

ELECTRONICS



Sea Tel satellite TV systems are particularly popular in the big-yacht market.

of the smaller models, so far they cannot compete for price point because two-axis systems are built with fewer and cheaper components.

Many *PMM* readers have equipped their boats with Track It TV systems that use a simple digital compass to keep an over-the-counter dish pointed at the service provider's satellite. You might recognize this system under its former name, Follow Me TV. Though decidedly inelegant compared to the stabilized, domed models, the system retails for just under \$900. "Ten percent of the cost, 90 percent of the utility" is Track It TV's advertising mantra.

Another stow-and-go system—this one beloved by our sportfishing brethren—is manufactured by GEOSat Solutions. The Marine-Sat AzTrax system can be fitted permanently like Track It TV, but it is actually designed to be portable. AzTrax attaches to the deck with a suction cup mount or can be slotted into a rod holder. Stowing is

easy because the system uses a 16-inch dish and a compact base unit. This lightweight system includes its own LNB (low-noise block) and a remote control for the tracking system. Marine-Sat AzTrax retails for just under \$1,200.

Al Behrendt, president of GEOSat Solutions, also conducts sportfishing competitions, so he sees many of his satellite system customers out on the water. "As I have said many times: unlike others, I have to live with my customers, and I don't need to be providing tech support while I am trying to manage a fishing tournament," he says.

With a GEOSat dish system stowed in a locker, nothing mars the boat's noble profile under way. The same can be said of the Sea-King VuQube. Intellian and KVH have reached out to the smaller trawler market with unobtrusive 12-inch domes that are also less costly than their larger siblings. And Track It TV keeps on trucking, functionally and affordably.

SATELLITE COMMUNICATIONS

The Message Is Clear

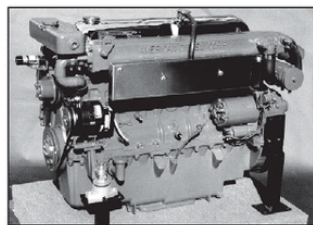
Anchored in the Dominican Republic a few years ago, a cruising couple picked up a Mayday call over their VHF radio around 9:30 p.m. A fishing boat was sinking about 30 miles off the coast. The earnest Americans put out a general call in the harbor for someone who could speak Spanish to the Dominican navy, which apparently had not heard the emergency broadcast.

"The heck with that," I replied over the air, skeptical of the Dominican navy's ability to sortie quickly. I suggested that anyone in the harbor with a satellite phone call the U.S. Coast Guard in Miami right away.

"What's the number?" asked another cruiser, an early adopter of satellite technology.

"Don't know," I said. "Try directory assistance."

Lehman Ford Diesel Owners!



P.O. Box 1838

Kilmarnock, Virginia 22482-1838

Phone: 804-435-3107 Fax: 804-435-6420 E-mail: bobsmithadc@juno.com

Looking for?

- Technical assistance
- Parts identification
- Fast parts shipments
- Free spare parts lists
- Complete cruising kits
- Help from knowledgeable boatmen

52 passagemaker.com July/August 2009

ELECTRONICS



Courtesy of Iridium

Iridium's new handheld telephone model, the 9555, lets you communicate by voice or data anywhere in the world.

Long story short: The Miami station dispatched a U.S. Coast Guard helicopter from its base on the southern Bahamas island of Great Iguana, and those fishermen were pulled from the water within 40 minutes. That's when I knew that someday I was going to get one of those satellite phones for my own boat.

A few years later, while waiting for weather on Mayaguana, another remote Bahamian island, I used my satellite handset to call friends, exchange emails, and pay bills via my online bank account (albeit at an excruciatingly slow connection speed).

Note to the devotees of single-sideband radio: No one at *PMM* would advocate that you rip your SSB out of your boat. And, if you should buy a boat so equipped, by all means, get licensed to broadcast. You won't hear much in the way of English-language news anymore (even the venerable BBC quit shortwave broadcasting to North America in 2001), but you can use SSB for email and getting a weather forecast. You also may find that you enjoy the social networking aspects of conversing with SSB operators in distant harbors.



