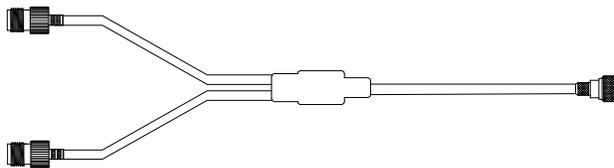
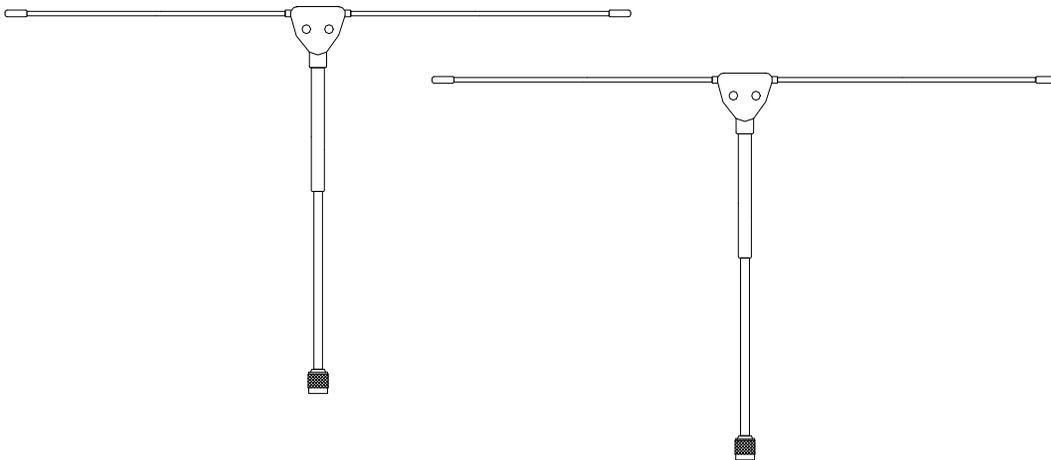


## Underbumper VHF Antenna

### BDAS-SB-VHF

#### VERIFY:

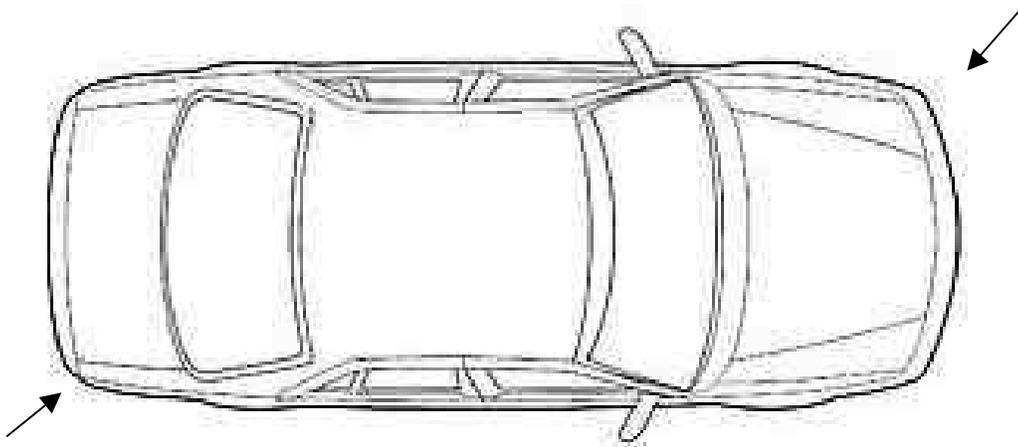
1. **Vehicle Mounting Surface:** In order to achieve the optimum performance from your STI-CO antenna system, verify that the mounting surface is non-metallic and allows for at least five inches of air space from any metal work on the vehicle. Metal bumpers or panels are not suitable mounting surfaces and would result in antenna failure. It is also suggested that the radiating (red) element is positioned as vertical as allowed for. Removal of the vehicle clip may be required to meet the mounting requirements.
2. **Part List:** The system package includes two dipole assemblies, a splitter, and a small roll of Gorilla Tape.
3. **Bandwidth:** The VCD is a tunable antenna system that achieves a 24 MHz bandwidth within the range 150 MHz – 174 MHz providing the previous conditions are met.



