

STARLINK

High Speed Internet For Residential or Roaming

Starlink is a SpaceX Company

www.starlink.com

Robson Ranch Technology Club

13 July 2026

Don Roberts

Robson Resident – 6.5 years

Retired Engineer

- 5 years – Halliburton Oilfield Services Company

- 15 years – The Boeing Company, Commercial Electronic Systems Division

- 18 years – Lockheed Martin Aeronautics

- 6 years – Consulting

Education:

- Bachelor of Science, Mechanical Engineering – Texas Tech University

- Master of Science, Systems Engineering – Southern Methodist University

STARLINK

SATTELITE TECHNOLOGY

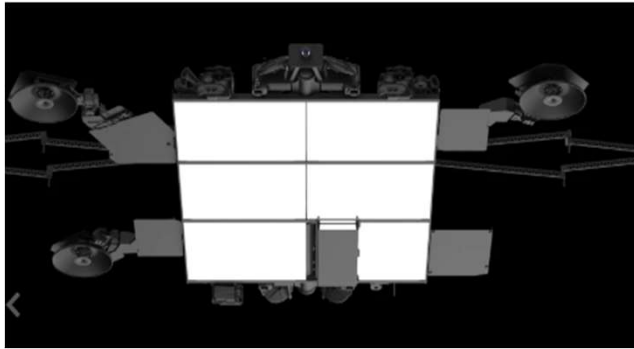
Starlink claims to be the most advanced satellite constellation using a low earth orbit to deliver broadband internet capable of supporting streaming, online gaming, video calls and more.

REGULAR ACCESS TO SPACE

Starlink is the only satellite operator with the ability to launch its own satellites as needed. With frequent, low-cost launches, Starlink satellites are constantly updated with the newest technology.

Starlink's advanced satellites are produced and operated in Redmond, Washington and Starlink Kits for customers are manufactured in Bastrop, Texas, all to deliver high-speed, low-latency internet all around the world





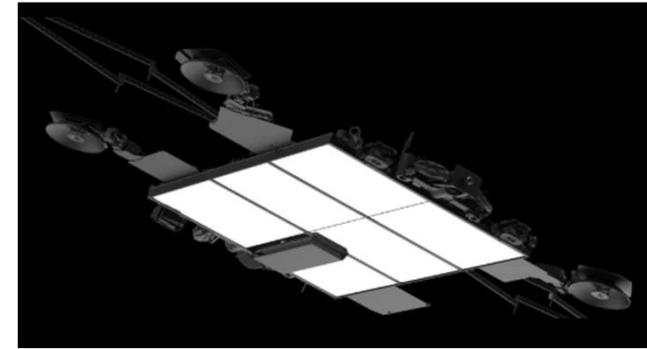
LIGHTER, MORE COMPACT

Each satellite features a compact, flat-panel design that minimizes volume, allowing for a dense launch stack to take full advantage of SpaceX's Falcon 9 rocket's launch capabilities



OPTICAL SPACE LASERS

Each Starlink satellite contains 3 space lasers (Optical Intersatellite Links or ISLs) operating at up to 200 Gbps, which together across the constellation form a global internet mesh that can connect customers anywhere in the world.



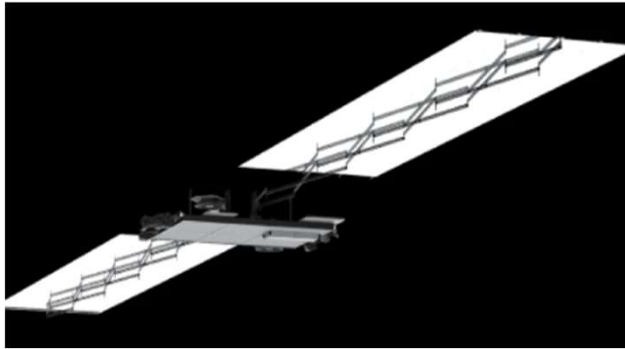
ANTENNAS

Each Starlink satellite uses 5 advanced Ku-band phased array antennas and 3 dual-band (Ka-band and E-band) antennas to provide high bandwidth connectivity to Starlink customers



ION PROPULSION SYSTEMS

Argon thrusters enable Starlink satellites to orbit raise, maneuver in space, and deorbit at the end of their useful life. Starlink is the first argon propelled spacecraft ever flown in space.



