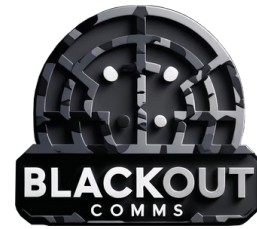


TBeam 1W Assembly for Blackout Comms



Components You Need

Required

Without these, you don't really even have a T-Beam

T-Beam 1W



[Lilygo](#)

F550 Battery



[Amazon](#)

Recommended

These make Blackout Comms work much better.

Compatible SD Card



[Amazon](#)

Realtime Clock



[Adafruit](#)

Optional

If you want the node/link to double as a motion sensor or relay

DFRobot Motion/Presence



[Digikey](#)

Sparkfun Relay



[Digikey](#)

Cables You May Need

Qwiic Cables



[Amazon](#)

Gravity / Qwiic Cable



[Digikey](#)

If adding motion sensor.

ONLY USE THIS ONE!

Similar-looking ones are wired differently

Nuts/Screws

M2 & M3 Knurled Nuts



[Amazon \(M2\)](#)

[Amazon \(M3\)](#)

M2 Screws

[Amazon](#)

M3 Screws

[Amazon](#)

3D Print an Enclosure

This enclosure can be found at:

- <https://www.chatters.io/diy/lilygo-t-beam-1w>
- Printables



Install M2 & M3 Nuts



Add a Compatible SD Card & Flash the Firmware

SD card is not absolutely required, but recommended.

Firmware Available At:

- <https://www.chatters.io/diy/lilygo-t-beam-1w>
- https://www.chatters.io/diy/lilygo-t-beam-1whttps://www.offgridcomms.club/firmware/esp32/mesh_node_firmware.html

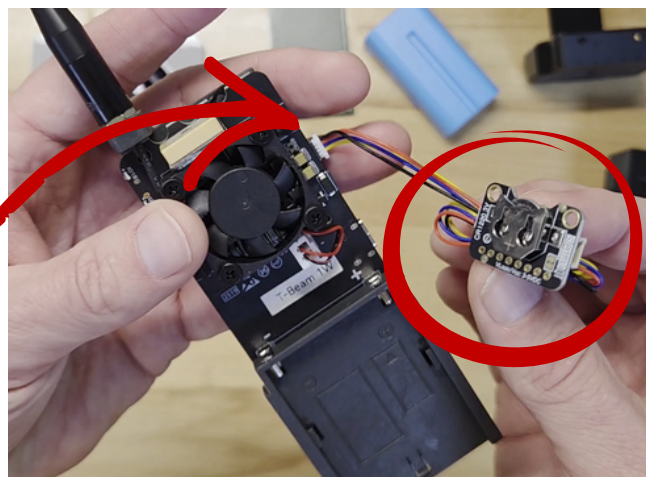


Plug In QWIIC Cable

Not absolutely required, but *highly* recommended. This allows reliable functionality in environments with no GPS.

Qwiic cable plugs into **TOP connector** of the T-Beam.

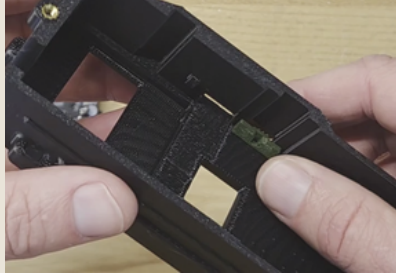
Also, add a CR1220 battery to the RTC.



Install the T-Beam & Power Switch into Case Front

Remove the screen protector

Be sure to line 3D printed button cover up with the power button.



Install the Antenna & Battery

Install the antenna before the battery, just in case the power comes on while you're messing with it. Never turn it on without the antenna.

After installing the battery, you should be able to momentarily power on the device and see the screen or lights come on. You can turn it back off.



Install the Case Back, Top, & Bottom



Install the Top & Bottom Caps

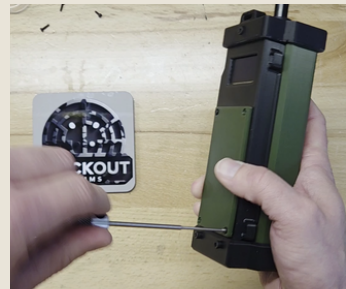
Use M3 screws through the top and bottom caps to secure to the T-Beam case.



Install Front Cover Plate

Secure the plate using M2 screws. The flat plate (shown here) is generally used.

If you want to add a relay or motion sensor, there are other plates for that.



Onboard Your New Node/Link

As soon as your T-Beam powers on, it should go into “Onboard” mode, and show that it’s waiting to be onboarded (on the OLED screen).

On your root device, go into settings / cluster and choose “Onboard Device”.



After successfully onboarding, your new T-Beam should show up as a “neighbor” on any of your other devices. It may initially show up as “unknown device” while all your existing devices get to know it. That should clear up within minutes to an hour.