

# Rear Window Glass Installation Considerations VHF Field Tunable Embedded Antenna

## EMBD-NB-VHF-F

### VERIFY:

1. **Part List:** The system package includes base assembly with cable, mounting screw, broadcast coupler, VHF tuner, feedline, jumper cable, and connectors if applicable. Use only components supplied with the antenna system (Refer to Figure 1-Parts List).

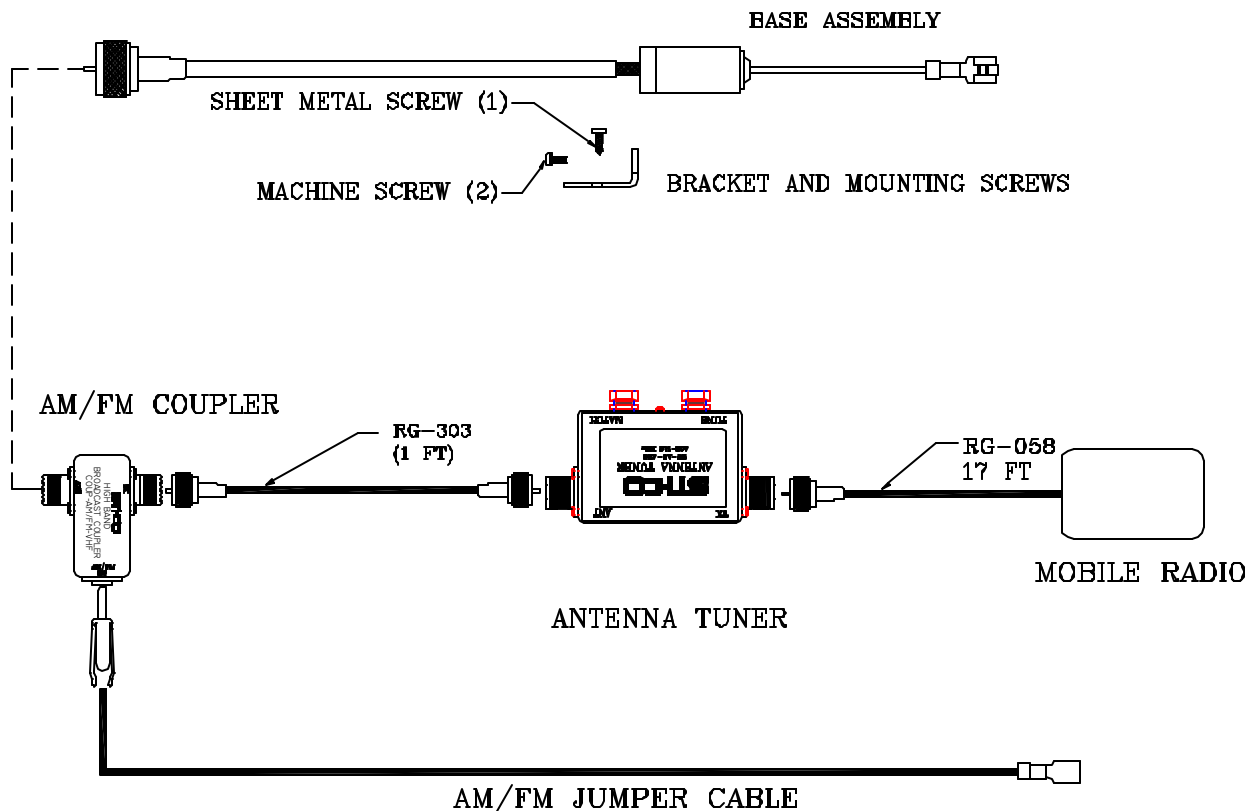
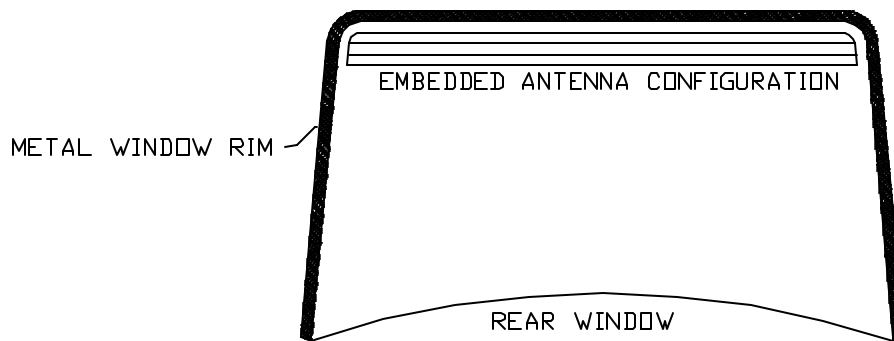
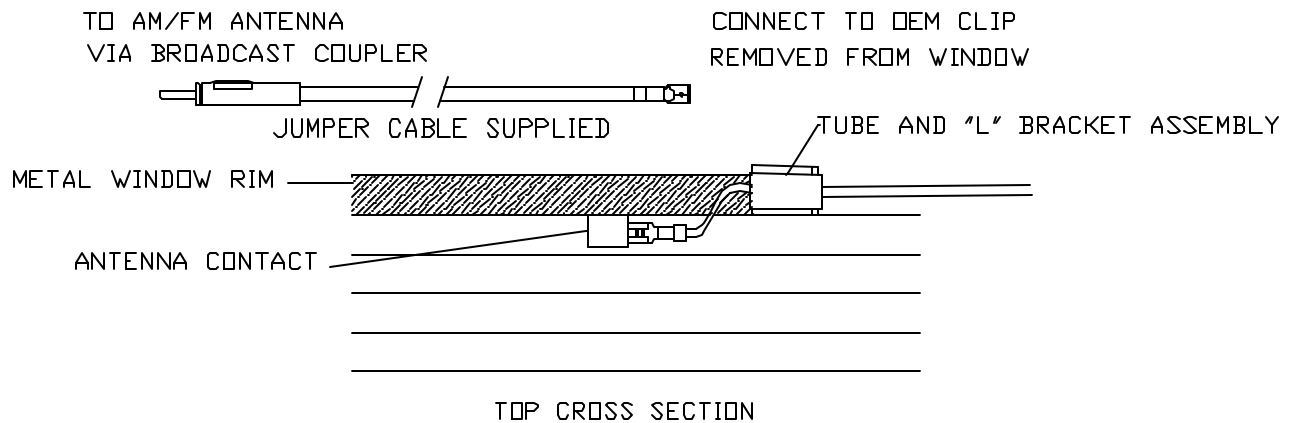