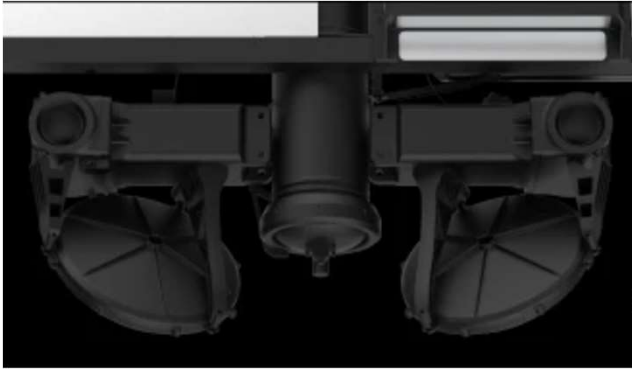
POWER SYSTEM

Starlink satellites feature a dual solar array and high-capacity battery to provide power to the payloads. The two solar arrays are also aero-neutral which enables faster on-orbit maneuvers.



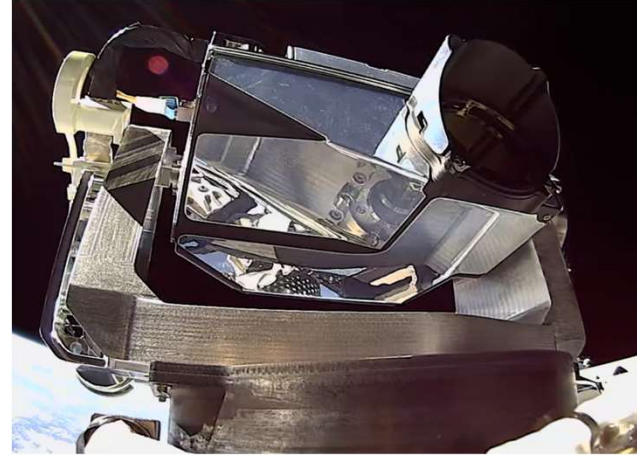
STAR TRACKER

Starlink's custom-built navigation sensors survey the stars to determine each satellite's location, altitude, and orientation, enabling precise placement of broadband throughput.



REACTION WHEELS

Four reaction wheels provide agile attitude control for the vehicle. The hot-spare configuration ensures high reliability operation and its aluminum flywheel is fully demisable at end-of-life.



STARLINK MINI LASERS

Retrofitted for seamless integration with the satellite manufacturer's spacecrafts to deliver high-speed, low-latency connectivity on orbit, enabling real-time tasking, continuous command-and-control, and immediate data delivery to terrestrial points of presence.

Starlink's mini lasers are designed to achieve link speeds of 25Gbps in LEO. High speeds may be achieved in specific cases.

HOW STARLINK WORKS

Most satellite internet services come from single geostationary satellites that orbit the planet at an altitude of 22,000 miles. As a result, the round-trip data time between the user and satellite (latency) is high, making it nearly impossible to support streaming, online gaming, video calls or high data rate activities.

Starlink is a constellation of thousands (10,738 as of July 13, 2026) of satellites that orbit the planet much closer to Earth, at about 340 miles, and cover the entire globe. Because Starlink satellites are in a low orbit, latency is significantly lower – around 25 ms vs 600+ ms.

