



At this time of the year.....

many of our public safety friends begin budget planning for the new fiscal year. The needs are many, the funds are few, and the choices are complicated, particularly in the area of communications.

Since 911, we have all been faced with the reality of a lack of adequate communications in times of emergency. We have redefined the terms *interoperability* and *redundancy*. The words have been around for a long time, the proper application in terms of public safety communications have not. What we have learned is that we need these things, whatever they may be. Now the question is how can we spend limited funds to meet these objectives? Hopefully, our suggestions will be helpful to assist you in making the right decision for your department.

First, let's address traditional 2-way communications, now embodied in a larger communications protocol generally referred to as terrestrial communications. In plain language, terrestrial communications encompassed communications networks that are land based. These include phones (both wired and wireless through third party networks) as well as conventional and trunked radio systems. Providing either redundancy or interoperability for third party networks is beyond our control. Technically it is equally difficult for private 2-way radio systems.

There are some practical things we can do, such as licensing alternate backup systems, installing backup power, and proper lightning protection. These are all good things to do, but do not address interoperability or redundancy in a catastrophic event such as hurricane Katrina or other major emergency. Clearly, there has to be a short and a long term plan that addresses current capabilities as well as the need to plan for the future.

Falcon Direct offers a unique *Needs Assessment Program* for those who want to develop a workable plan that addresses both current and future needs. Additional information is available at www.falcondirect.com/nap. Check it out. To our knowledge, there is nothing else quite like it being offered by other product and service providers.

We are also aware of the bewildering and confusing choices related to the planning for conventional 2-way radio systems, even whether to retain your own system infrastructure or to rely on a third party provider. We offer a *Communications System Planner* that we think you will find to be very useful in planning for current and future radio purchases. You'll find it at www.falcondirect.com/digital.

Lastly, we would like to submit for your consideration, two separate proposals for systems designed to address the need for interoperability and redundancy. Maybe one of them is just right for YOU!

The Falcon Team
At your service!

It's all about choices.....

Here's the scenario. As a typical suburban community, you have fifteen vehicles. All are equipped with analog VHF radios with 25 kHz. For secondary communications, you use Nextel or SouthernLINC as applicable. There are several potential problems. Specially, we know there are several items requiring attention as follows:

- 1) Radio coverage on the conventional VHF system is spotty in some areas. Pending FCC refarming rules call for a prohibition of radios with 25 kHz channel spacing after January 1, 2008. After that, all new equipment will have to operate at 12.5 kHz which will necessitate a major system upgrade.
- 2) The existing VHF system has not been sufficiently hardened to sustain continued operation in the event of a major power disruption or damage to critical communications towers.
- 3) A need exists to provide a backup system that is completely independent of terrestrial system failures, whether it is the privately operated VHF system or third party infrastructure provided by a cellular service provider.
- 4) No system is currently in place that adequately addresses need in litigation avoidance, disaster contingencies, secure data communications, or determining the location of field personnel.

With these considerations in mind, we present two alternate proposals for your consideration. The first is for providing a satellite based backup system with the potential of becoming a primary communications system capable of replacing both existing 2-way radios and cellular phones. The system proposed is offered by Globalstar, the premier communications provider during the hurricane Katrina disaster. Let's start with the equipment available for use on the Globalstar satellite network.

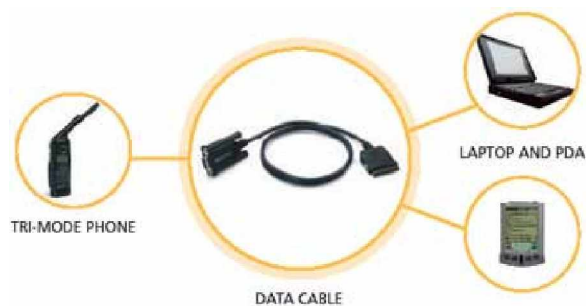


This is the Globalstar GSP-1600. The price is \$749 or you can lease it for \$26 per month (more about the leasing program later). The uniqueness of the GSP-1600 is that it can handle both voice and data in a single handheld unit. You can plug a computer, GPS receiver, PDA or any other data device and have the functionality of both voice and data communications. A data kit with cable is all that is required for connection to your data device. The price is just \$69.95. You can even mount your GSP in your vehicle with a hands free kit and mobile antenna for an additional \$799. You probably won't need this option since the GSP-1600 battery has an incredible battery life of 3.75 hours of talk time and 19.2 hours of standby time. An extra battery adds \$119.99.

