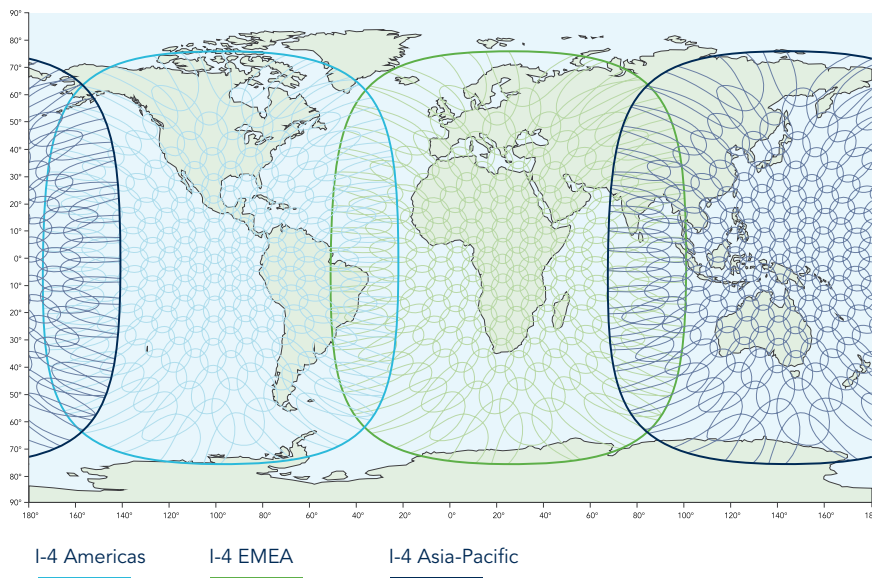
The minimum requirement is a software upgrade, where the aircraft is equipped with a 'SwiftBroadband-ready' installation.

If the avionics onboard the aircraft are either Classic Aero only (eg. Aero H/H+, Aero I), or an older Swift 64 installation, a hardware change to the avionics is most likely required. Other scenarios may require replacement or upgrading of associated equipment, such as cabling, diplexer, HPA, to be able to install SwiftBroadband.

Consultation with the relevant avionics and antenna manufacturers is necessary to establish which upgrade path is appropriate for each particular aircraft configuration.

Coverage

SwiftBroadband uses the narrow spot beams of the Inmarsat-4 (I-4) satellites. Currently accessible over the Indian and Atlantic Ocean regions, it will be available globally, except the extreme polar regions, following the repositioning of the I-4 satellites.



This map depicts Inmarsat's expectations of coverage post repositioning of its I-4 satellites. It does not represent a guarantee of service. The availability of service at the edge of coverage areas fluctuates depending on various conditions. Please refer to inmarsat.com/coverage for further information on timescales.

Applications

SwiftBroadband supports a wide range of crew and passenger applications:

Crew

- Safety services – Automatic Dependent Surveillance (ADS), Controller / Pilot Datalink Communications (CPDLC)
- Voice communications
- Electronic Flight Bag (EFB), flight plan, weather and chart updates
- Engine performance monitoring and fault reporting for major systems
- General operational planning
- Crew reporting and general administration

Passengers

- Telephony: in-seat, mobile, VoIP and text messaging
- Email, intranet, internet and instant messaging
- Secure VPN access
- Large file transfer – presentations, graphics, video
- Videoconferencing
- In-flight news updates

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