Starlink New Standard Installation on North Pacific 39 Trawler

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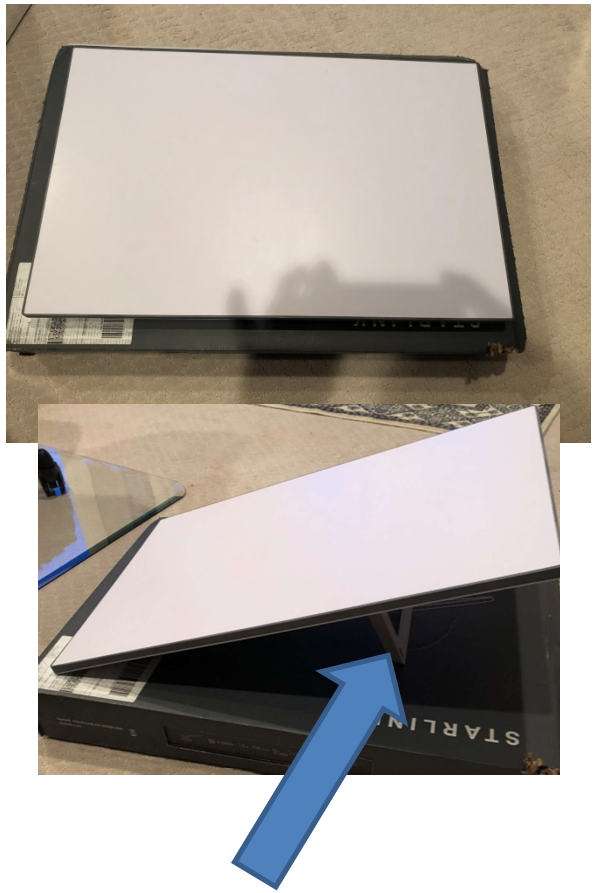
Starlink New Standard Antenna

New Flat Starlink Standard for Mobile Applications is 24” x 15” x 1.5” thick.

Standard placement is via a “kick stand” that folds out under the antenna. Nominally to get the antenna working and activated the first time it must be pointed North and rotated a few degrees. Then it can be laid flat and used in that position

Previous Starlink has motors and a mounting pole.



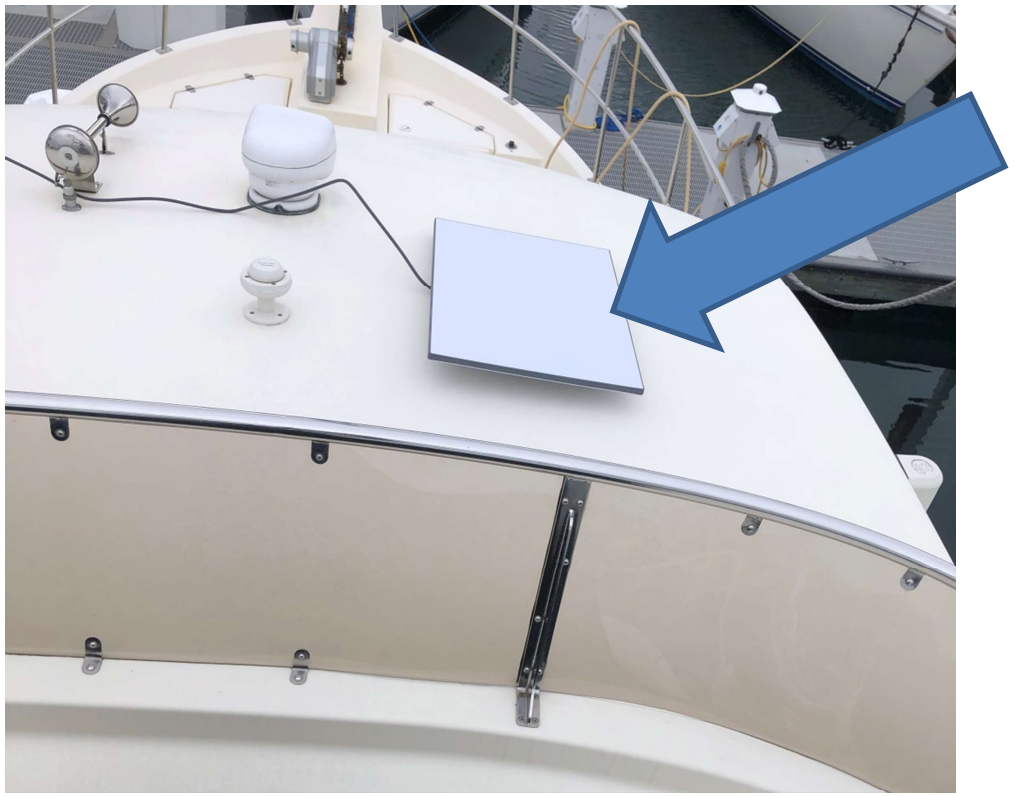
Folding Kickstand

Starlink Antenna Placed by hand on proposed mount location and cable led inside via a doorway

This position was used after the antenna had been pointed North and placed on the Kickstand. That allowed the antenna to be registered and activated via a Starlink Cellphone App.

