

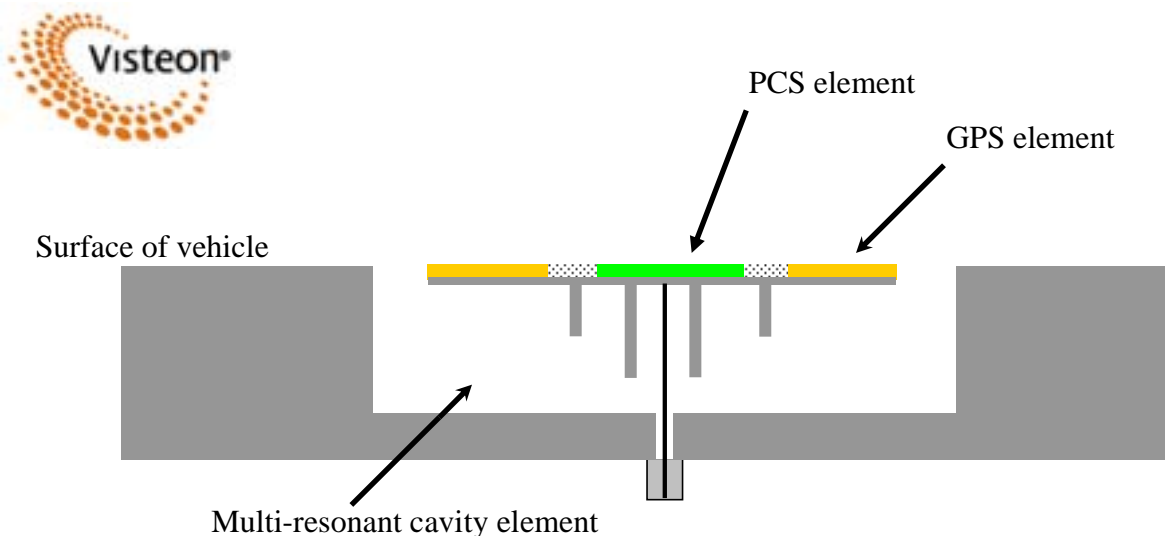
A rugged, low profile antenna could simultaneously serve most of the many radio systems for both voice and data currently used in police cars and other public safety vehicles. The new system, being developed by Dr. Jeffery T. Williams and his colleagues at the University of Houston's Electrical Engineering Department, would replace the thicket of vertical whips, fins, and helices currently in use.

Modern public safety vehicles rely on a wide variety of radio services, including several voice channels, computer data, and the Global Positioning System (GPS). Each service uses its own frequency band and antenna. The various antennas often interfere with each other. Sometimes this can be fixed by moving antennas around on the car, but that can be time-consuming and expensive—if it works at all. Also, they can be damaged or even broken off by accident or malice.

The new system, consisting of a flat, round box that can be stuck on the car's surface, works with several bands simultaneously. The various elements are designed and laid out to avoid interfering with each other, and to work equally well in all directions. Because the system is flat, it is difficult to remove or break it.

There are two versions currently being tested. They handle four bands: Two UHF voice bands, GPS, and a data channel like the used for laptop computers. The ultimate objective is to develop an integrated antenna that will cover as many of the public safety frequency bands as possible.

The work is being done under the auspices of the South West Technical Center, a federal program to unify technology development and support for various public safety organizations, in association with the federal Department of Justice's Institute of Justice.



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