



## Broadband Internet at sea

**Ever wondered what system to go for? What to use when, and where? Do I have the right contract? What is new? When should I upgrade? - Hopefully our newsletter below can enlighten some of the issues with broadband internet.**

### What is available?

**WiFi** has been available for some years, and more and more ports are installing it. However, once you leave the port, WiFi coverage is lost after 50 -100 m.

WiFi has also got some security flaws. As most networks are open, any person with WiFi coverage and "sniffer" software can read the information sent in clear text. This way any confidential info like passwords, credit card number or other sensitive information sent by e-mail can easily be received and misused by others with coverage from the same WiFi network.

What is the solution? If you are concerned about safety when using public WiFi hotspots, you should start using a VPN connection. The VPN connection creates an encrypted connection between your PC/network and a VPN server. This way your data is safe in the most vulnerable part of the chain; the wireless one. With e-mails, it is also possible to use e-mail encryption. This is already built into most e-mail client software.

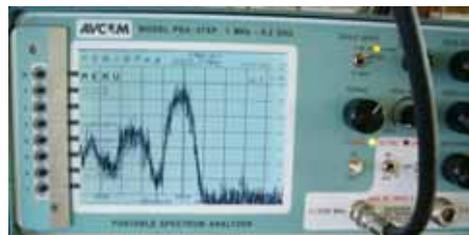


**GPRS** via GSM has also been available for some years, and with the introduction of UMTS in 2004, a reasonable speed was achieved. Now you get the new HSDPA with speeds up to approximately 2Mbps. - Which is all good, but coverage is still limited, and chances are that once you have anchored in an idyllic and remote bay, UMTS and HSDPA coverage is long gone, and you're stuck with a 40kbps GPRS connection if you're lucky.

Another uncertainty when using GSM is the charges. While most providers offer contracts with fixed data rate, where you pay a fixed monthly rate, and have typically 1 to 5GB traffic included /month, this does not apply when you are abroad. On roaming charges you can suddenly find you self being charged € to 12/MB. There are big differences between the operators, so check the roaming charges before you sign up.

### **Inmarsat Fleet**

Well it has one good side, and that's the coverage. The Inmarsat system is the only system with near global coverage and reasonable data speed. – But the rates are outrageous. Up to USD 35/MB is being charged, and yachts relying on Fleet MPDS for their internet connection easily reach USD 5.000 to 10.000 in a busy month. Of course you can have global coverage with C-band VSAT as well, as most cruise ships have, but it requires a 2,4 m satellite dish...



### What is the solution?

#### **VSAT**

If you are a heavy user of internet, e-mail and telephony, VSAT is by far the best solution. It provides you with a permanent satellite internet connection, and in most cases you are free to use it as much as you like for a fixed monthly rate.

The antenna has until now (see below) been a min. 1m sat. dish. For telephony, you get anything from 2 to 12 telephone lines (depending on contract) and in most cases with terrestrial calling rates.



#### **Satellite Broadband Server**

If you can't have, or don't want a new antenna for VSAT, but already have a Satellite TV antenna, the Satellite Broadband Server (SBS), will give you a broadband internet connection by using the Sat TV antenna for download, while you use a different connection for the uplink. And what's the gain? ↴



- You get a fast download (up to 512 kbps) as long as you are inside the footprint of the satellite. (coverage on 3 satellites)
- The traffic used on GPRS and Fleet MPDS is reduced drastically. With normal web surfing, you normally receive 80-90% of the data, while transmit is only for sending commands, so data traffic is low.
- When used with a WiFi hotspot connection, it provides encryption, so no-one can intercept and read your data.
- It provides easy administration and connection sharing for all PC's onboard through an easy to use web browser interface.

## What is new?

### **Inmarsat Fleet Broadband.**

Inmarsat has just launched the Fleet Broadband service. With the new Fleet Broadband marine antenna, internet download speeds of up to 432kbps will be possible via the Inmarsat satellites. Sailor have two new Fleet Broadband antennas already launched: Sailor 500, a 63 cm antenna offering data download speed up to 432 kbps, and Sailor 250 with an antenna diameter of only 28 cm, and offering data download speed up to 284 kbps.

The rates /MB is reduced to about half compared with Fleet, so they are now down to a similar level as GPRS roaming.



### **Mini VSAT**

Seatel, KVH and other manufactures have launched marine VSAT antennas with only 60cm dish size. Previously, the smallest available VSAT antenna has been a 1,0 meter dish. With the reduction in dish size to 60 cm, high speed and *always-on-internet* service is available for a whole new market. The reduced size will in most cases mean reduced coverage area. However KVH claim that with the use of new technology for

satellite communication (spread spectrum), they achieve a similar speed and coverage area with a 60 cm dish as on a 1m antenna using traditional technology. Flexible rates are available, so you don't have to sign up for and pay for a full year, if you are only using the boat for parts of the year.



## Recommendations:

What system, - or combination of systems to choose will depend on your sailing area and your usage. We will be happy to make you a recommendation, provided we have the facts.

## And who are we?

MNS started with Marine VSAT in 2000, and has since become a part of the GIS (General Industry Systems) group. GIS is the main service agent for Miami based MTN (Now Seamobile) in Europe, and we are servicing Marine VSAT installations on cruise ships, yachts and offshore vessels worldwide. In addition to being the VSAT servicerep. for GIS for southern Europe, Middle East and Africa, we are the Superyacht division of GIS, specializing in telecom solutions for superyachts. The GIS group consists of the main office in Norway, and with offices on Mallorca (MNS) and in Singapore.

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