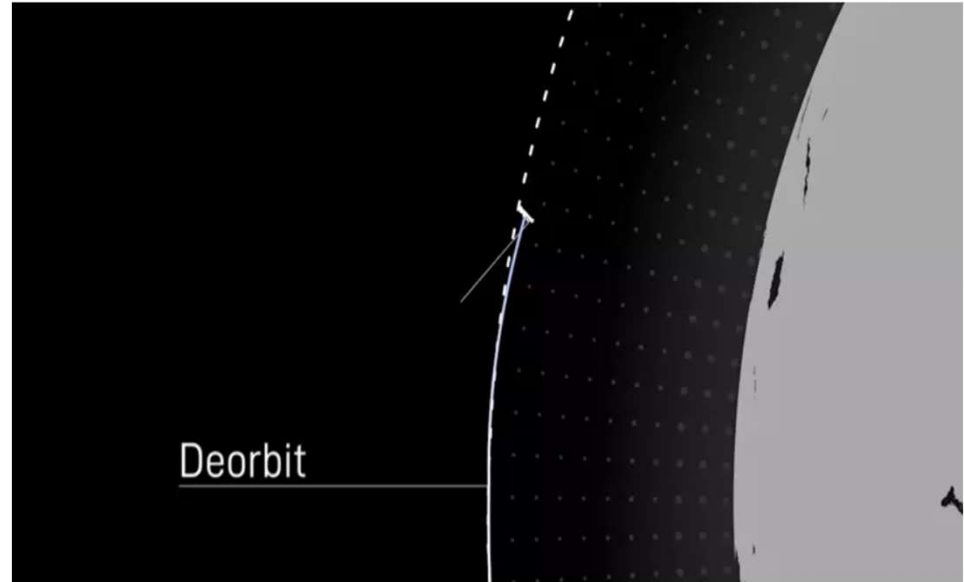


Future plans call for up to 42,000 satellites.

STARLINK SATELLITE DEMISABILITY

Starlink operates the world's largest satellite constellation, serving more than 12 million active customers in 160+ countries around the globe with high-speed, low-latency internet.

Starlink is deeply committed to space safety. Starlink operations with the most conservative maneuver thresholds in the industry, publicly shares its high-precision ephemerides, and has introduced a space safety service to ease coordination with other satellite operators and launch service providers.



PRESERVING THE NIGHT SKY

Space exploration is fundamental to SpaceX's core mission. SpaceX has therefore taken unprecedented steps to work with the astronomy community to better understand how SpaceX – and all satellite operators – can mitigate the effect that the Sun's reflection off of satellites can have on astronomical observations.

As a result of this deep, collaborative work, SpaceX has implemented innovated technological solutions and techniques to minimize its satellites' effect on the night sky. SpaceX has invested more than any other satellite owner/operator to develop and deploy such technologies and techniques.



To see all of Starlink's satellites use the following link:

[Satellite Tracker — Live Map of Starlink & 30,000+ Satellites](#)

To learn more about SpaceX efforts in this area visit:

[BrightnessMitigationBestPracticesSatelliteOperators.pdf](#)

Starlink Internet Plans

RESIDENTIAL - 100 Mbps		\$55 /MO
RESIDENTIAL - 200 Mbps		\$85 /MO
RESIDENTIAL - MAX	Available at my address.	\$130 /MO



Users on Residential 100 Mbps and Residential 200 Mbps will be limited to download speeds of 100 Mbps and 200 Mbps respectively. Residential 100 Mbps and Residential 200 Mbps plans are only available in select areas. Residential Max users will experience maximum available speeds and top Residential network priority.

Notes:

Starlink comes with a phone app to track statistics and performance of your system. Roaming may be offered at additional reduced cost per month shortly after signup for Max Plan.

Roaming Internet Plans

ROAM - 100GB

\$55/MO

ROAM - 300GB

\$80/MO

ROAM - UNLIMITED

\$175/MO

Users of Roam 100 GB and Roam 300 GB receive an allotment of high-speed data, then unlimited low-speed data.

For limitations on international travel, costal coverage, and in-motion use see FAQ. Standby Mode allows for emergency messaging and easy reactivation in dead zones for a small monthly fee.



Why did I change to Starlink?

