



## **IN-WOODS SATELLITE COMMUNICATIONS FOR BUSINESS AND SAFETY**

*Communication: radios*

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[www.forestresources.org/members/serpub/06-R-14.html](http://www.forestresources.org/members/serpub/06-R-14.html)

**INTRODUCTION:** Communications have always been a key element in forestry and logging. Whether to call for parts, report a fire, or to call for medical assistance, reliable communications on the jobsite are crucial. In the aftermath of Hurricane Katrina, interest in satellite phones as an alternative communications system is increasing.

**GENERAL FEATURES:** After World War Two, two-way, push-to-talk radio systems became quite prevalent on logging operations. As the telecommunications industry advanced during the late eighties and nineties, loggers began to prefer cell phones. Providing more privacy than traditional two-way radio, allowing voice messaging, featuring economical air-time plans, and with the phones themselves often costing no more than a penny, cell phone systems enabled loggers to transform their pickups into truly mobile offices.



*Fig. 1:* Satellite phones offer better coverage than cell phones in typical woodlands situations, and plans have dropped in price in recent years.

For all their advantages, however, cell phones have inconsistent coverage and may not work in all locations, especially in remote forestry or logging settings. Generally, the farther one is from an urban area, the less reliable cell phone communications become. Enter satellite communications.

Initially too expensive for consumer use, satellite equipment and airtime plans have come down in price in the last few years, and are now within reach of most business owners who need reliable communications in remote locations. Globalstar™, a leading satellite company, offers both emergency plans, which allow the user to pay only for the minutes used, and monthly plans, billing as little as \$50.00 per month for up to 50 minutes of access.<sup>1</sup>

Globalstar™ offers handheld and fixed location satellite telephones for voice and data transmission from remote locations. Features such as voice messaging and SMS (short message service) are also available. In fact, the handheld Qualcomm GSP-1600 contains a reliable Hayes modem that offers a 9600-baud throughput for data transmission and accessing the Internet. With the addition of a data cable kit to the handheld telephone, one could use a laptop on the hood of a truck to send data or access email or the Internet from the woods. In addition, since the GSP-1600 is a satellite telephone, it can also be used as a Global Positioning System when making a satellite telephone call, giving the user location latitude and longitude.

**OPERATION:** Simply, the Globalstar™ satellite communications system relies on a constellation of 48 LEO (low earth orbit) satellites in which to send calls and data. Phone calls

<sup>1</sup> Price subject to change without notice.

are then sent down to one of Globalstar's many gateways and routed over landlines to the final destination. The entire process takes seconds, and offers crystal-clear reception and no voice-delay, which was a problem with earlier satellite services.

With satellite communications, there is no relying on a network of terrestrial "repeaters," which often have to be in line-of-site or are affected by natural disasters. With satellite communications, all one needs is an opening to the sky, which makes it the perfect remote location work tool, both for loggers' business and safety purposes.

**APPLICATION:** Possible applications for satellite communications are nearly endless. The most obvious uses are for logging and forestry operations in remote locations where cellular and traditional two-way radio are ineffective. Asset tracking is a popular application, in which a business owner tracks the daily whereabouts of a fleet of trucks or equipment. These asset trackers are generally configured to a computer map program, allowing the user to see where a unit is in real-time.



*Fig. 2:* Satellite systems may be interfaced with computers for asset tracking or other mapping applications.

Satellite data modems are also available and can be configured to send a variety of information. For instance, one large Canadian forestry company uses a satellite data modem configured to sense smoke on their remote timberlands in order to detect wildfires. Other potential applications could be for use as remote chip bin controllers or transmitting log-scaling information from remote locations.

One of our member loggers purchased a satellite phone for working in a remote area of Eastern Oregon north of John Day, Oregon. Cellular telephone reception was available ten miles from the job. One day, it was raining too hard at the job site to load out the trucks. The logger was able to contact all the log trucks from the job site and tell them not show up that day. The logger's comment was, "we paid for the phone in just that one day. If we had to drive out to where we had cellular reception, it might have been too late. If not for our satellite telephone, it could have been an expensive day, without any wood being shipped."

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**FRA STAFF COMMENT:** Washington Contract Loggers Association has been so impressed with the reliability and competitive costs of Globalstar™ that it has become a licensed dealer for the phones. Additional information and rate plans can be obtained from the author.

*Reviewed by*  
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