

Bolton Technical BT974822

Bolton Technical Long Ranger Antenna (BT974822) Instruction Manual

Model: BT974822

1. INTRODUCTION

This manual provides detailed instructions for the installation, operation, and maintenance of the Bolton Technical Long Ranger Antenna (Model BT974822). This high-gain parabolic grid antenna is designed to capture and enhance cellular and WiFi signals across various frequency bands, including 5G, 4G, LTE, and WiFi 2.4/5 GHz, over distances exceeding 20 miles. Proper installation and aiming are crucial for optimal performance.

2. KEY FEATURES

- **Extended Range:** Capable of reaching cell towers or WiFi sources over 20 miles away.
- **High Gain:** Provides up to +28 dB of gain, supporting continuous gain and radiation frequencies between 600 MHz and 6500 MHz.
- **Wide Signal Coverage:** Compatible with 5G, WiFi, 4G, LTE, all cellular, Wi-Max, GPS, GOV, MIL, and SDR bands.
- **Durable Construction:** Weatherproof design ensures reliable operation in various outdoor conditions.
- **Improved Connectivity:** Features N-Female connection ports for easier installation and robust connections.
- **Directional Beam:** Utilizes a 10-degree directional signal beam for precise targeting of signal sources.

3. PACKAGE CONTENTS

Verify that all components are present before beginning installation:

- Bolton Technical Long Ranger Parabolic Grid Antenna (BT974822)
- Mounting Hardware (U-bolts, nuts, washers, brackets)
- N-Female Jumper Cable (attached)
- Instruction Manual (this document)