Astound customer for 6 years, largest plan

Cost had risen from \$75 to \$146 per month

Reliability was awful

Outages:

- **Ongoing - Each time we watched a streaming episode, especially on PBS, the picture would stop and buffer, sometimes for minutes**
- **Ongoing - Each time we used the microwave oven, the picture – no matter what we were watching – would stop and buffer until the oven stopped**
- **We lost service 6 nights in a row and I had to reset the entire system to get it back**

My Starlink Configuration

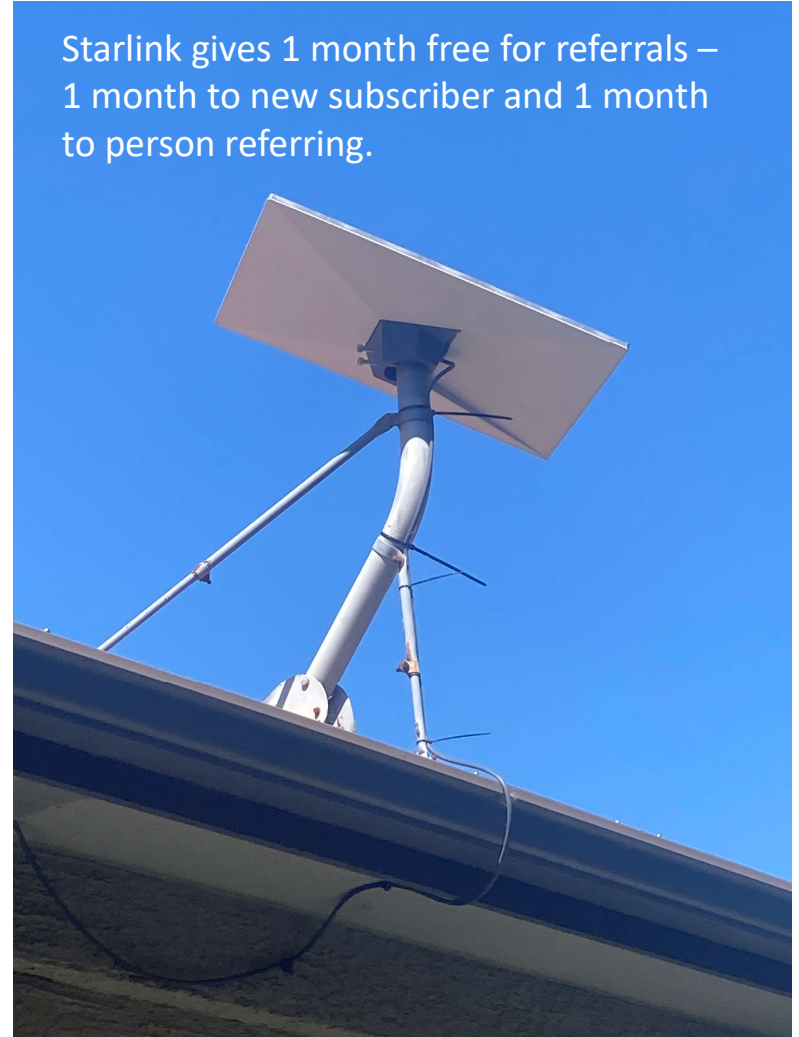
Residential Max

- Modem
- Power Supply and cord
- Gen3 Cat6 Cable – 100 ft
- Satellite Receiver

Devices (14)

- iPhone (2)
- Smart TV
- Roku Streaming Sticks (2)
- Home Laptop
- Washing Machine
- Dryer
- Refrigerator
- Digital Picture Frame
- Garage Door Opener
- Outdoor Ceiling Fan
- Amazon Kindle Readers (2)
- *Plus* – additional devices when kids, grandkids and guests visit our home (4-8 additional devices)

Starlink gives 1 month free for referrals – 1 month to new subscriber and 1 month to person referring.



My Starlink Configuration

Statistics

- Ping Success – 99.93%
- Latency – 22ms (median)
- Power Draw – 22 Watts (average)

Speed Tests (6:10 pm today)