Once registered the kickstand was folded and the unit oriented as planned for fixed installation

Tests of the system showed that it acquired satellites and tracked them in this placement with good data rates



Fixed Installation Using PVC Plastic Blocks

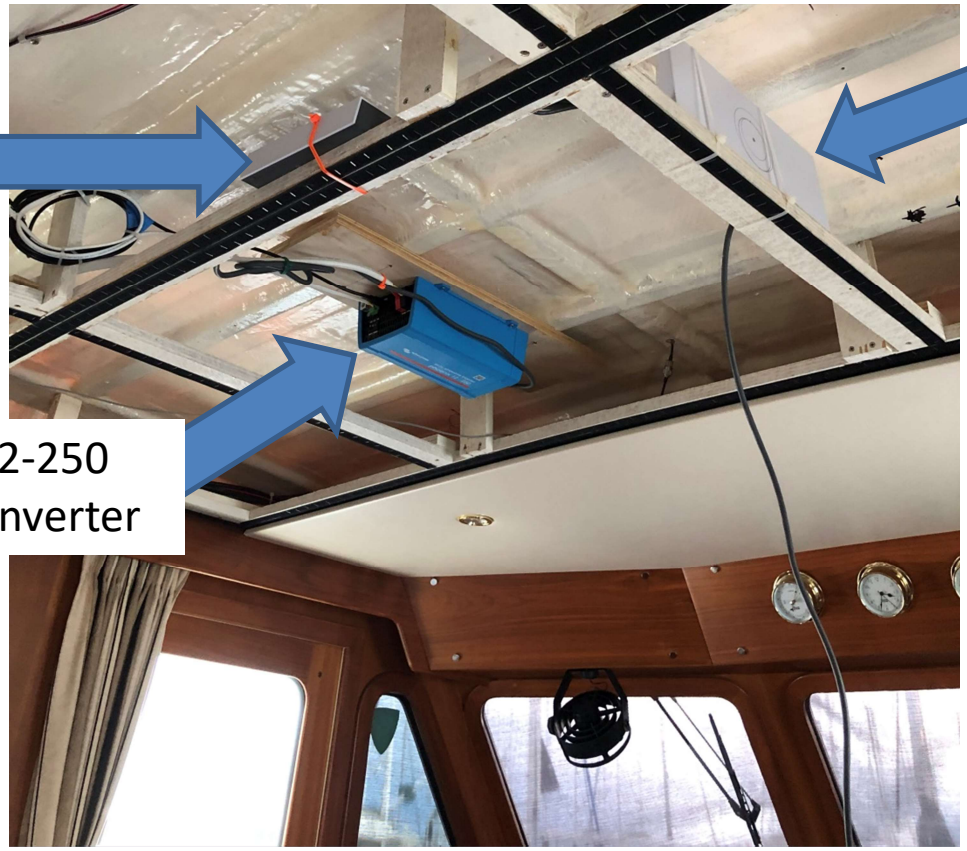
9/16” Hole drilled to pass Ethernet cable from the antenna to the inside of NP39 and four ~ 1/8” holes drilled for one screw in each corner support. A “cable gland” was used to seal the cable against rain

Once installed the blocks cannot rotate due to the corner capture and the sealant under the blocks

PVC Blocks fabricated from stacked 1” thick AZEK boards.

Equipment Installed Inside

Starlink Power Supply Module – 120VAC Input from Victron Inverter.