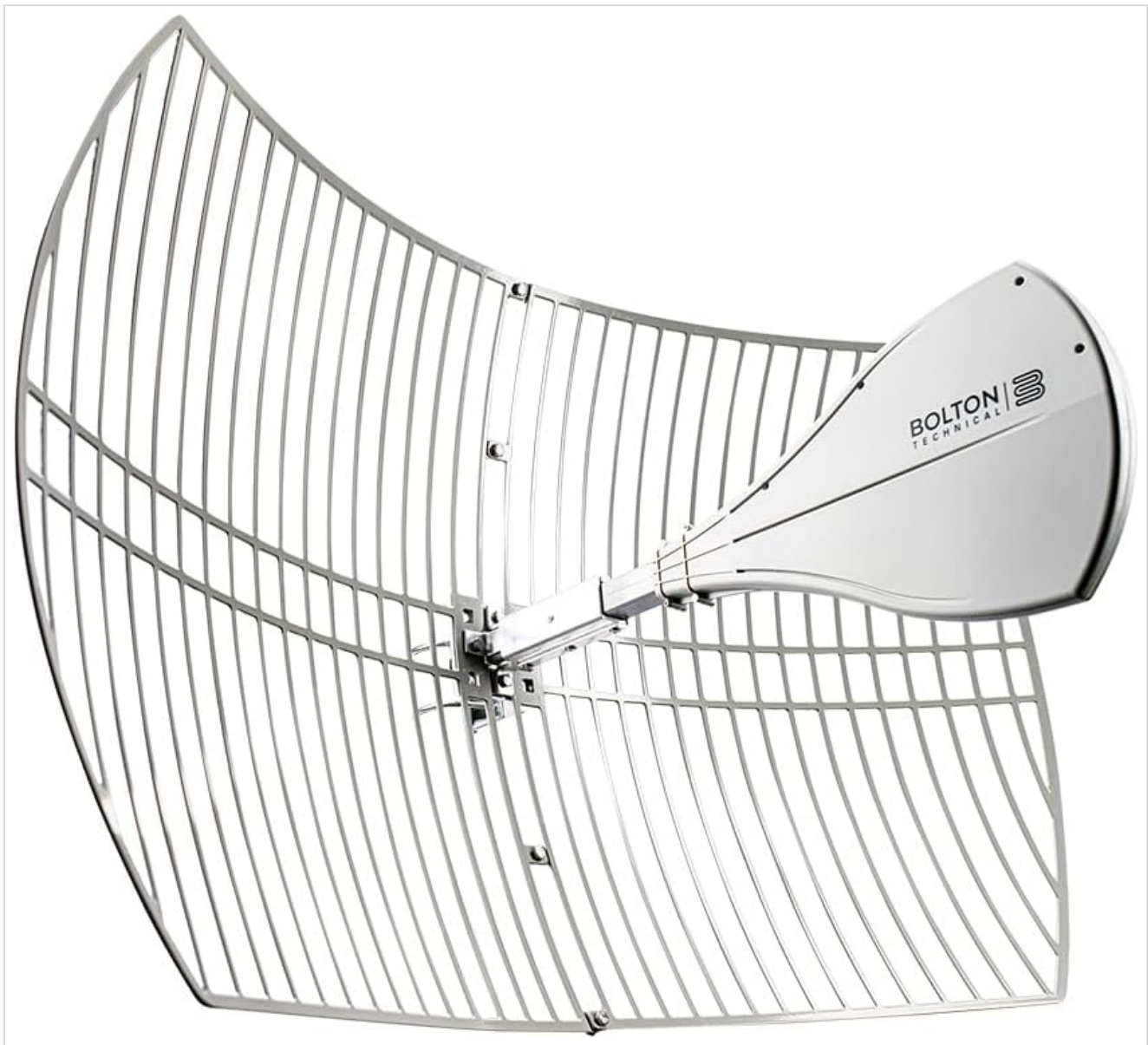


Image: The Bolton Technical Long Ranger Parabolic Grid Antenna, showing its grid structure and feedhorn.

4. SETUP AND INSTALLATION

Proper installation is critical for maximizing the performance of your Long Ranger Antenna. This antenna is highly directional and requires precise aiming towards the desired signal source.

4.1 Site Selection

- Choose a mounting location with a clear line of sight to the cell tower or WiFi access point you intend to connect to. Obstructions like trees, buildings, or hills can significantly degrade performance.
- Mount the antenna as high as possible to minimize interference and maximize range.
- Ensure the mounting surface is sturdy enough to support the antenna, especially in windy conditions.

4.2 Assembly

The antenna typically comes partially assembled. Follow these general steps:

1. Carefully unpack all components.
2. Attach the parabolic grid sections if they are separate, ensuring all bolts are securely fastened.
3. Mount the feedhorn assembly to the center of the grid, aligning it according to the manufacturer's markings.

4.3 Mounting the Antenna

The antenna is designed for pole mounting. Use the provided U-bolts and brackets to secure it firmly to a mast or pole.

1. Attach the mounting bracket to the antenna assembly.
2. Secure the antenna to a sturdy pole using the U-bolts, ensuring it is level and can be rotated for aiming.
3. Tighten all hardware to prevent movement, but allow for slight adjustments during the aiming process.



Image: Close-up of the N-Female connector and mounting hardware on the Bolton Technical Long Ranger Antenna.

4.4 Connecting to Equipment

The Long Ranger Antenna features an N-Female connector. You will need a compatible cable (typically 50 Ohm coaxial cable with N-Male connectors) to connect it to your cellular signal booster, WiFi router, or other compatible device.

- Connect the N-Female jumper cable from the antenna to your coaxial cable.
- Ensure all connections are tight and weatherproofed to prevent moisture ingress.



Image: Diagram illustrating the compatibility of the Long Ranger Antenna with cellular signal boosters and WiFi routers.

4.5 Aiming the Antenna

Accurate aiming is crucial for optimal performance. The antenna has a narrow 10-degree beam width.

1. Identify the location of the nearest cell tower or WiFi source using online tools or apps.
2. Roughly point the antenna in the direction of the signal source.
3. Using a signal strength meter or your connected device's signal indicator, slowly adjust the antenna horizontally (azimuth) and vertically (elevation) in small increments.
4. Pause after each adjustment to allow the signal to stabilize and note the signal strength.
5. Continue adjusting until you achieve the strongest possible signal.
6. Once the optimal position is found, securely tighten all mounting hardware to prevent the antenna from shifting.



