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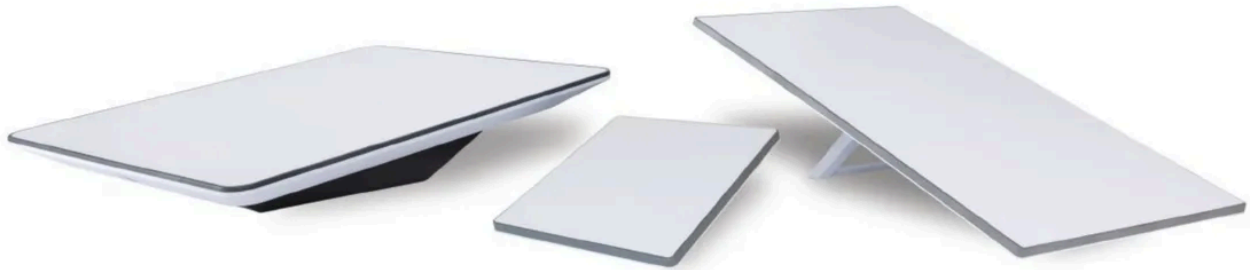
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STARLINK 101: BRINGING YOU *UP TO SPEED*



By Chris Watson

In October 2020, communications for leisure boats and commercial vessels changed irrevocably, although we didn't necessarily realize it at the time. That month, SpaceX launched the "Better than Nothing" beta tests for a new satellite communications system that most people had never heard of: Starlink.

At that year's Ft. Lauderdale International Boat Show, a particularly forward-thinking attendee passed the KVH exhibit, with its advanced, high-tech parabolic dish antennas, and was heard to say, "That's who Starlink is going to put out of business."

Thankfully, that particular prediction didn't come true, but what DID happen was boaters gained access to perhaps the most disruptive and exciting new communications technology of the last thirty years.

Since its launch, especially in the last year or so, Starlink has changed how boaters think about connectivity on the water, what they can expect, and what they can enjoy both on the dock, along the coast, and out in blue water.

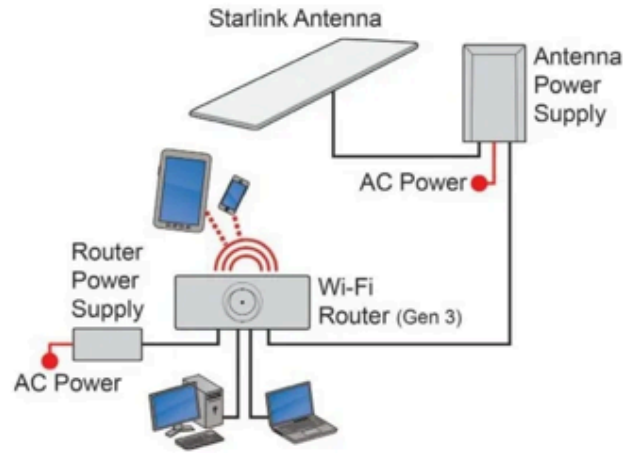
That's because, compared to traditional parabolic dish-based satcom, Starlink is 10 times faster, offers data that can be 10 times less expensive, and is available using antennas with prices at least 10 times lower.

But with those benefits come the rapidly evolving world of Starlink technology, data plans, and policies. At KVH, we're now one of Starlink's top Authorized Resellers of airtime and hardware, and we've been fielding tons of questions, especially following the changes Starlink announced in Spring 2025. With that in mind, here's a primer on some of the key things to know about Starlink, how to get the most out of it, and how recent changes will affect your connectivity on the water.

What is Starlink, and how does it work on boats?

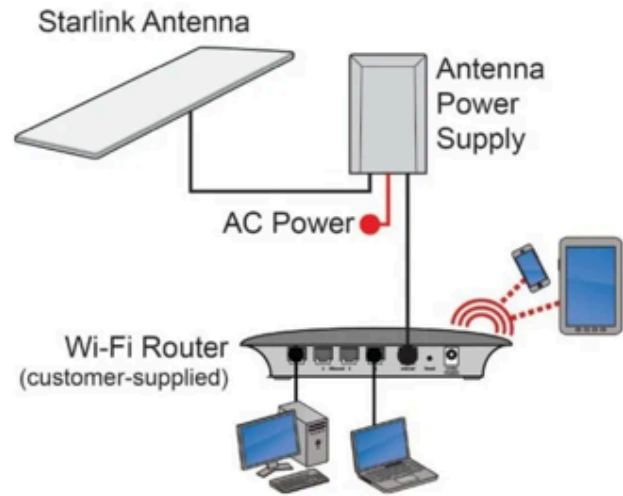
Starlink is a Low Earth Orbit (LEO) satellite constellation with more than 7,200 satellites (as of May 2025) that orbit roughly 350 miles above sea level. Rather than using traditional parabolic antennas that mechanically track satellites, Starlink terminals are electronically steered arrays with no moving parts and are mass-produced at the SpaceX facility in Texas, dramatically reducing their cost for boaters.

