

BTECH Nagoya RB-50

Nagoya RB-50 NMO Magnet Mount User Manual

Model: Nagoya RB-50

Brand: BTECH

INTRODUCTION

The Nagoya RB-50 Premium Magnet Mount is designed to provide a robust and secure attachment solution for NMO antennas on vehicles or other magnetic surfaces. It features a heavy-duty magnet, an 18-foot RG-58A/U coaxial cable, and a PL-259 connector for universal compatibility with various two-way radios. This manual provides instructions for setup, operation, maintenance, and troubleshooting to ensure optimal performance and longevity of your magnet mount.

PRODUCT COMPONENTS

The Nagoya RB-50 NMO Magnet Mount package includes the following components:

- **Nagoya RB-50 Magnet Mount Base:** A powerful 5.15-inch rare earth magnet base with an NMO connector.
- **Integrated Coaxial Cable:** An 18-foot (approximately 5.5 meters) RG-58A/U cable with 95% tinned copper braid for minimal signal loss.
- **PL-259 Connector:** A UHF male connector pre-installed on the coaxial cable for connection to your radio.
- **Protective Cap:** A cap for the NMO connector when an antenna is not attached.



Figure 1: The Nagoya RB-50 magnet mount base with its integrated cable.



Figure 2: The RB-50 mount showing the coiled 18-foot RG-58A/U cable and the PL-259 connector.

SETUP INSTRUCTIONS

1. **Choose a Mounting Location:** Select a flat, clean, and magnetic metal surface on your vehicle, such as the roof or trunk lid. Ensure the surface is free of dirt, dust, and debris to maximize magnetic adhesion and prevent scratches. The mount's powerful 5.15-inch rare earth magnet provides strong retention.
2. **Attach the Magnet Mount:** Carefully place the Nagoya RB-50 magnet mount onto the chosen surface. Avoid sliding the mount across the surface to prevent scratching. Once placed, ensure it is firmly seated. The mount is designed to securely hold NMO antennas up to 50 inches in height.
3. **Install the NMO Antenna:** Screw your NMO-compatible antenna onto the NMO connector located on top of the magnet mount. Hand-tighten the antenna until it is snug. Do not overtighten. The NMO mount features solid brass chrome plating, a gold-plated contact pin, and a PTFE insulator for optimal electrical conductivity and signal transmission.
4. **Route the Coaxial Cable:** Carefully route the 18-foot RG-58A/U coaxial cable from the mount to your radio. Ensure the cable is not pinched in doors, windows, or trunk lids, as this can damage the cable and affect signal integrity. Use cable clips or ties to secure the cable along its path, keeping it away from hot engine parts or sharp edges.
5. **Connect to Radio:** Plug the PL-259 (UHF male) connector at the end of the coaxial cable into the corresponding UHF female port on your two-way radio or transceiver. Ensure a secure connection.



Figure 3: The RB-50 magnet mount with an NMO antenna installed on a vehicle roof.

OPERATING GUIDELINES

Once the Nagoya RB-50 magnet mount and antenna are properly installed, you can begin operating your radio equipment. The mount's design, including its high-quality RG-58A/U cable with 95% tinned copper braid, is engineered for efficient signal transfer and minimal signal loss, ensuring clear and consistent communication.

- **Antenna Placement:** For optimal performance, position the antenna as high and as centrally as possible on the vehicle's metal surface to maximize the ground plane effect.
- **Signal Integrity:** The robust construction and quality materials contribute to superior signal integrity. Avoid bending or kinking the coaxial cable excessively, as this can degrade performance.
- **Vehicle Speed:** While the magnet mount provides a strong hold, always ensure the mount is securely attached before driving, especially at higher speeds. Periodically check the mount's adhesion.

MAINTENANCE

Regular maintenance helps ensure the longevity and optimal performance of your Nagoya RB-50 magnet mount.

- **Cleaning the Mounting Surface:** Periodically clean the vehicle's mounting surface and the underside of the magnet mount. Dust, dirt, and moisture can reduce magnetic adhesion and potentially scratch the vehicle's paint. Use a soft cloth and mild cleaner.
- **Inspecting the Cable and Connectors:** Regularly inspect the RG-58A/U coaxial cable for any signs of wear, cuts, or kinks. Check the PL-259 connector for corrosion or damage. Ensure the NMO antenna connection remains tight. The solid brass chromed NMO mount and gold-plated contact pin are designed for corrosion resistance, but inspection is still recommended.
- **Storage:** When not in use for extended periods, remove the mount from the vehicle and store it in a clean, dry place. Consider using the protective cap on the NMO connector.

TROUBLESHOOTING

Problem	Possible Cause	Solution
Weak or No Signal	Loose antenna or cable connection.	Ensure NMO antenna and PL-259 connections are secure.
	Damaged coaxial cable.	Inspect cable for visible damage; replace if necessary.
	Poor ground connection.	Clean mounting surface and magnet base thoroughly. Ensure good metal-to-metal contact. Some users have reported needing to remove protective film or sand paint for optimal ground.
	Antenna not tuned for frequency.	Verify your antenna is appropriate for your radio's operating frequency.
Mount Not Holding Securely	Dirty or uneven mounting surface.	Clean the vehicle surface and the magnet's underside. Ensure the surface is flat.
	Mount placed over non-magnetic material (e.g., plastic, fiberglass).	Relocate the mount to a ferrous metal surface.
	Excessive antenna weight/height.	Ensure antenna height is within the recommended 50-inch limit.
Cable Damage/Wear	Cable pinched in door/trunk.	Reroute cable to avoid pinch points.
	Exposure to extreme temperatures or abrasion.	Secure cable with clips to prevent movement and abrasion.

SPECIFICATIONS

Feature	Detail
Model Number	Nagoya RB-50
Mount Type	NMO Magnet Mount
Magnet Diameter	5.15 inches (approx. 130mm)
Cable Type	RG-58A/U Coaxial Cable
Cable Length	18 feet (approx. 5.5 meters)
Connector Type (Cable End)	PL-259 (UHF Male)
Impedance	50 Ohm

Feature	Detail
Maximum Antenna Height	Up to 50 inches
Product Dimensions	6 x 6 x 0.25 inches (base only)
Item Weight	1 pound
Color	Black

WARRANTY AND SUPPORT

BTECH is committed to providing high-quality radio products and accessories. As a USA-based company, BTECH offers dedicated local support for any issues that may arise with your Nagoya RB-50 magnet mount. All BTECH products come with a real USA warranty and support, ensuring you have access to assistance and resources when needed.

For warranty claims, technical assistance, or product inquiries, please contact BTECH customer support through their official channels. Refer to the product packaging or BTECH's official website for the most current contact information.

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Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page’s manual context to help answer it.

Name

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Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question