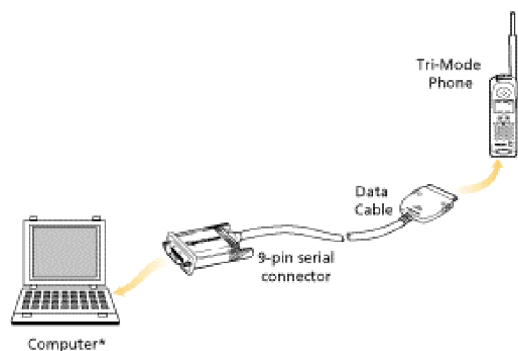


This is the FAU-200 fixed version of the Globalstar satellite phone. The price is just \$625 (\$22 per month on the lease program). This unit can be installed in a building with a view of the sky. Provisions are made for connection of up to three standard telephones, either wired or cordless. This phone is for voice communications only. A voice and data version is optionally available for \$2,495 (\$87 per month on the lease plan). With your choice of a personal handheld unit and either of two fixed units, you have everything you need for Globalstar operation

The main thing to remember is that satellite phones require a clear view of the sky for optimum operation. They are great for outdoor use – not to effective inside buildings. The following will provide more information on the data capabilities of the Globalstar system.



Data services from Globalstar allow you to go beyond the limits of cellular data services. You can attach your satellite phone to a laptop, computer, or PDA (Personal Digital Assistant) to connect to the Internet and email systems. Users do not have to be limited to using the keys on a phone keypad, and can use all the features and displays of a laptop, computer or PDA (Personal Digital Assistant).



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Globalstar Data Services provide 9.6 Kbps speeds, using the reliability of satellite communications via two methods:

Direct Internet Access (#777) enables you to connect to the Internet and web-based email systems*. Globalstar acts as the Internet Service Provider (ISP) allowing you to browse web sites and send and receive e-mails.

Direct Dial-up Access allows you to connect to private networks, which may not be accessible via the Internet, by simply dialing the 11-digit number you want to connect to. Direct Dial-up also allows access to your existing ISP over their standard dial up access for web browsing or access to your mail on their mail server.

Equipment Requirements

- Direct Internet Access - software version 4.7 or higher**
- Direct Dial-up Access - software version 5.2 or higher**
- A computer, PDA, or other computer devices capable of Internet access using dial-up PPP (Point to Point Protocol) via an external modem connection
- Certain PDA's or computers may require additional adapters and cables .
- Data calls are based on airtime used and not the size of the message. We will provide airtime rate plans both for voice and data shortly

Now, let's look at the Globalstar airtime plans. The per minute cost is based on the amount of time used. The more you use, the less expensive it is. Here is an overview of our most popular plans voice rate plans.

Voice & Data Pricing

<p>E-Star Emergency Plan</p> <p>Get satellite phone access for only \$29.99 per month, or \$350 per year. Usage \$1.49 per minute. Perfect for emergency service.</p>	<p>\$29.99 PER MONTH PER LINE</p>	<p>Freedom</p> <p>150</p> <p>\$65 PER MONTH PER LINE</p> <p>Only 43¢/minute. 150 Minutes/month, includes voice mail, SMS, and Express Data Service. For seasonal use, see Liberty 1800.</p>
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Affordable Coverage

For about the price of cellular service, Globalstar lets you go further, do more. For as little as \$50 per month, can you afford to be without coverage?

	Home Minutes	Monthly Service Fee	Effective Minute Rate	US/Canada Long Distance	Short Messaging Service	Voice Mail	Email/Internet Express Data Compression
Monthly Freedom Plans	50	\$50	\$1.00	Free	Free	\$7.95	\$9.95
	150	\$65	43¢	Free	Free	Free	Free
	500	\$120	24¢	Free	Free	Free	Free
	1400	\$275	20¢	Free	Free	Free	Free
	4000	\$550	14¢	Free	Free	Free	Free
	Home Minutes	Annual Service Fee	Effective Minute Rate	US/Canada Long Distance	Short Messaging Service	Voice Mail	Email/Internet Express Data Compression
Liberty Annual Minute Plans	600	\$600	\$1.00	Free	Free	\$95.40	\$119.40
	1,800	\$780	43¢	Free	Free	Free	Free
	6,000	\$1440	24¢	Free	Free	Free	Free
	16,800	\$3300	20¢	Free	Free	Free	Free
	48,000	\$6600	14¢	Free	Free	Free	Free

Additional airtime \$0.99/minute on all plans except Freedom 4000/Liberty 48,000 – \$0.49/minute. \$50.00 activation fee applies. 30-second rounding with one-minute minimum per call.

Monthly plans offer low monthly rates for those with predictable needs.