ADVANCED LED SOLUTIONS

- Long life, maintenance-free
- Ultra-low power consumption
- Superior high-output color
- Dramatic reduction in radiant heat
- Shock & vibration protected
- Backed by Imtra expertise & support



Recessed Fixtures



Surface Fixtures



Courtesy Lights



Recessed Spots




Reading Lights

Imtra PowerLEDs provide the consistent color, appearance and durability that today's boat owners and builders demand. To see Imtra's full range of lighting products, visit www.imtra.com.

imtra
MARINE LIGHTING

www.imtra.com

MADE IN U.S.A. 



Imtra Corporation, 30 Samuel Barnett Blvd., New Bedford, MA 02745 U.S.A.

July/August 2009 passagemaker.com 53

ELECTRONICS

Otherwise, satellite telephony is the way to go. Initial costs can be lower than SSB, voice transmissions are crystal clear, and, as my Dominican experience attests, satphones can summon the cavalry instantly to an emergency. There's no fiddling with dials, and no formal radio-speak getting in the way of the message.

As with satellite TV, economies of scale have produced smaller and less expensive satphone antennas—equipment suitable for small-boat aesthetics. It should be noted, however, that small-boat satellite communication comes in two flavors: very fast and very slow.

Industry leader KVH has brought to market a popular system that uses a domed antenna just 12 inches high and 10.5 inches in diameter: the TracPhone Fleet Broadband 250. KVH's Chris Watson describes the product's 250kbps performance as being comparable to a "slow cable modem." Using the Inmarsat satellite network connection, a TracPhone FB250 retails for \$13,000, plus \$1.49 a minute for telephone service and \$8 per downloaded megabyte of data. "It's not necessarily a solution for someone looking at heavy-duty Internet use, but it's good for someone who needs it for business-critical solutions," Watson said.

Watson said a slower, less expensive Inmarsat system would be available this summer, using hardware manufactured by Thrane & Thrane and distributed in the United States by KVH. This system will retail for \$6,000; airtime charges had not been determined as this article was written.

Lower-Cost Alternatives

While these broadband systems with their compact

antennas may fit nicely on a small boat, many trawler owners might balk at the pricing. That kind of cash would buy a lot of upgrades—even a rebuilt propulsion engine, in some cases. A good small-vessel/low-budget alternative sacrifices connection speed but otherwise gets the job done. Iridium satellite phones have dominated the minimalist approach ever since competitor Globalstar began suffering from system-wide signal-degradation problems, which it intends to solve with the launch of 48 second-generation low-orbit satellites starting later this year.

Depending on whether you purchase the older Iridium handset or the new 9555 model, your hardware costs will be approximately \$1,300 or \$2,000. As with your mobile telephone, monthly fees and per-minute charges vary, depending on which service plan you choose. Pay-as-you-go plans for Iridium service are available at \$59 a month and \$1.49 a minute: a good emergency-only option. Purchasing minutes in advance is a better value, however. Iridium resellers let you purchase up to 5,000 minutes in advance for use over a two-year period, which brings the cost per minute down to 99 cents, and with no monthly fee.

Access to the Internet and email are through Iridium's servers. To trade emails from remote harbors such as those of the Bahamian Out Islands, the most efficient strategy is to subscribe to an email provider such as OCENS or GMN, whose software is designed to work with satellite phones. One of the features is data compression, which makes the most of the phone's glacial (2400 baud, or 1MB per hour) connection to the



INTERPHASE
Forward Looking Sonar

Introducing the industry's first "black-box" forward looking sonar with both VGA and video outputs. The new SE-200 Sonar Engine™ easily turns most video capable chart plotters, radars, and other multi-functional displays into full-featured, forward looking sonars.

SE-200 SONAR ENGINE™

"I use the iScan whenever we approach an anchorage to scope out the unseen. We end up doing a 360 with the boat to give us peace of mind that low tide won't bring any surprises." Les & Rosemary Dobbe "Voyager"

Interphase Technologies, Inc. 831.477.4944 www.interphase-tech.com

54 passagemaker.com July/August 2009

ELECTRONICS

satellite. They also speed up dodgy connections, such as the overloaded wi-fi sources at many popular harbors.