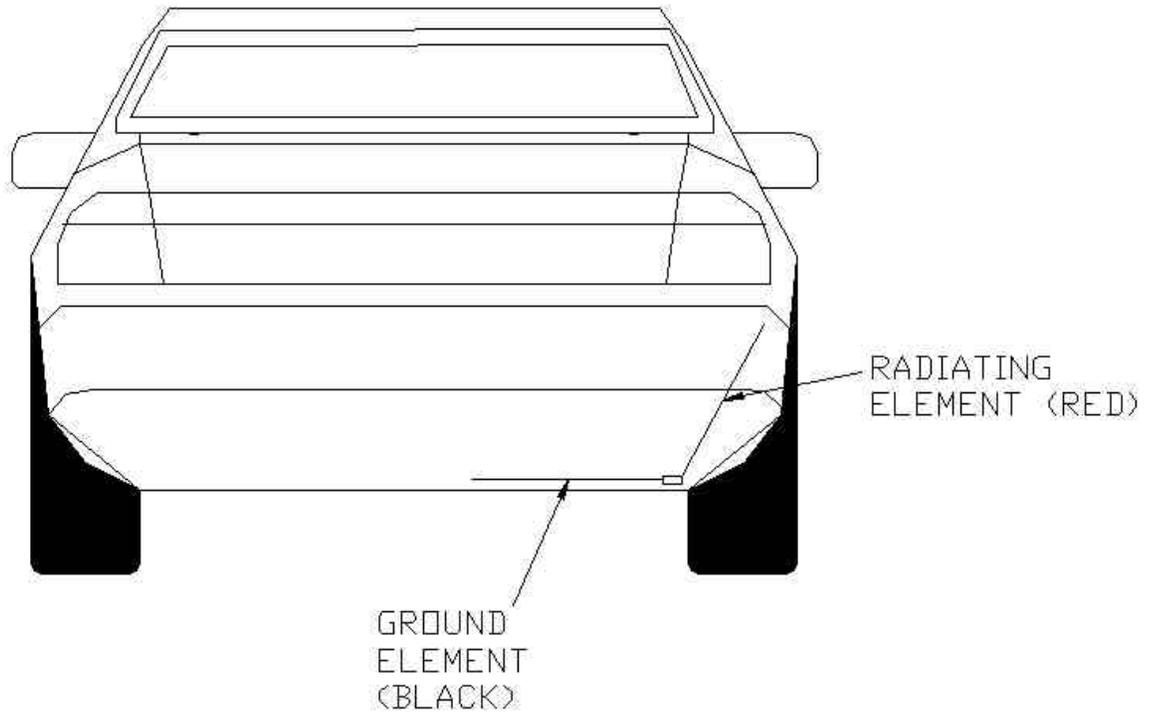
## INSTALLATION:

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 anywhere on the front and rear bumper, though it is recommended that the antennas are installed on two opposite corners, as depicted below, to achieve optimum antenna performance.



1. Using a strip of butyl tape, secure the plastic housing of the antenna inside the bumper on the corner of the vehicle. Be sure to orient the antenna as so the radiating element (red) is pointing to the side of the vehicle and the ground element (black) is towards the center of the vehicle.
2. Position the radiating element as vertical as is allowed for. In most applications, there is sufficient air gap in the corner of the bumper. Secure the element in place using two strips of butyl tape. When taping, be sure to leave four to five inches from the end of the antenna element to allow for tuning after the installation is complete.
3. Lay the ground element horizontally along the plastic bumper, again, securing the element with two strips of butyl tape.
4. Follow these steps to install the second antenna on the opposite end of the vehicle.
5. After routing the cabling to the splitter, and then from the splitter to the radio, secure the 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 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 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.