Liberty plans let you buy in minutes in volume and share usage between phones on the same plan. Liberty minutes are good anytime for up to a year - perfect for seasonal or emergency applications - use it when you need it.

For emergency calling, you can pay as little as \$350 per year and \$1.49 per minute when you need to talk. Conversely, if you signed up for the Liberty 1800 minute plan, your cost per unit would be just \$780 annually per unit. Your minutes can be used as required and can be pooled with other units with identical rate plans (i.e. 15 units would have up to 27,000 available minutes annually).

In summary, you can assume a first year cost of \$1,529 for a GSP-1600 phone and 1800 annual airtime minutes. Your cost in the second and following years would be only the cost for airtime (\$780 per year in this example).

As mentioned previously, you can use the GSP-1600 only for data if you wish since it handles voice, data, or both. The billing for data is not made in minutes but in terms of data packets as you will see below. Globalstar offers flexible and affordable data airtime price plans for its range of data-capable products. Send and receive data reliably with Globalstar satellite service and be productive or stay in touch from remote areas.

U.S. burst data pricing is designed for all Globalstar data-capable products which include the GSP-1600 Handheld Phone, GSP-2900 Fixed Phone, and GSP-1620 Satellite Data Modem. Burst data price plans offer flexibility and affordability to transfer two-way data from remote areas using the Globalstar satellite network. Bundled rates are as low as \$0.05* per 15-second data session. Choose from seven price plans to best meet your data communications requirements.

As mentioned previously, connection of a PC or PDA is the most common application of data. Another popular application is for vehicle tracking via GPS. We will be glad to provide additional information on vehicle location and tracking services, but there are other alternatives that are more cost effective on a daily operating basis. On the following pages, we will present the Automatic Vehicle Location (AVL) system.

Burst Data Price Plans

VOICE AND DATA SERVICE PLANS	FREEDOM 50	LIBERTY 600	FREEDOM 150	LIBERTY 1800	FREEDOM 500	LIBERTY 6000	FREEDOM 1400	LIBERTY 16800	FREEDOM 4000	LIBERTY 48000
MONTHLY SERVICE FEE	\$50	N/A	\$65	N/A	\$120	N/A	\$275	N/A	\$550	N/A
ANNUAL SERVICE FEE	N/A	\$600	N/A	\$780	N/A	\$1440	N/A	\$3300	N/A	\$6600
BUNDLED VOICE OR DATA MINUTES	50/mo	600/yr	150/mo	1800/yr	500/mo	6000/yr	1400/mo	16800/yr	4000/mo	48000/yr
ADDITIONAL VOICE OR DATA MINUTES	\$0.99	\$0.99	\$0.99	\$0.99	\$0.99	\$0.99	\$0.99	\$0.99	\$0.49	\$0.49
ENHANCED SERVICES										
EXPRESS DATA COMPRESSION	\$9.95	\$119.40/yr	Included	Included	Included	Included	Included	Included	Included	Included
VOICE MAIL	\$7.95	\$95.40/yr	Included	Included	Included	Included	Included	Included	Included	Included
19-CHARACTER MESSAGING	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included
ACTIVATION FEE	\$50	\$50	\$50	\$50	\$50	\$50	\$50	\$50	\$50	\$50
BURST DATA FOR DIRECT INTERNET (#777)										
POTENTIAL NUMBER OF BUNDLED 15-SECOND BURST DATA† SESSIONS	200/mo	2400/yr	600/mo	7200/yr	2000/mo	24000/yr	5600/mo	67200/yr	16000/mo	192000/yr
ADDITIONAL 15-SECOND BURST DATA† SESSIONS	\$0.25	\$0.25	\$0.25	\$0.25	\$0.25	\$0.25	\$0.25	\$0.25	\$0.12	\$0.12
LENGTH OF BURST DATA CALL	BUNDLED BURST DATA AIRTIME STRUCTURE									
1-15 seconds	The customer is charged for 15 seconds of usage (1 data session)									
16-30 seconds	The customer is charged for an additional 15 seconds of usage (2 data sessions)									
30 plus seconds	The customer is charged for the entire minute of usage									
60 plus seconds	The customer is charged in 30 second increments									
Calls to '611' (Customer Care) from your satellite phone are free of charge.										

† Burst data pricing applies to outbound Direct Internet (#777) data calls originating from the United States and the Caribbean only. Direct Internet data calls can only be made from the United States, Canada, and other select countries. Please call Globalstar Customer Care at 1.877.728.7466 or visit our website for a complete listing of these countries. Voice and data bundled pricing are not available while roaming. NOTE: The FAU-200 is a voice only product. Data services, call forwarding and roaming are currently not available with the FAU-200.

