



### Officer Safety Issue with Unauthorized Portable Radio Antennas

In recent years, some Motorola portable radio antennas have been replaced with shorter aftermarket antennas. These shorter antennas were purchased by individual personnel or were acquired by other means and are being used in lieu of the longer original factory radio antennas. These shorter aftermarket antennas are not authorized. Per the Sheriff's Department Technology Division, the only antenna authorized for use with our Motorola APX6000 portable radios is the original factory antenna. All other antennas are to be considered unauthorized.

The original factory antenna was specifically designed and engineered to operate on a 700/800 MHz system. Aftermarket, separately purchased antennas may not possess the electrical specifications required to support the Motorola APX6000 radio on the 700/800 MHz radio frequency bands. The quality and electrical performance of these aftermarket and/or counterfeit Motorola antennas are not to be trusted.

Additionally, some personnel are wearing portable radios with the antenna tucked either partially or wholly into or under the outer vest carrier and/or bending the tip of the antenna into a downward position. Blocking part of the antenna or modifying its shape can compromise the radio's ability to transmit and receive radio transmissions. This can result in an officer safety issue. Therefore, when carrying a portable radio, personnel should consider the following:

- Antenna should be free from any obstruction, regardless of where the radio is carried.
- Antenna should not be placed or tucked inside/under a pocket or vest. The materials used for these vests are not 100% known and some materials have adverse effects on radio signals.
- Antenna should be positioned upright to obtain optimal performance for transmitting and receiving.
- Bending the antenna will alter the course of radio signals transmitted through the antenna.
- Canting or bending the antenna will degrade the signal or may push the user signal out of range.



*The antenna should NOT be tucked inside or under the vest.*



*The antenna should NOT be bent or zip tied into a bent position.*





## How do you know if your radio has an authorized original factory antenna?

The original factory antenna is eight (8) inches long. If the antenna is shorter than eight inches, it is probably an unauthorized aftermarket antenna.

## What should you do if you have an unauthorized, aftermarket shorter antenna?

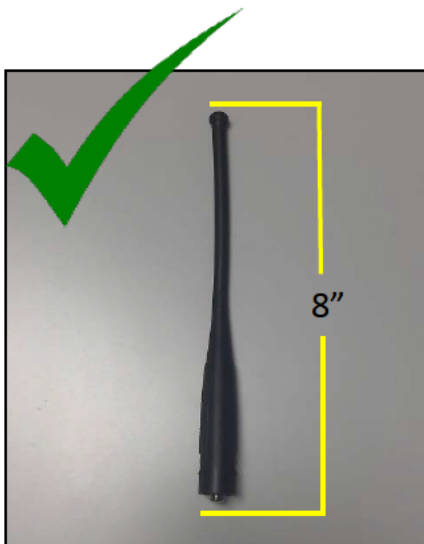
If you still have the original factory antenna in your possession, replace the unauthorized antenna with the original factory antenna. Unauthorized antennas may be simply discarded or turned into equipment room personnel. If you do not have an authorized original factory antenna, you may contact the Technology Division (██████████) or your work location's equipment room for a replacement.

## What should equipment room personnel do with any unauthorized antennas?

Unauthorized antennas should be collected and prepared for pickup by the Technology Division Route Technician. If needed, equipment room personnel can request additional authorized original factory antennas through the Technology Division Route Technician or by going directly to the Technology Division offices.

## What are some additional things to consider to help improve radio reception on the portable radios?

- When speaking directly into the radio, it should be held upright within three inches of the mouth.
- When using a lapel microphone (remote microphone), the holstered radio antenna should be free of any obstruction.
- The original factory antenna should be in good condition and not bent, cracked, or frayed.
- When operating in a poor coverage area, hold the entire radio above the head to gain a better radio signal, if safely feasible.



The original factory antenna is eight (8) inches long.



The antenna *SHOULD* be free from any obstructions and the radio holstered or held in an upward position.