And with satellites that orbit that low, the speed at which Starlink signals travel from boat to Internet and back (aka "latency") is fast enough that gaming, video chatting, and rapid-fire stock trading are a reality thanks to an "at-home" Internet experience.



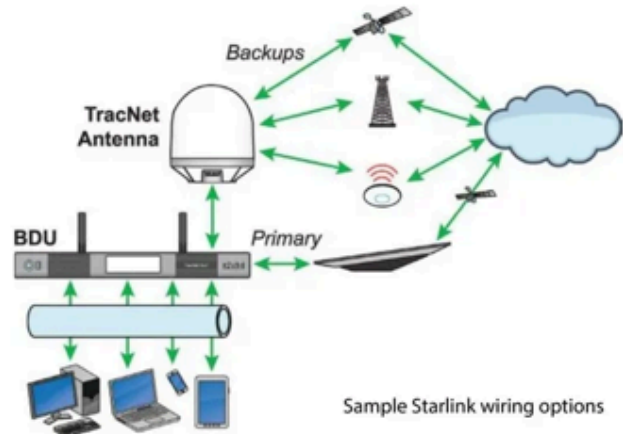
How fast is Starlink service, and how fast do I need it?

Your Starlink terminal choice allows you to download speeds as fast as 220 megabits per second (Mbps), though your real-world performance can vary. But what does that mean when it comes to how you can use it? Well, a high-definition movie requires roughly 4 Mbps to stream and consumes 4 to 5 gigabytes (GB) of data. Starlink easily handles that for you, your guests, and your kids if everyone is trying to stream entertainment, share videos on social media, or have that video conference with the office.



What are the options for Starlink terminals, and do they all work on boats?

There are currently three Starlink terminals approved for use in motion. All can be used on the water, as far as you choose to travel with a Global Priority service plan, with varying performance capabilities. Which terminal you choose depends on your budget and how you plan to use the service.



	Flat High Performance	Standard	Mini
Dimensions	22.6 x 20.1 x 1.6 in	23.4 x 15.1 x 1.6 in	10.2 x 11.75 x 1.45 in
Weight	13 lbs	6.4 lbs	2.6 lbs
Max. Data Rates	220/25 Mbps (down/up)	220/25 Mbps (down/up)	100/10 Mbps (down/up)
Field of View	140°	110°	110°
Mount Included	Wedge mount for permanent installation	Kickstand	Kickstand and pipe adapter
Warranty	24 months	12 months (except mandatory 24 months in UK/EU)	

For many boaters, the Flat High Performance terminal is their preferred choice. While it is more expensive, it offers the widest field of view to see the satellites even when pitching and rolling, the fastest download and upload speeds, and the best warranty. However, I've spoken with some boaters who don't want to be connected until they reach their next anchorage or marina. As a result, an ultra-portable system like the Starlink Mini, which you can stow and then place on the deck and plug into DC power when anchored, is a quick and easy way to get connected.

What other equipment do I need?

Installing a Starlink terminal is relatively straightforward, thanks to its single cable design. However, to use Starlink service for communication, you need a means of networking belowdeck, and the options vary by terminal.