Figure 1 Parts List

2. **Bandwidth:** VHF Broadband antennas are 2 MHz wide. The antenna is designed to be tunable between 144 MHz to 171 MHz using VHF tuner, P/N ATUN-VHF.

### INSTALLATION:

1. **Locate Points of Interest** (Refer to Figure 2)
  - a. **Antenna Contact:** This terminal is attached to the wire grid embedded in the window (used for the antenna) allowing for convenience in making connections.
  - b. **OEM Clip:** This clip is currently attached to antenna contact (from the factory).

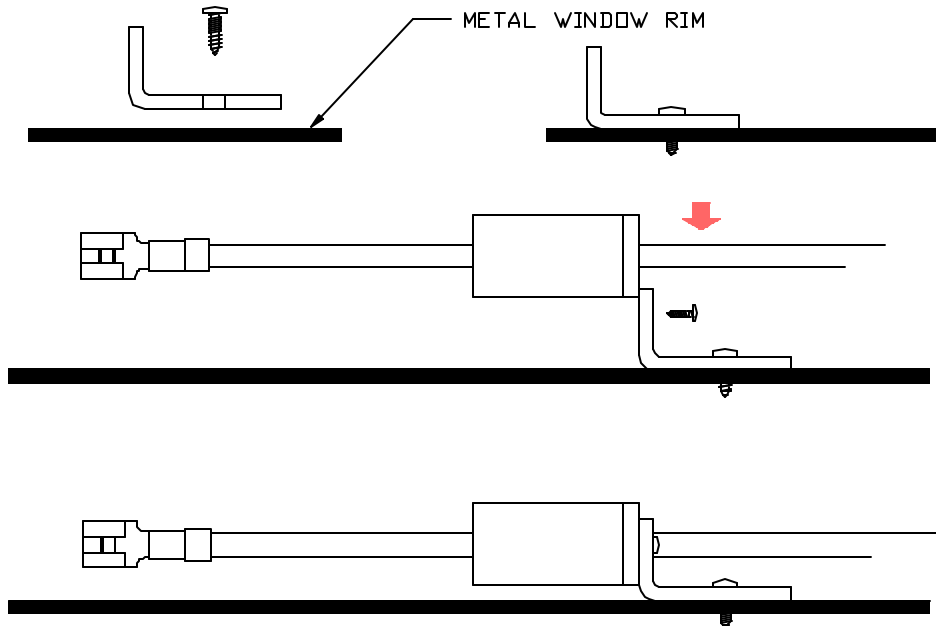


**Figure 2 – Points of Interest**

- c. **Trim Panel:** (passenger's side rear pillar). This trim piece needs to be removed.
- d. **Metal Window Rim:** The metal window rim is the platform where the rear window rests and will serve as the grounding point for the antenna. The grounding screw will pass through the "L" bracket and into the metal window rim.
- e. **Rear Seat:** If the radio is located in the trunk, the matching network and AM/FM coupler should be routed behind the seat into the trunk.

**2. Procedure:**

- a. Remove plastic trim plate by tugging the "one way clips", then set aside.
- b. Remove OEM antenna clip, let hang.
- c. Attach the STI-CO Embedded Matching network's female contact to the antenna contact.
- d. Position the "L" bracket and tube assembly so that it rests flat on the metal window rim, mark location.
- e. Remove tube assembly from "L" bracket the pre-drill through the "L" bracket into the metal window rim (Refer to Figure 3).



**Figure 3 – Installation Procedure**

- f. Screw through “L” bracket into metal window rim and tighten.
- g. Attach tube assembly / back onto the “L” bracket using machine screws.
- h. Attach matching network to AM/FM coupler, marked “ANT”.
- i. Attach jumper cable to OEM clip and AM/FM coupler, marked “AM/FM BC”
- j. Before re-installing trim to the vehicle, it is recommended that testing is performed. (See below)

**STOP: Do not power up antenna system until tuned. (See below)**

3. **Tuning: This unit must be tuned prior to attaching to the mobile radio.** A network analyzer, site-master, or SWR meter is required so that the wire in the window glass is tuned to the correct frequency using the match and tune adjustment until SWR is below 1.5:1 for the frequency(s) needed.

**Warning: STI-CO is not responsible for damage to window glass if the antenna is not matched prior to power being applied.**

### TESTING: ONLY AFTER BEING TUNED

Installation testing, if required, must take place at the transmitter side of the feedline. This will ensure that the cable connectors and cables have the proper continuity. Make sure all doors; hood, and trunk are closed.

**Note:** Some vehicles are sensitive to VHF frequencies. STI-CO suggests that you isolate feedline and check for unwanted interference with the ignition switch on.



1. **Reflective Power:** A measurement of reflective power using a wattmeter, you can expect up to 9% reflected power. When results are greater than 9%, recheck grounding.
2. **SWR:** A measurement of SWR (standing wave ratio) will yield better than 1.5:1. If greater than 1.5:1, recheck grounding.