

# Under-Bumper 4.7GHz Antenna

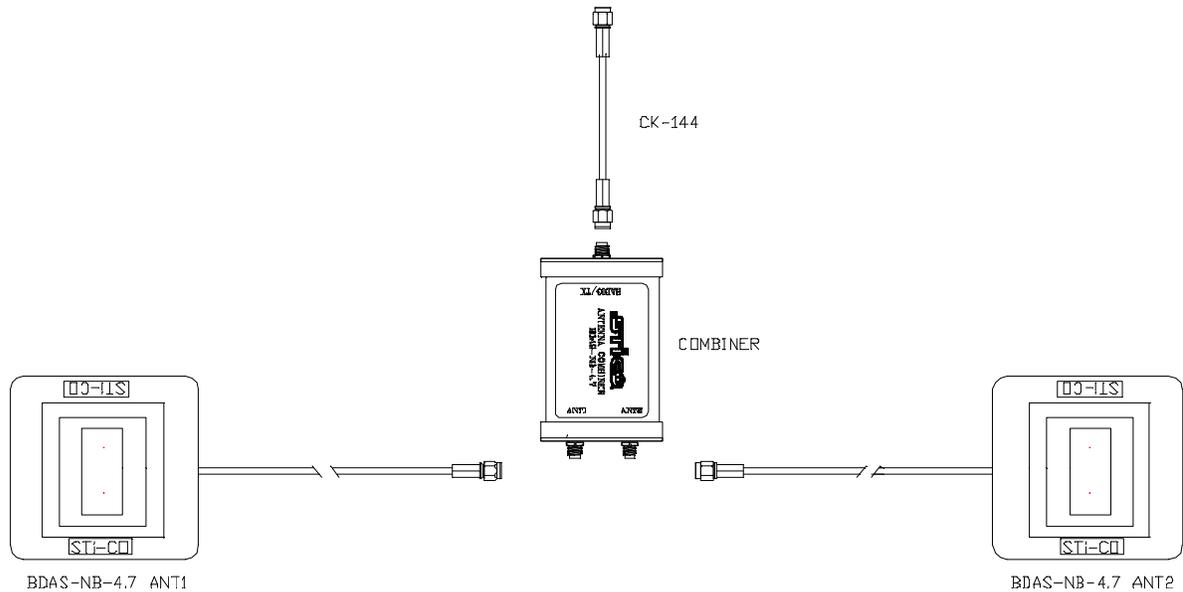
## BDAS-NB-4.7

### VERIFY:

**1: Vehicle Mounting Surface:** In order to achieve the optimum performance from your STI-CO antenna system, verify that the mounting surface is non-metallic and allows for at least five inches of air space from any metal work on the vehicle. Metal bumpers or panels are not suitable mounting surfaces and would result in antenna failure. It is also suggested that the radiating element is positioned vertically as provided by mounting the antenna so that the STI-CO label on the antenna is parallel to the ground and can be read as the manufacturer label.. Removal of the vehicle plastic underside protector may be required to meet the mounting requirements.

**2: Part List:** The system package includes two antenna assemblies, a combiner/splitter, and a small roll of Gorilla Tape.

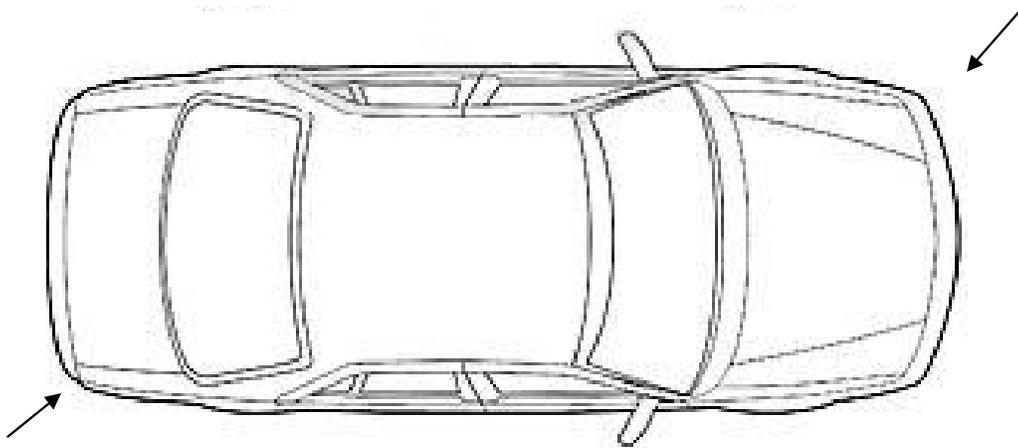
**3: Bandwidth:** The BDAS-NB-4.7 is an antenna system that achieves a 1000 MHz bandwidth within the range of 4.3 GHz – 5.3 GHz