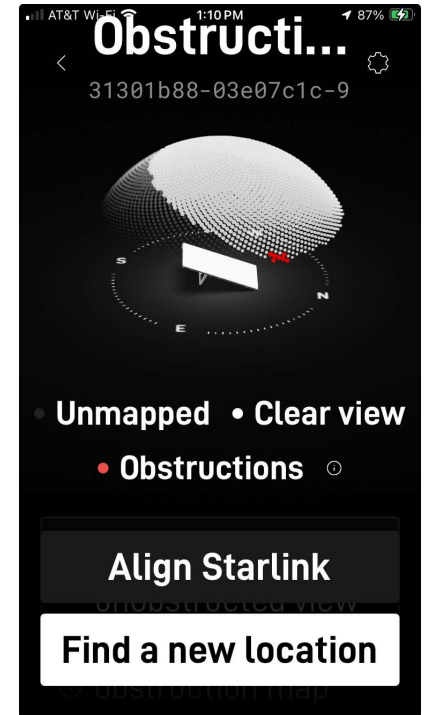
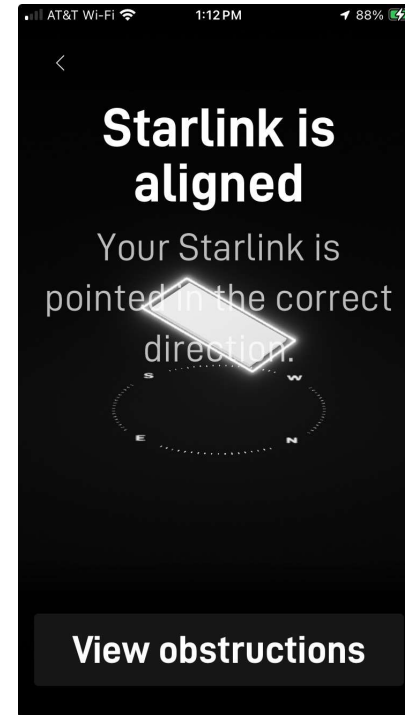
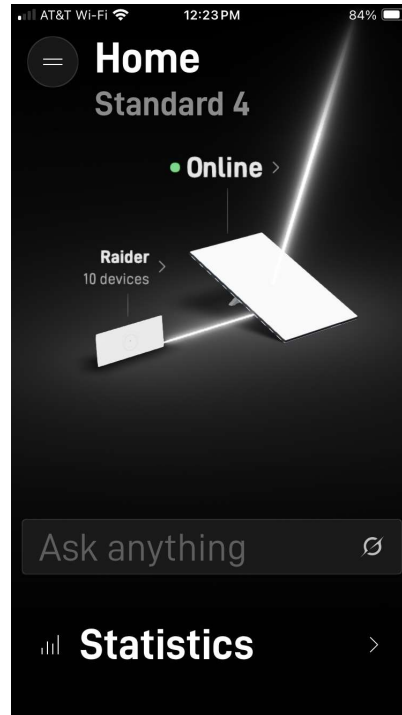
Antenna to Satellite
126 Mbps Download
8 Mbps Upload
24 ms latency

Reliability

Almost ZERO Outages
Lost connection 1X for about 3 minutes
during a Severe Thunderstorm
Have not lost connection since.

Customer Support

I've never had to contact customer support.



Kit and Installation

Starlink Standard kit comes from Starlink with (\$349)

- Modem
- Power Supply and cord
- Gen3 Cat6 Cable – 50 ft
- Satellite Receiver

Kits also available at Best Buy, Amazon, Walmart and eBay

\$0 Kit with Free Installation available - \$10/month equipment rental (7/13/26)

Installation:

- Do it yourself
- Starlink App walks user through entire process
- Due to the location I wanted to place the Modem, I purchased a 100 ft Gen3 Cat6 cable (\$40 from Amazon)
- Purchased a pole adapter from Starlink (\$38) at time of order
- Installation consisted of:
 - Removing old satellite dish from mount
 - Placing pole adapter on the satellite receiver
 - Mounting the Receiver
 - Running and connecting the cable to both the modem and receiver
 - Following the directions in the app to align and clear any obstructions.



Links

STARLINK

www.starlink.com

Select “**Get Started**” button to see full system information

Starlink night sky: [BrightnessMitigationBestPracticesSatelliteOperators.pdf](#)

100 ft cable: [Amazon.com: LUCMO 100FT/ 30M Cable for Starlink, Compatible with Starlink Standard Gen 3/ Standard 4/ 4X/ V4, Replacement Extension Cable Waterproof Satellite \(100FT\), Grey : Industrial & Scientific](#)

SPACEX

www.spacex.com

Questions?

