Which board should I buy as a beginner?

Short answer: Heltec WiFi LoRa 32 V3 or T-Beam Supreme

For most beginners in North America, either of these is an excellent first choice:

Board	Price (approx)	Best for	Notes
Heltec WiFi LoRa 32 V3	$18-25	Lowest cost, quick start	Small OLED display built-in; ESP32-S3; USB-C charging; no GPS
LILYGO T-Beam Supreme	$35-45	All-in-one handheld	Integrated GPS; large battery connector; OLED display; good antenna connector
RAK WisBlock Starter Kit	$40-55	Best battery life	nRF52840-based; excellent for portable use; modular expansion
T-Echo	$55-65	Best handheld device	E-ink display; GPS; nRF52840; weeks of battery; premium feel

Prices are approximate and change over time; confirm against a current listing before buying. (Note: the "T-Beam Supreme" is a distinct, newer product from the older plain "T-Beam" - check that the listing names the exact model you want.)

What to Avoid as a Beginner

- **868 MHz boards** - Common on AliExpress. Check the listing carefully for "915 MHz" or "US version." 868 MHz hardware will not work on North American mesh networks.

- **No-name ESP32 LoRa clones** - Very cheap boards with no external antenna connector. Beyond poor range from the PCB trace antenna, a board whose LoRa front-end is not properly matched can present a poor SWR, which stresses the radio's power amplifier when transmitting. Choose a board with a real SMA or u.FL antenna port and a properly matched RF front-end - it's worth the extra $5.
- **LoRaWAN gateways** - These are different from LoRa mesh nodes and will not run Meshtastic or MeshCore. Check for "Meshtastic compatible" in the listing.

Where to Buy Reliably

- **Amazon** - Faster shipping; check seller carefully; returns are easy.
- **Official distributors** - Rokland (US), Heltec official store (AliExpress), LILYGO official store (AliExpress). Ships from source but slower delivery from China. Prices are approximate and change; lookalike "official store" listings are common, so confirm a seller is the genuine official store by following the link from the manufacturer's own website.
- **Local ham radio events and swaps** - Other operators often sell tested hardware at reasonable prices.

Do I Need to Buy an Antenna?

The stock rubber duck antenna included with most boards is functional but not optimal. For a handheld or portable device, the included antenna is fine. For a fixed repeater or rooftop node, upgrading to a fiberglass vertical (5-6 dBi) on a short coax run provides significantly better performance. See the Antennas & RF book for details.

Before you mount anything outdoors: a rooftop node needs proper grounding and a coax lightning arrestor, and roof work carries fall and overhead power-line hazards. Read the antenna-installation safety guidance in the Antennas & RF book before installing.

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