



TACPAK Satellite Telephone Overview

7/31/07

In addition to the High Speed Digital Wireless Data, and LAN/WAN wireless communication options, the **TAC•PAK** can be configured to provide reachback communications using satellite telephones. This document provides a real world overview of the satellite telephone systems, their operational benefits and limitations, and approximate operating costs.

*Please note –
as a courtesy to our clients 308 SYSTEMS also offers bundled wireless service pricing.*

There are four separate and distinct satellite telephone systems available for use in the **TAC•PAK**: INMARSAT, Globalstar, Iridium and Thuraya. Each of these will be discussed below:

INMARSAT

The INMARSAT satellite system provides **TAC•PAK** high speed data(Internet, connect to your office LAN, etc) access at data rates up to 464kbps using the BGAN satellite networks. The user equipment is a laptop sized package with antenna that folds out. For data access, the satphone is connected to the **TAC•PAK** laptop via a serial cable. Although not extremely difficult to use, the INMARSAT system is the most technically complex of the **TAC•PAK** satphone options. Also, the phone must be stationary while in use, thus you cannot move the dish around while walking and talking.

When using the INMARSAT satphone in the field, the user must be aware that the satellite is geostationary and typically sits low on the horizon. In order for the user to acquire a satellite signal, you must be able to see the geostationary satellite typically 20-30degrees above the southern horizon. Thus, if there is a building(i.e. – downtown New York), valley(i.e.- mountains of West Virginia), or other obstruction between the user and the geostationary satellite, the satphone will not work.

INMARSAT does not charge a monthly fee for the satellite, however the hardware costs approximately \$3,500 per satphone and air time is charged at approximately \$7.50/min(data) and \$2.50/min(voice).

Globalstar **update 7/31/07 **

**** The Globalstar satellite system is experiencing performance difficulties, in tests we are only able to connect for 2-3 minutes per 30 minute test. Until Globalstar service improves, we recommend using the IRIDIUM system for any mission critical low speed satellite**

communications. ** The Globalstar satellite system provides **TAC•PAK** data(Internet, connect to your office LAN, etc) access at 9.6kbps, with 33.6kbps effective rate using compression software. The user equipment is a small package which will fit in your pocket(if you have large pockets) and is easily portable. You can walk around and talk on the Globalstar satphone. Data connectivity is through a serial cable connected to the **TAC•PAK** laptop. This satphone is very easy to use, similar to a cell phone.

When using the Globalstar satphone in the field, the satellite system is composed of earth orbiting satellites, which orbit over the user. Thus, the “talk time” is only limited by your skyview. If you are in a valley the Globalstar satphones will work, however you will lose signal as the satellite orbits out of your skyview. Thus, talking from a very narrow “urban canyon” or mountain valley will give you a talk time of approximately 5min, whereas out in the desert you can talk forever.

Globalstar hardware is priced under \$1,000, and they charge a minimum monthly fee of \$49.95/mo, which includes unlimited minutes. If desired, **TAC•PAK** users may purchase multiple years worth of service on a single PO.

Iridium

The Iridium satellite system does not provide robust data services and is not recommended for **TAC•PAK** data(Internet, connect to your office LAN, etc) usage unless you are near the Arctic Circle. The Iridium data service is limited to an effective 4.8kbps throughput. The user equipment is a small package which will fit in your pocket(if you have large pockets) and is easily portable. Data connectivity is through a serial cable connected to the **TAC•PAK** laptop. This satphone is very easy to use, similar to a cell phone.

When using the Iridium satphone in the field, the satellite system is composed of earth orbiting satellites, which orbit over the user. Thus, the “talk time” is only limited by your skyview. If you are in a valley the Iridium satphones will work, however you will lose signal as the satellite orbits out of your skyview. Thus, talking from a very narrow “urban canyon” or mountain valley will give you a talk time of approximately 5min, whereas out in the desert you can talk forever.

Iridium hardware is priced at approximately \$1,600 and Iridium does not charge a monthly fee. They use SIM cards which can be prepurchased and recharged by a credit card. In low volume, each minute costs approximately \$1.60/min. They also offer many increased usage plans, similar to a cell phone company. If desired, **TAC•PAK** users may purchase multiple years worth of service on a single PO.

THURAYA

The THURAYA satellite system is available for **TAC•PAK** clients operating in Europe and Africa. THURAYA does not provide robust data services and is not recommended for **TAC•PAK** data(Internet, connect to your office LAN, etc) usage. The THURAYA data service is limited to an effective 4.8kbps throughput, and is subject to frequent dropped calls. The user equipment is a small package which will fit in your pocket(if you have large pockets)

and is easily portable. Data connectivity is through a serial cable connected to the **TAC•PAK** laptop. This satphone is very easy to use, similar to a cell phone.

When using the THURAYA satphone in the field, the satellite system is composed of earth orbiting satellites, which orbit over the user. Thus, the “talk time” is only limited by your skyview. If you are in a valley the THURAYA satphones will work, however you will lose signal as the satellite orbits out of your skyview. Thus, talking from a very narrow “urban canyon” or mountain valley will give you a talk time of approximately 5min, whereas out in the desert you can talk forever.

THURAYA hardware is priced approximately \$850 and THURAYA does not charge a monthly fee. They use SIM cards which can be prepurchased and recharged by a credit card. Each minute costs approximately \$1.45/min. They also offer many increased usage plans, similar to a cell phone company. If desired, **TAC•PAK** users may purchase multiple years worth of service on a single PO.

For further questions please call us at 970/282-7006, or email info@308systems.com