

# Flexi-Whip Antenna Installation Considerations

## Magnet Mount, Field Tunable, with Flexible Mast, 136MHz -1GHz

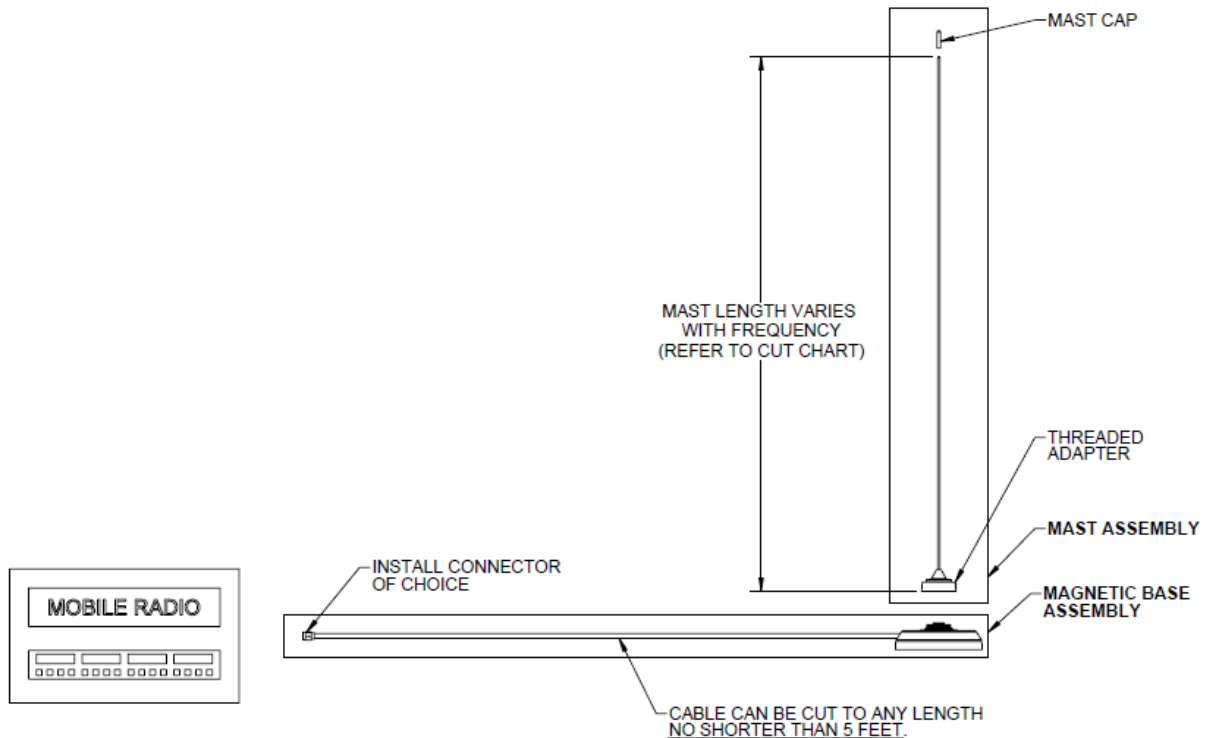
**MODEL NUMBERS:**      **MGNT-FT-NITI**  
                                   **MGNT-FT-NITI, RG-058**

**PLEASE VERIFY:**

1. **Parts List:** This package consists of an antenna mast assembly with cap and a magnetic base assembly with attached cable and connector of choice for the mobile radio. Use only the components supplied with the antenna system.
2. **Frequency and Bandwidth:** The frequency is determined by mast length. Bandwidth varies depending on the frequency. Please refer to the cutting chart included.

**INSTALLATION:**

1. **Placement:** Select the flattest surface in center of the roof or trunk lid. If the area is convex, a rocking motion will result. A concave surface will reduce the magnet's holding power, affecting the quality of the antenna's "RF ground." *Keep in mind that some vehicles may have aluminum or composite trunk lids that will not engage the magnet.*
2. **Run Cable:** Route the coaxial cable through the window or inside the trunk toward the mobile radio (see Figure 1 – Magnet Mount Antenna System below). Protect the cable insulation from tears during routing and avoid pinching or kinking the cable once the system is installed. If the insulation becomes torn, wrap the damaged area with several layers of a high-quality electrical tape.



**Figure 1 – Magnet Mount Antenna System**

3. **Electromagnetic Interference:** Avoid coiling up excess cable by cutting to the desired length (refer to cable cutting instructions below). Additionally, do not tape or secure the antenna feedline cable to other vehicle system or data cables during installation.
4. **Cable Cutting:** The feedline cable can be customized to any length, however 5 feet of cable must be preserved between the connector and the magnetic base assembly (see Figure 1 – Magnet Mount Antenna System).
5. **Install Connector:** Install connector using proper installation technique and tooling. Contact STI-CO Customer Service if additional information is required.
6. **Mast Cap:** If the antenna mast was cut to length for a specific frequency in the field, STI-CO recommends using epoxy to secure the mast cap. Note: Factory-tuned antennas are shipped with the cap secured with epoxy.

## TESTING:

Verify installation by testing the antenna system from the end of the feedline. Make sure all doors, the hood, and the trunk are closed while performing the following tests:

1. **Continuity:** A continuity test between the center pin of the connector and ground will measure as an open circuit for this antenna system.
2. **Reflected Power / VSWR:** When measuring reflected power using a Wattmeter, a reading of 11% or less is acceptable. When measuring Voltage Standing Wave Ratio (VSWR) directly using a Network Analyzer, a reading of 2:1 or less is acceptable. If measured results are greater than 11% reflected power or 2:1 VSWR, reposition the antenna.

## MGNT-FT-NITI

CENTER FREQUENCY (MHz)	BANDWIDTH (MHz) SWR <2:1	LOW FREQUENCY (MHz)	HIGH FREQUENCY (MHz)	MAST LENGTH (INCHES)*
136	19.3	125.5	144.8	21.1
140	16.9	130.0	146.9	20.4
145	15.5	135.5	151.0	19.8
150	11.0	144.0	155.0	19.0
155	23.0	148.0	171.0	18.4
160	23.0	150.0	173.0	17.9
165	27.0	153.0	180.0	17.3
170	27.5	155.5	183.0	16.8
175	30.5	158.5	189.0	16.4
180	24.0	168.0	192.0	16.0
185	23.5	171.5	195.0	15.6
190	24.0	179.0	203.0	15.0
195	24.5	183.0	207.5	14.6
200	25.0	189.0	214.0	14.2
220	32.0	205.0	237.0	12.9
240	40.8	219.2	260.0	11.8
260	39.0	240.0	279.0	11.0
280	39.0	259.0	298.0	10.2
300	43.0	282.0	325.0	9.3
350	65.0	322.0	387.0	8.1
400	78.0	358.0	436.0	7.1
452	83.0	415.0	498.0	6.2
500	103.0	461.0	564.0	5.6
600	125.5	545.0	670.5	4.7
700	150.0	630.0	780.0	4.0
800	191.0	721.0	912.0	3.5
900	190.0	809.0	999.0	3.0
1GHz	203.0	897.0	1100.0	2.7

\*Cut mast with threaded adapter attached (refer to Figure 1 – Magnet Mount Antenna System).