No More Dropped Calls, Better Voice Quality, Faster Data Speed,



Image: A person using a laptop in a tent, illustrating improved signal reception with the Long Ranger Antenna for various frequencies.

5. OPERATION

Once installed and aimed, the Bolton Technical Long Ranger Antenna operates passively, enhancing the signal for your connected device. It does not require power or active management.

- Ensure your connected signal booster or router is powered on and configured correctly.
- Monitor your device's signal strength and data performance to confirm optimal operation.
- If signal quality degrades, re-check antenna alignment and connections.

6. MAINTENANCE

The Long Ranger Antenna is designed for outdoor use and requires minimal maintenance.

- **Regular Inspection:** Periodically inspect the antenna and mounting hardware for any signs of wear, corrosion, or loosening, especially after severe weather.

- **Cable Integrity:** Check coaxial cables for damage, kinks, or frayed insulation. Ensure all connectors are securely tightened and weatherproofed.
- **Cleaning:** If dirt or debris accumulates on the antenna, gently clean it with a soft cloth and mild detergent. Avoid abrasive cleaners or high-pressure water.
- **Re-aiming:** If signal performance drops significantly, re-verify the antenna's alignment. Environmental changes (e.g., new buildings, tree growth) or tower modifications can sometimes necessitate re-aiming.

7. TROUBLESHOOTING

If you experience issues with your Long Ranger Antenna, consider the following troubleshooting steps:

- **No Signal or Weak Signal:**
 - Verify antenna aiming: Ensure the antenna is precisely pointed towards the strongest signal source. Small adjustments can make a significant difference.
 - Check all cable connections: Ensure they are tight and properly seated at both the antenna and the connected device.
 - Inspect cables for damage: Look for cuts, kinks, or severe bends that could impede signal flow.
 - Confirm compatibility: Ensure your connected device (booster, router) is compatible with the antenna's frequency bands.
 - Environmental obstructions: Assess if any new obstructions (trees, buildings) have appeared in the line of sight.
- **Intermittent Signal:**
 - Secure mounting: Ensure the antenna is firmly mounted and not swaying in the wind, which can cause signal fluctuations.
 - Weatherproofing: Check if water has entered any connections, as this can cause intermittent issues.
- **Poor Data Speeds Despite Good Signal Strength:**
 - Signal Quality vs. Strength: Sometimes high signal strength doesn't mean high quality. Fine-tune aiming for the best signal quality (e.g., lower SINR/RSRQ values on advanced devices).
 - Network Congestion: High traffic on the cell tower can affect speeds, which is not antenna-related.

8. SPECIFICATIONS

Bolton Technical Long Ranger Antenna (BT974822)

Specification	Value
Model Number	BT974822
Frequency Range	600-6500 MHz (600-960 MHz, 1700-2200 MHz, 3000-6500 MHz)
Gain	Up to +28 dB (8-15 dBi, 20-28 dBi, 10-26 dBi across bands)
Polarization	Vertical or Horizontal
Beam Width (Horizontal)	23 deg (600-960 MHz), 10 deg (1700-2200 MHz), 7 deg (3000-6500 MHz)
Beam Width (Vertical)	35 deg (600-960 MHz), 13 deg (1700-2200 MHz), 9 deg (3000-6500 MHz)
VSWR	≤2.5 (600-960 MHz), ≤2.0 (1700-2200 MHz), ≤2.5 (3000-6500 MHz)
Front-to-Back Ratio	>11 dB (600-960 MHz), 20 dB (1700-2200 MHz), >10 dB (3000-6500 MHz)
Maximum Input Power	100 Watts
Impedance	50 Ohm
Connector Type	N-Female
Dimensions (L x W x H)	16" x 39" x 24" (40cm x 99cm x 60cm)
Weight (without mounting kit)	5.3 lbs (2.4 kg)
Reflector Finish	Electrostatic Powder Coat
Radome Material	ABS Anti UV
Operational Temperature	-55°C to 60°C (-67°F to 140°F)
Operational Humidity	< 95%