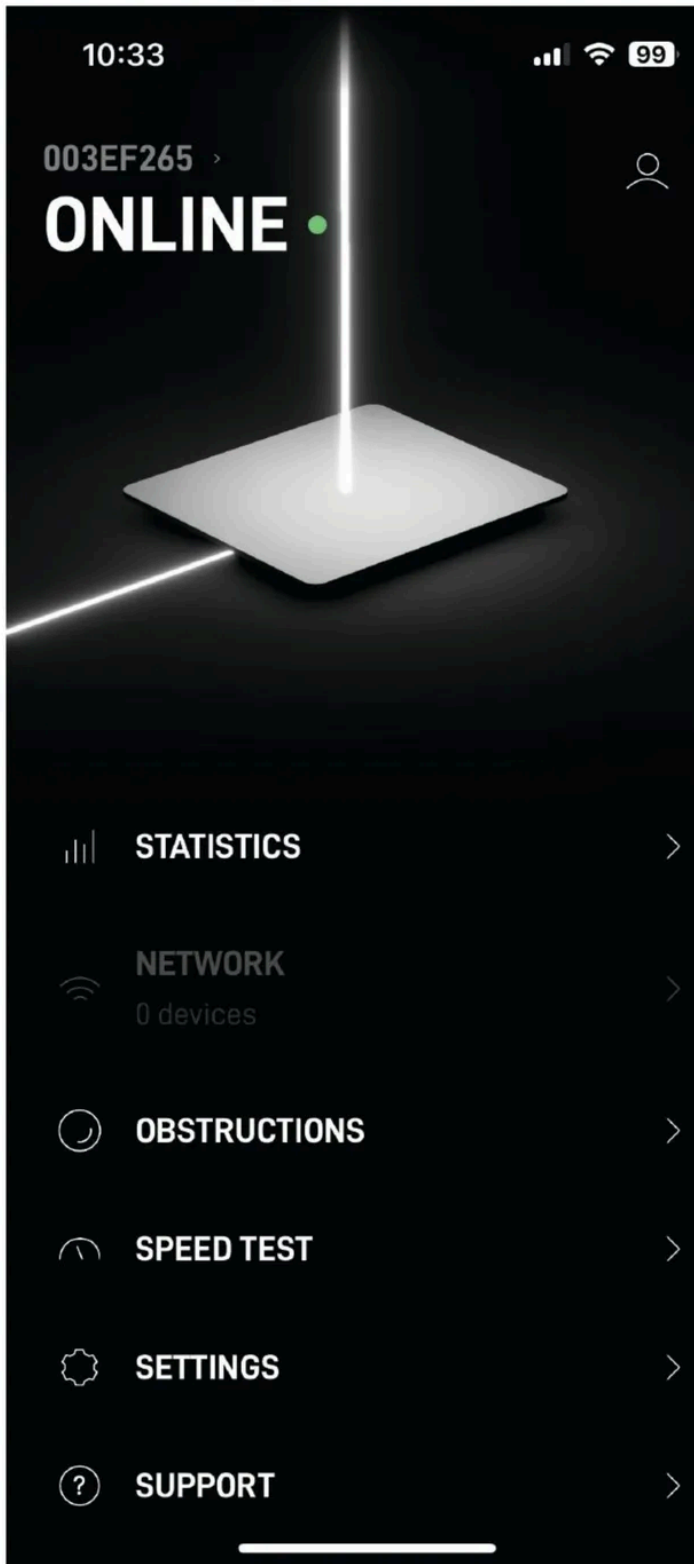
- Starlink Mini – The Mini dish includes integrated Wi-Fi that provides easy access via any Wi-Fi-enabled device.
- Standard – The Standard (V4) terminal includes a belowdeck Gen 3 Wi-Fi router, which your installer can connect to a Wi-Fi hub or onboard ethernet network.
- Flat High Performance – As many larger boats and yachts are already equipped with networked systems and routers, you can purchase the Flat High Performance terminal with or without a Gen 3 Wi-Fi router.

Starlink has a wide range of data plans.

Which one do I need for my boat?

Recent changes by Starlink have made plan choices a bit easier:

- The Global Priority plans (previously known as "Mobile Priority") are designed for use in land areas and territorial waters where Starlink service is available (starlink.com/map), as well as ocean areas globally. Global Priority allows your boat to be anywhere for any length of time, giving you maximum flexibility.
- Local Priority plans (formerly just "Priority" or "Business Priority") used to be for stationary use at the provided address. However, these rules changed in the spring of 2025 so that Local Priority would now support stationary AND in-motion use for inland coverage (including lakes and rivers). If you travel to a country bordering your home country (e.g., US to Mexico), your Local Priority service will continue to work, but you must return to your "home" country within 60 days of departure or change to Global Priority to avoid service suspension.
- Roam and Residential plans have traditionally been used on RVs and homes. While Roam plans can be used along the coast, these plans may only be used on water for 5 consecutive days at a time and for not more than 60 days a year.



Does Starlink still offer unlimited data?

Yes, but things have changed. Previously, you would purchase a block of high-speed priority data each month (50 GB, for example). When you consumed that data, you would enjoy unlimited, high-speed, deprioritized data in coastal waters, which meant you could be slowed down if other people with priority data needed the bandwidth.

