Overseas Security Advisory Council
Bureau of Diplomatic Security
U.S. Department of State

Satellite Phones: Critical or Contraband?

Summary

Satellite phones are proven to facilitate communications in remote destinations, making these devices ideal for wilderness adventure seekers, cruise ship staff, teams responsible for emergency preparedness and contingency planning, or employees in isolated locations. While satellite phones are legal – even encouraged – in most countries, OSAC constituents should be equally mindful of overseas destinations that regulate or prohibit their use. The following quick-guide provides information on these limitations and serves as an overall resource for using satellite phones overseas.

What Makes a Satellite Phone Different?

Satellite phones generally offer call- and text-based communication services and transmit data exclusively via satellite, with Globalstar, Inmarsat, Iridium, and Thuraya being the most common satellite networks. The network of satellites is either geostationary – fixed 22,000 miles above the equator – or in Low Earth Orbit (LEO), anywhere from 500 to 1,000 miles above the earth. Satellite phones are not reliant on ground-based infrastructure that may not exist in remote locations or that could be damaged by natural disasters. Due to the satellite architecture, these phones can essentially work anywhere in the world, greatly assisting organizations operating in locations that lack a reliable communications infrastructure. Satellite phones are generally a useful tool for communicating in remote areas.

However, satellite phones should not necessarily be a replacement for cell phones or other means of communication, as there are several drawbacks to their usage. There may be entry and/or usage restrictions, they do not consistently offer the day-to-day internet access and data speeds akin to smart phones, and they require a line-of-sight to orbiting satellites to operate effectively. The interior of buildings or vehicles, areas close to tall buildings or dense vegetation, deep valleys or canyons, and severe cloud cover can hinder communications. Potential satellite phone users should also consider a provider's geographic coverage; the cost of the handset and calls, which generally exceed traditional mobile phones; and transmission delays, which increase the further away a satellite is.

Potential Threats to Privacy

Like other communication technologies, satellite phones may also be susceptible to jamming, surveillance, interception, and other security threats. In 2012 and 2017, researchers cracked satellite phone encryption standards used by multiple service providers, in real time, underscoring that users should have no expectation of privacy when communicating. Additionally, satellite phone users could potentially be tracked through frequency emissions, commercially available tracking devices, and built-in GPS capabilities. While GPS features may facilitate locating an individual in an emergency situation, it could also be a potential security vulnerability to be exploited and used for malicious intent like kidnapping or detention.

Communications on satellite phones can also be intercepted by governments. Satellite phones communicating with a mobile phone or landline are routed through ground stations, which are located in numerous countries. When transmitting through these ground stations, communications providers must comply with the national legal and regulatory frameworks where they are located, making it possible for local governments to intercept private communications. Despite these negative factors, satellite phones provide many OSAC constituents with reliable communications in the most austere environments.

Global Coverage, not Universally Legal

American satellite phone providers must comply with U.S. embargo and sanctions restrictions, which could affect the availability of hardware in certain locations. For example, U.S. companies cannot provide services in places like Iran, Cuba, and North Korea; however, many service providers still offer global coverage with the caveat that possession and use may not be legal. This global coverage can extend to emergency services assistance, where service providers will accept phone-based emergency distress calls and dispatch assistance regardless of the local legal and regulatory situation.

Case Study: India

India is one of the most high-profile locations prohibiting the use of satellite phones, not only on land but also in its territorial waters. India's Department of Telecommunications (DoT) maintains that "satellite phones are permitted only with specific permission from Department of Telecomm, Government of India," with DoT permits restricted to Inmarsat phones. The regulation of satellite phones was reportedly instituted for national security purposes, particularly after Pakistan-based terrorists used satellite phone technology to communicate with their handlers during the 2008 terror attacks in Mumbai.

There are multiple instances of undeclared satellite phones being confiscated from foreign travelers upon arrival in India. The official notice states: "All foreigners travelling to India are hereby informed that it is illegal to use/carry Thuraya or other such satellite phones in India. Custom authorities in India may seize such phones and legal action may be taken against the passenger concerned." In 2012, the Civil Aviation Authority issued a memo to all Indian airports to detain passengers carrying satellite phones. Since the beginning of this year, multiple OSAC constituents have reported legal actions, including arrests, court appearances, fines, and confiscation resulting from satellite phone possession. Ignorance of the law is not an acceptable defense.

Declared Travel Restrictions

The following table provides some of the known satellite phone restrictions for specific countries; the information quoted in the table can be found by clicking on the link associated with the relevant country name. Please consult your satellite phone service provider for specific information on coverage, emergency assistance, and local regulatory compliance.