Victron 12-250 DC – AC Inverter

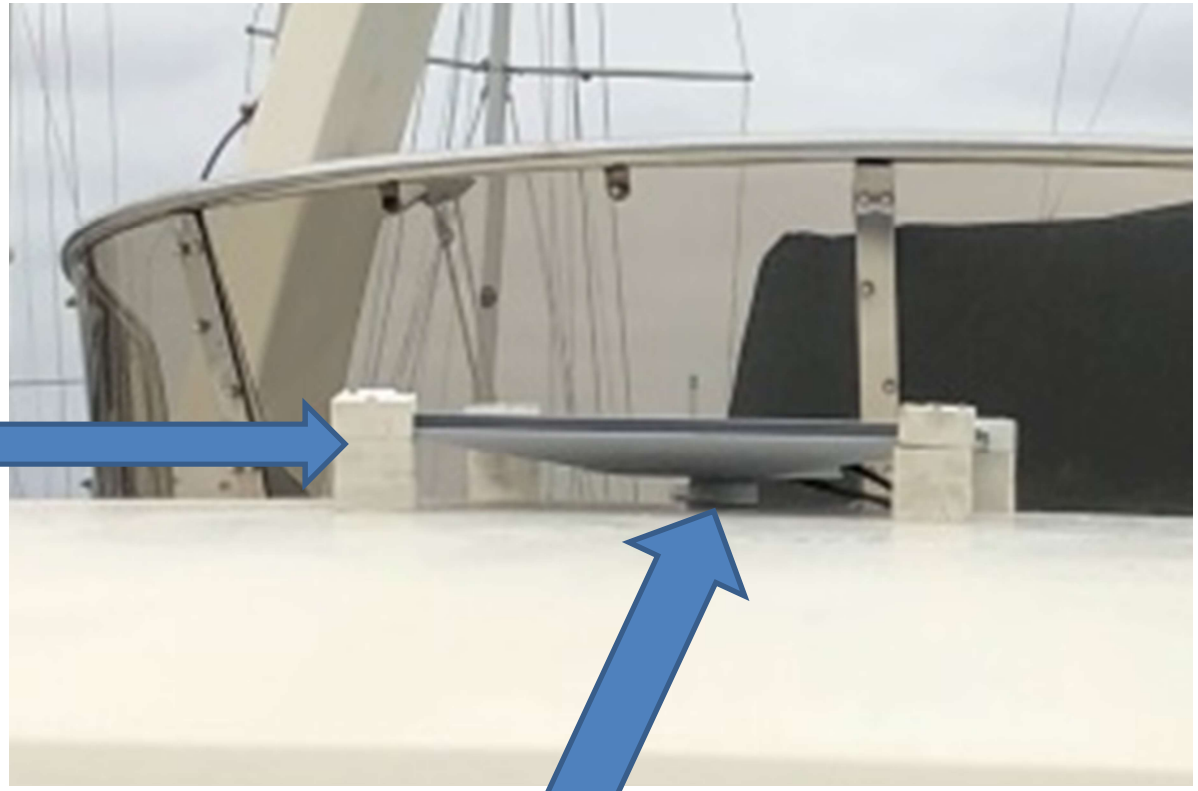
Starlink WIFI 6 Router zip tied to the support structure. No mounting feet are provided and it is an oddly shaped box. It was also important to not interfere with the WIFI antennas using metal or other structure.

Victron Inverter has a remote On/Off Switch capability. A lite weight duplex cable (16 AWG) was used to add a switch inside the cabin

Victron Inverter was wired to house batteries via a fuse block using 8AWG duplex wire. The remote switch turns it on and off once it is hidden behind the ceiling overhead panels.

Can you spot the Starlink Installation?

Close Up of Mounting Blocks and Cable Gland



Summary

- Starlink App complains the unit is misaligned but connection is made and very good data rates obtained when mounted flat.
  - We streamed a video by WIFI in the stateroom (Amazon Prime) while our Raymarine MFD played a video from YouTubeTV service at the same time.
- Starlink “New Standard” draws 9Amps from batteries at peak when first acquiring satellites and settles down to 5Amps at 12V DC when stationary.
  - This is input power to the Victron 12VDC to 120VAC Inverter for a peak power level of about 108Watts and stable operation at 60Watts.
  - Plan on 5Amp per hour draw from your House Batteries while using Starlink for data or internet.
- Starlink Mobile Subscription Plan and Starlink Mobile Standard can be used at speeds of 10Mph (8.7Kts) or less, typical of many Trawler Yachts.
- Operation at high speeds requires a Flat High Performance Antenna ($2500) as of January 2024, and a Marine Mobile Subscription at $250/Month
- As of January 2024 the Mobile Plan is $150 per month, no contract, using the $599.00 New Standard Antenna. Plan can be started or stopped in 1 month increments
- New WIFI 6 Modem from Starlink is VERY fast and provides excellent multiple beam coverage to multiple devices. It also provides two Ethernet Ports for direct Ethernet connection by wire to any device needing max speeds
- A separate DC – AC Inverter with remote On/Off was used to provide best battery efficiency and to allow independent On/Off operation independent of the main 2800Watt inverter and any loads it may be handling. A separate DC breaker on the main panel is not required when a fuse panel is used for DC power along with the remote On/Off switch.