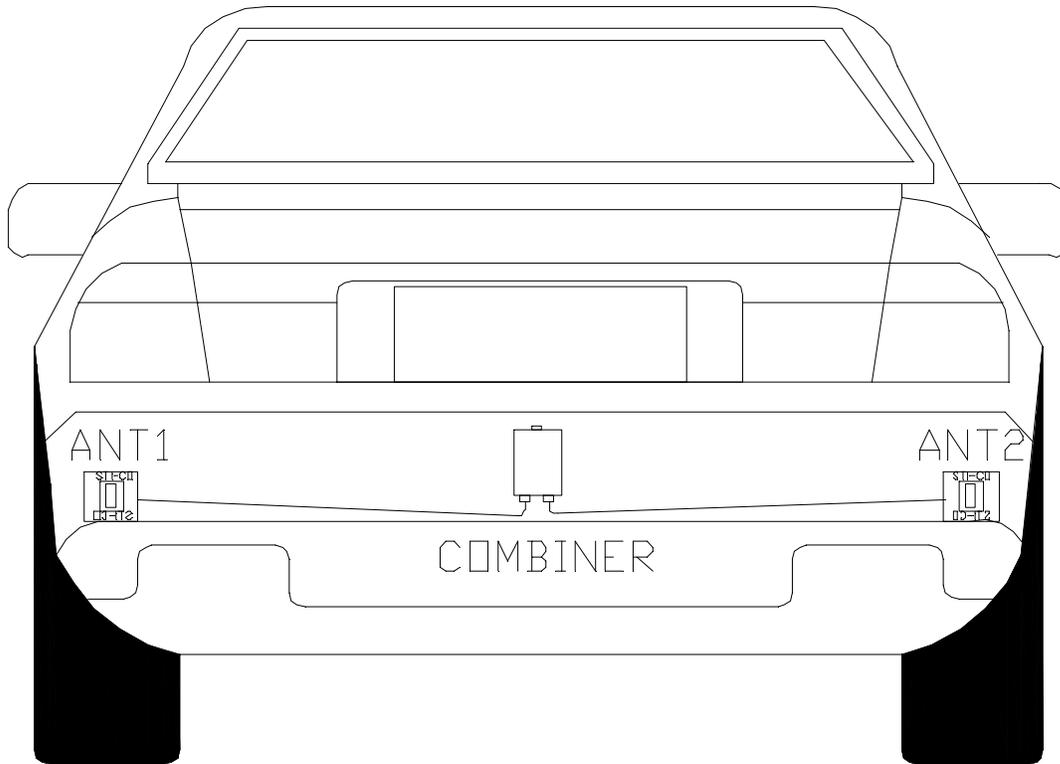
**INSTALLATION:**

This antenna is designed with a universal mounting system HOWEVER due to the amount of differences between vehicle platforms we can't anticipate all of the challenges an installer may face.

Installation locations may be almost anywhere. Both antennas could be put on the rear bumper, one on the left side and the other one on the right side; or on the front bumper, one on the left side and the other on the right side; or one antenna placed on the front bumper and the other on the rear bumper on opposite corner, as depicted below.



1. Using the adhesive tape on the back of each antenna secure the antenna to the inside of the bumper on the corner of the vehicle. Be sure to orient the antenna as so the radiating element is vertical by being able to read the STI-CO label on the antenna which should be parallel to the ground.
2. Run the feed cable from the antenna horizontally along the plastic bumper, again, securing the feed cable with strips of Gorilla tape.
3. Follow these steps to install the second antenna on the second mounting location of the vehicle.
4. After routing the cabling to the combiner/splitter, and then from the combiner/splitter to the radio, secure the combiner/splitter onto the selected surface using two strips of butyl tape.





## TESTING AND VERIFICATION:

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 RF 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 11% reflected power. When results are greater than 11%, recheck grounding.
2. **SWR:** A measurement of SWR (standing wave ratio) will yield better than 2:1. If greater than 2:1, recheck grounding.
3. Connect the feedline provided from the splitter to a wattmeter. Connect from the wattmeter to the transmit radio. Set the radio to a frequency that is closest to the center of the band of operation. Measure the reflected power and note the value. Tune the antenna system by trimming each element on both antennas by the same amount. Trim in one-eighth inch sections at a time. Select a frequency 5 MHz above center and measure the reflected power. Note this value. Select a frequency 5 MHz below the center frequency and record this number.
4. If the high frequency number is higher than the low frequency value, trim the elements further until the two reflected power levels match.
5. Once the two reflected power values are equal, the antenna is tuned, and you may proceed to the final hook-up.
6. Connect the cable from the splitter to the radio.
7. Installation is now complete.