Bangladesh	Travelers need authorization from the Bangladesh Telecommunication and Regulatory Commission (BTRC), which may grant approval under specific criteria related to national security, dignitary protection, and humanitarian assistance and disaster recovery.
Burma	Satellite phones are functionally illegal. Communications equipment (satellite dishes, fax machines, phones, walkie-talkies, short-wave radios, etc.), including satellite phones require individual import permits from the Ministry of Post and Telecommunications prior to arrival. While cell service is widely available, it is recommended to have redundant communications options through voice, text, and email using separate cell carriers.
Chad	"Thuraya satellite phones are illegal. Travelers using them risk seizure of phones and arrest. Iridium satellite phones are legal."
China	Satellite phones are reportedly illegal. However, despite opaque laws, some OSAC constituents have imported and used satellite phones in-country without negative repercussions.
Cuba	"It is prohibited to bring in global positioning systems, satellite telephones or other communications equipment such as listening devices."
Ethiopia	Travelers need written permission from the Ministry of Communication and Information Technology to import satellite phones. Satellite phones that do not use the Ethio-Telecom (Ethiopian Telecommunication Company) network, which has an agreement with Thuraya and Iridium, may raise security concerns with local authorities. When a traveler arrives at the airport with a satellite phone, they must present the phone and written permit to customs. Without a permit, customs will seize the phone and hold it until the permit is obtained.
India	As discussed in the case study above, "The possession of satellite phones is prohibited in India. U.S. citizens have been arrested and prosecuted for possession of satellite phones." However, an individual or entity can apply to the Department of Telecommunications for a No Objection Certificate to use an Inmarsat satellite phone.
North Korea	"If DPRK authorities permit you to keep your cell phone upon entry into the country, please keep in mind that you have no right to privacy in North Korea and should assume your communications are monitored. GPS-trackers and satellite phones are not allowed."

Russia	“You must have advance approval to bring in satellite telephones. Global Positioning System (GPS) and other radio electronic devices, and their use, are subject to special rules and regulations in Russia. Contact the Russian Customs Service for required permissions.” Roskomnadzor is the Russian agency responsible for telecommunications issues and the approval of satellite phone imports.
Sri Lanka	“A prior license from the Sri Lanka Telecommunications Regulatory Commission for telephone equipment such as satellite phones” is required.
Sudan	Satellite phones require approval and licensing from the Sudanese National Telecom Corporation, and the traveler must have the approved license upon arrival. Applications must be filled out in advance at the Telecommunication & Post Regulatory Authority.
Turkmenistan	The possession and use of satellite phones is illegal.

Former Restrictions

Other travel destinations frequently prompt questions, often because satellite phone use may have been restricted or banned at one time. This includes Nigeria, where in 2013 the army announced a ban on the use of satellite phones and shut down all communications networks in the northern state of Borno due to terror attacks launched by Boko Haram. While no formal announcement lifting the ban was made, all forms of communication are permitted in the state. It is recommended that travelers still check with their satellite phone service provider and the nation’s embassy or consulate for guidance on satellite phone usage prior to travel.

Implications for the Private Sector

In Libya, there are no laws against satellite phones, but there have been multiple reports of individuals having satellite phones, GPS devices, and personal tracking devices confiscated at the airport. It is recommended that travelers not travel with anything that could raise the suspicions of customs officials. Constituents have reported similar occurrences in other countries where the devices are technically permitted. This seems to be the result of opaque laws, lack of familiarity with the equipment, corruption, or a newly-employed or suspicious customs agent, but it does happen. Unfortunately, there may be little recourse in these situations; it is recommended that travelers comply with the decisions of local government authorities.

Satellite phones can greatly facilitate locating and communicating with employees, especially in remote areas or during an emergency that otherwise affects standard landline and cell service. Constituents are strongly discouraged from bringing devices into nations where they are prohibited. For other destinations, OSAC constituents should check with their service provider to ensure coverage is available and if any potential operating restrictions exist. Constituents should also consult the embassies and consulates of the host nation and travel.state.gov for additional guidance. Finally, OSAC facilitates a number of country- and sector-specific Google Groups that regularly discuss this issue, including reputable service providers and updates on restrictions, so joining these groups may also prove useful.

For Further Information

For additional information regarding this report or other information security issues, please contact OSAC’s Cyber Threats and Information Security Analyst .

How and When to Buy a Satellite Phone

The Making of the Largest Satellite Constellation in History

OSAC: Russian SORM Factsheet

Attachments

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