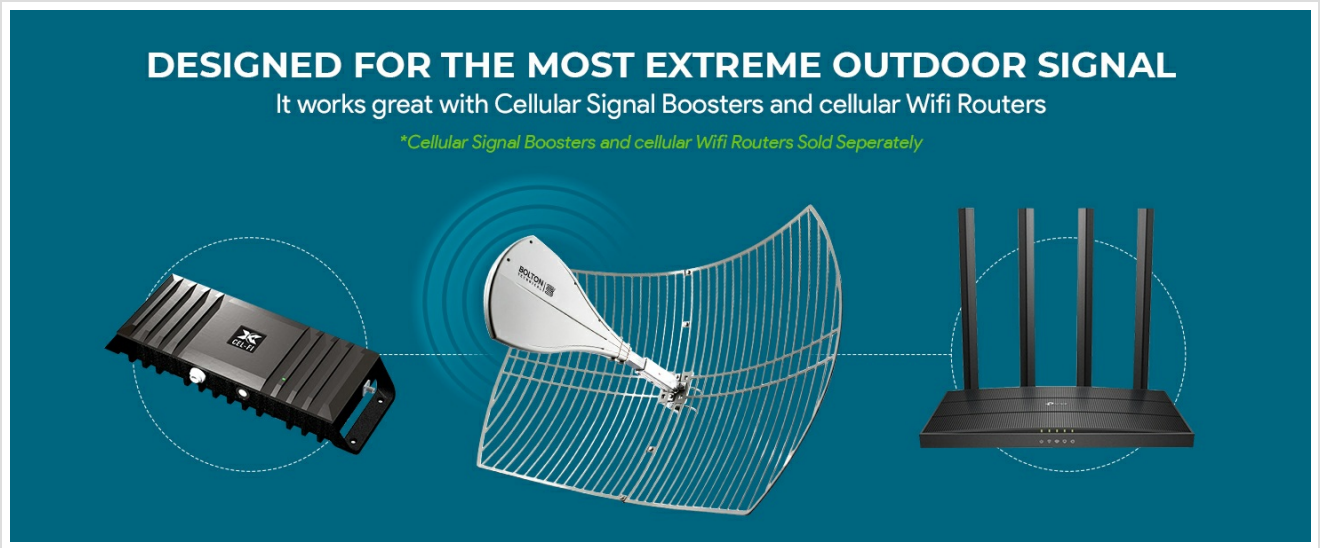


Image: Detailed electrical specifications table for the Long Ranger Antenna.


	THE LONG RANGER Ultra High Gain Parabolic Grid Antenna			HEIGHT 24"/60cm
	IMPEDENCE 50 Ω	CONNECTOR TYPE N-FEMALE	MAX INPUT POWER 100W	WIDTH 39"/99cm
	FRONT-TO BACK RATIO 20AVG (DB)	VSWR ≤ 2.5 / ≤ 2.0 / ≤ 2.5	LIGHTING PROTECTION DC GROUND	DEPTH 16"/40cm
	HALF-POWER BEAM WIDTH			WEIGHT 5.3lbs./ 2.4kg. <small>(with bracket)</small>
	LOW BAND 23 HORIZ, 35 VERT	MID BAND 10 HORIZ, 13 VERT	HIGH BAND 7 HORIZ, 9 VERT	

Image: Detailed mechanical specifications table for the Long Ranger Antenna.

9. WARRANTY AND SUPPORT

The Bolton Technical Long Ranger Antenna (BT974822) comes with a **2-Year Manufacturer's Warranty**. For technical assistance, troubleshooting, or warranty claims, please contact Bolton Technical customer support. Our US-based team is available to assist with any questions or issues you may encounter. Refer to the official Bolton Technical website for the most current support contact information.



Who is this for?

STRONGEST ANTENNA ON THE MARKET



Designed for people in rural areas desperately searching for signal.



People need the absolute best signal for work or play



15X more powerful than your standard Yagi or Omni Antenna

Image: The Long Ranger Antenna packaging, highlighting USA-based customer support and a 2-year manufacturer's warranty.