The AVL Alternative.....

There are some significant benefits to Automatic Vehicle Location (AVL) systems as you will see shortly. Is this technology a viable alternative to satellite phones to provide interoperability and redundancy?

We think so! The NavIQ system is cost effective (\$1,895 per vehicle including airtime for three years of service). NavIQ Plus at \$2,495 provides 2-way mobile messaging capability to a laptop or PDA (not supplied) as a supplement to 2-way radios and/or Nextel or SouthernLINC units. Here are some other reasons to consider AVL. Pursuant to our discussion, I am pleased to present our quotation for providing a vehicle tracking system for the purpose of improved administrative control, proactive litigation avoidance, improved public relations and enhanced officer safety.

As you may know, there are several different variations of automatic vehicle tracking systems. In essence, they are as follows:

Trip recording with auto downloading

These systems provide a *breadcrumb* trail of all vehicle activity with starts, stops, speed, and address locations. When the vehicle approaches the station, all data accumulated since leaving the station is automatically downloaded to a PC (usually the one used by the Chief and/or shift commander) where full shift report activity can be viewed and saved for future use.

Real time interval reporting with web client access

These systems generally rely on a third party network such as Cellemetry, GPRS, or Satellites for interactive communications between the associated vehicles and the Internet. Vehicle movement is monitored in real time via the Internet using vendor supplied web client software. The advantage of this system is the ability to view vehicle activity from multiple locations without the need to await return of the vehicle to the station. In addition, when required, administrative personnel can *ping* a desired vehicle for an immediate display of the current location. Of equal importance, an officer can send an emergency location report to any cell phone or PC at the push of a button.

Private network systems

Private network systems are well suited for law enforcement local area operations. These systems use a private data radio channel to provide the lowest cost of operation for larger fleet users. In general, *Private Network Systems* have all the benefits of *auto download* and *real time access* systems.

We will discuss the relative advantages and disadvantages of each system shortly. For now, our main objective is to make you aware of the different types of systems so that you can choose the one best suited for your individual requirements.

We will gladly provide additional information on any of these systems, but the one best suited for law enforcement is the Real Time Interval Reporting with Web Access system – specifically, the system we call NavIQ as described on the following page.



With NavIQ, you'll know where they are!

We've got it right! After years of experimentation, changing technologies, suppliers who couldn't do what they promised, maps that were not accurate, prices that were not stable, and systems that didn't meet our users needs, we finally formed an alliance with a company that knows and understands the needs of those we serve. They actually have technical people who understand GPS, networking, and system integration. They have experience in vehicle tracking, and they actually have marketing people who understand the unique requirements of law enforcement, transportation, and utility users. They even agreed to develop a custom automatic Vehicle Location (AVL) system for us. Here is what it does!

To begin, NavIQ (that's what we call our system), reports in real time. You don't have to wait for field units to return to the office or dispatch center to download historical data. You don't need a dedicated PC, you don't have to purchase maps or special software. If you have access to the Internet, you have the ability to monitor vehicle movement, stops, and duration of stops. Here's how it works!

The system is designed to report any stop exceeding 15 minutes and to report vehicle movement when the vehicle begins to move. The system automatically updates reports on vehicles while traveling at 15 minute intervals anywhere in the United States. In an emergency, an officer in trouble can send a location report at the push of a button. If an officer is missing and has not reported in to dispatch, a query can be sent via the Internet to initiate an instant location report.

Our maps are incredible. We can generally provide accuracy within 50 feet even in rural areas. You get street addresses even in the smallest communities (Town Creek Alabama for example with a population of 1201 according to the 2003 census). The coverage is pretty incredible as well. Not only does NavIQ work in the big towns and the main highways, it works in rural areas as well. As a matter of fact, no other system can match the coverage of the NavIQ nationwide network - not satellites, not Nextel, not EDGE, not even Sprint or SouthernLINC. And the cost? Nothing else even comes close!

Access to the system is by an Internet web portal. With the correct login and password, vehicle activity can be monitored at dispatch, in the shift commanders office or at the home of the Chief. We designed our special version of NavIQ just for YOU!

You will note that we offer two user plans. **You can purchase a complete NavIQ unit with all service included for three full years for as little as \$1,865 each (The mobile emergency call button adds \$100). There are no other charges.** After three years, you will probably want to upgrade to a more advanced technology. Or if you prefer, you could continue using your original units subject to an annual service charge. If you prefer, you can lease your NavIQ unit with the option to terminate at the end of any annual period.

NavIQ is simple, effective, and affordable. It may be a solution for YOU!