These systems have a really neat “crash and recovery” feature: in case of a dropped call, your file upload will pick up where it left off at the time of interruption, rather than having to restart from the beginning. A subscriber is notified of any emails with attachments and is given the option of downloading those later when using a faster or cheaper connection. Bottom line is that a cruiser can exchange 20–40 emails a day using just a few minutes of airtime.

We’re assuming, of course, that the reason for availing yourself of satellite communications is that you’re heading offshore beyond the reach of cell phones or to a country such as the Bahamas, where cell phone coverage can be expensive. For further savings—whether down island or not—small-boat cruisers should plan to use free or low-cost wi-fi to conduct the bulk of their online communications, thus reserving the satellite phone for those faraway anchorages.


Positively the best way to take advantage of the burgeoning world of wi-fi hotspots is to outfit your boat with a wi-fi booster such as the EC-Comet, which I have

tested and describe in an article that you’ll find under the Web Extras at www.passagemaker.com. Another similar product tested by *PMM* is the 5MileWIFI adapter (see the December '08 issue).

OPTIONS ABOUND

With the growing number of choices in satellite entertainment and communications for small boats, even the hardest skeptics may be tempted to look to the skies. Of course, the products and methods described here are not the only way to achieve satellite connectivity at a price that’s proportionate to small-vessel cruising. Rather, I’ve provided an overview of what’s new to the market and have outlined a general strategy that I’ve used personally.

There are other ways, and surely there will be new ways, of staying connected at sea. As the old priest once said, many are the paths to heaven.

PMM will endeavor to explore as many of those as possible. 

Visit the Web Extras at www.passagemaker.com to read about low-cost, high-range wi-fi and online snail-mail delivery.

Newport Shipyard • One Washington Street • Newport, RI 02840
Tel 401-851-2002 • www.seatonyachts.com • Fax 401-851-2004



SEATON YACHTS

DESIGNERS • MARINE ENGINEERS • BUILDERS

	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 2px;">Length Overall79' 8"</td> <td style="padding: 2px;">Displacement (to LWL)267,000 lb.</td> </tr> <tr> <td style="padding: 2px;">Length on Deck77' 7"</td> <td style="padding: 2px;">Fuel tankage6,600 gallons</td> </tr> <tr> <td style="padding: 2px;">Length on Waterline75' 2"</td> <td style="padding: 2px;">Water tankage1,000 gallons</td> </tr> <tr> <td style="padding: 2px;">Beam21' 2"</td> <td style="padding: 2px;">Range at 10 knots (10% reserve) . . .3,600nm</td> </tr> <tr> <td style="padding: 2px;">Draft (to LWL)7' 0"</td> <td style="padding: 2px;">Range at 11 knots (10% reserve) . .2,475nm</td> </tr> </table>	Length Overall79' 8"	Displacement (to LWL)267,000 lb.	Length on Deck77' 7"	Fuel tankage6,600 gallons	Length on Waterline75' 2"	Water tankage1,000 gallons	Beam21' 2"	Range at 10 knots (10% reserve) . . .3,600nm	Draft (to LWL)7' 0"	Range at 11 knots (10% reserve) . .2,475nm
Length Overall79' 8"	Displacement (to LWL)267,000 lb.										
Length on Deck77' 7"	Fuel tankage6,600 gallons										
Length on Waterline75' 2"	Water tankage1,000 gallons										
Beam21' 2"	Range at 10 knots (10% reserve) . . .3,600nm										
Draft (to LWL)7' 0"	Range at 11 knots (10% reserve) . .2,475nm										

The SEATON EXPEDITION SEVENTY-EIGHT

A new way to see the world: the Seaton Expedition Seventy-Eight. Luxurious accommodations for owner and guests in three en-suite staterooms. Private, self-contained crew quarters. A classic Seaton big-ship wheelhouse. Home-sized saloon, dining room, and galley. Acres of deck space and a huge flying bridge. Twin-screw redundancy. And best of all, a spectacular upper-deck sky lounge with an unparalleled view of the world passing by. This is the Seaton Expedition Seventy-Eight: a big ship for cruisers with big plans.

July/August 2009 passagemaker.com 55