

CANTENNA BACKGROUND

INFORMATION

Definition

A **cantenna** is a directional waveguide antenna for long-range Wi-Fi used to increase the range of a wireless network, built from a small tin can.

Basics

A **cantenna** is a directional waveguide antenna for long-range Wi-Fi used to increase the range of (or snoop on) a wireless network. Originally built using a Pringles potato chip can, a cantenna can be constructed quickly, easily, and inexpensively using readily obtained materials:

- Four small nuts/bolts;
- A short length of medium-gauge wire;
- A tin can roughly 8 cm (3.66 inches) in diameter (the longer the better); and
- An N-Female chassis mount connector, available at many electronic supply stores.

Although some designs are based on a Pringles potato chip can, in reality this tube is too narrow to be practical, however a cantenna can be made from various cans or tubes of an appropriate diameter. Some designs include a pole mount to elevate the cantenna.

While cantennas are useful for extending a wireless local area network (WLAN), the tiny design makes them ideal for mobile applications such as wardriving. The design of the cantenna is so simple that it is often the first antenna WiFi experimenters learn to build. Cantennas can even be used to increase cell phone range, improving reception and decreasing noise.

Origin of the name: The term 'Cantenna' originally referred to a product sold by Heathkit Co. in Benton Harbor, MI, USA. It was a 50-ohm resistive load used by radio amateurs. However, in the more casual vernacular of the Do-It-Yourself community, it has functionally become a portmanteau of can (e.g. an empty Pringles can, see below) and antenna, since they're used to broadcast (and receive) signals, and not just terminate them.

Usage: While antennas are useful for extending a wireless local area network (WLAN), the tiny design makes them ideal for mobile applications such as wardriving. The design of the antenna is so simple that it is often the first antenna WiFi experimenters learn to build. Antennas can even be used to increase cell phone range, improve reception and decrease noise.

Source: <http://www.juliantrubin.com/encyclopedia/electronics/cantenna.html>