As of Spring 2025, that's changed. Free unlimited data will still be available but at a significantly reduced speed (1 Mbps downloads and 0.5 Mbps uploads) for the remainder of the month. As we pointed out earlier, HD movies and video chat need 4 Mbps to function. As a result, this unlimited data will be fine for email, messaging, and basic web browsing, but too slow for streaming, video chats, gaming, or remote work. There is a new benefit, though, that unlimited data now works on the deep blue sea, not just within 12 NM of shore.

What if I want to keep that high-speed priority data for the rest of the month?

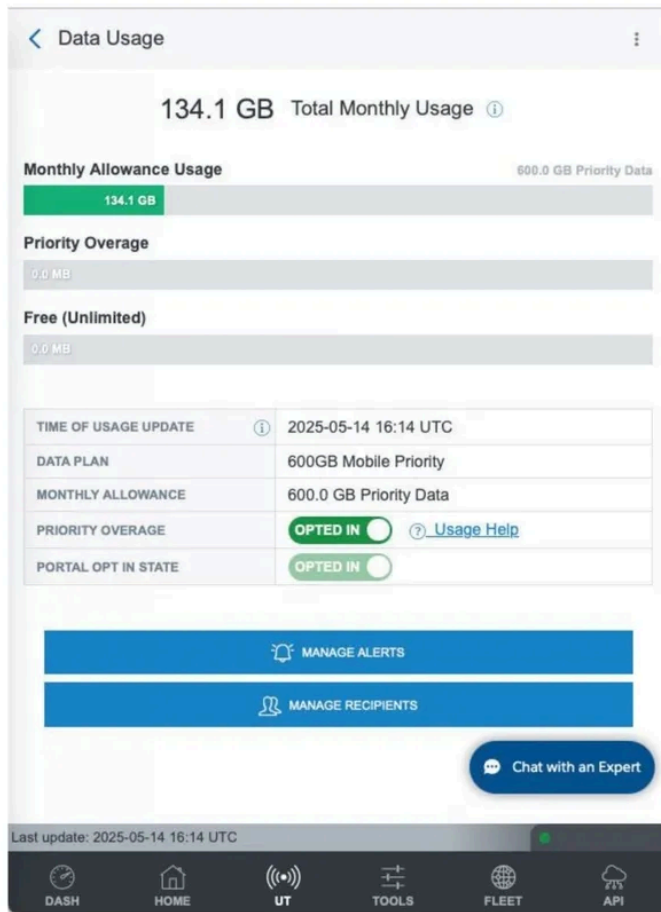
That's easy. Simply buy more high-speed data in the form of 50 GB top-ups. You can easily accomplish this by opting in for overages via the Starlink app or similar services, such as the KVH Manager app. But you need to be aware of one limitation – any extra data you purchase via top-up expires at the end of the month. It is not prorated and does not roll over, so if you buy 50 GB of data with four days left in the month, plan to watch lots of movies to get your money's worth.

What if I don't want to buy that much data?

There are other options. KVH, for example, offers a range of custom Global Priority plans, and with them comes the option to opt in for overages paid by the gigabyte. If you consume your original data plan and only need to use a few gigabytes more, you only need to pay a few dollars to cover the gap.

How can I control my data use?

Here at KVH, we're fond of saying that Starlink is like a Ferrari – fast, powerful, and exciting. But unlike a Ferrari, Starlink doesn't come equipped with a steering wheel or brakes, simply a gas gauge to show you how much data you've consumed. If you



want to manage your data, you're going to need a third-party tool, such as the KVH CommBox Edge Communications Gateway, which will help you control who is using data, what applications are permitted, how much data can be consumed, and even what data speeds you want to allow.

Can I suspend my Starlink service during the offseason?

Yes, you can suspend your Global Priority service when your boat is out of the water or not in use. The suspension starts at the beginning of the following month. Starlink airtime providers like KVH offer free pause/suspension and service reactivations upon request, with your airtime data costs prorated for the remainder of the month.

Wrapping Things Up

Starlink is a powerful, fast, and affordable service that's changed the game for communications on the water. It's great on its own or combined with another service, such as 5G cellular in the marina or along the coast. This hybrid configuration allows you to save your Starlink priority data for when you're farther offshore.

But you're going to want to keep an eye on Starlink news. We've discovered that changes can come at any time, and we work closely with Starlink to understand what's changing, when, and what the ramifications are for boaters. Stay in touch with your marine electronics professional and your Starlink service provider to stay on top of those changes and get the most out of the service.

Author Note:

Chris Watson is a lifelong boater and currently the Vice President of Marketing and Communications at KVH Industries. www.kvh.com

