

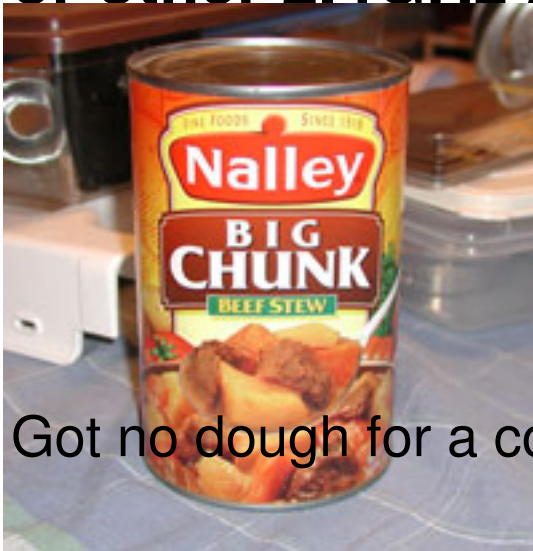
tecnologia wireless



Tratto dal sito:

<http://www.turkpoint.net/wireless/cantennahowto.html>

How To Build A Tin Can Waveguide WiFi Antenna for 802.11(b or g) Wireless Networks or other 2.4GHz Applications



Got no dough for a commercial WiFi antenna? Looking for a

I am not an electrical engineer, nor do I have access to any

Building your Cantenna is easy, just follow these steps.

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Collect the parts

-

Drill or punch holes in your can to mount the probe

-

Assemble the probe and mount in can

Collect the parts:

You'll need:

-

A N-Female chassis mount connector.

-

Four small nuts and bolts

-

A bit of thick wire

-

A can

[These vendors](#) can supply the parts (the wire and can you provide yourself).

The Connector

A N type Female Chassis-mount connector. One side is N-f

Nuts & Bolts

You'll need them just long enough to go through the connec

Wire

You'll need about 1.25" of 12 guage copper wire. This wire v





Then the fun part. You're looking for a can between about



Drill or punch holes in your can to mount the probe

The N-connector assembly will mount in the side of your can

Can Diameter

Cutoff Frequency in MHz for TE₁₁ mode

MHz

Cutoff Frequency in Mhz for TM01 mode

MHz

Guide Wavelength in Inches

inches

1/4 Guide Wavelength

inches

3/4 Guide Wavelength

inches



[Click on image to enlarge](#)

Enter the diameter of your can above and click on the calculate button. 802.11b and 802.11g WiFi networking equipment operates at a range of

frequencies from 2.412 GHz to 2.462 GHz. Ideally, with your can size, the TE₁₁ cut-off frequency should be lower than 2.412 and the TM₀₁ cut-off should be higher than 2.462. It would be good, also, if your can is longer than the 3/4 Guide Wavelength. If your can is a little off in length or diameter, don't despair, [experimentation is fun](#)!

You want to mark the location on the can where you will put the hole for the connector. The 1/4 Guide Wavelength number tells you how far up from the bottom metal end of the can to put the center of the hole. Open only one end of your can, eat the contents, and give it a good washing. You'll probably want to remove the label too. Use a ruler to measure up from the closed end 1/4 Guide Wavelength and mark the can with a dot.

If you've got a drill, select a bit that matches the size of the center of your connector. You may want to start with a small bit and work the hole larger and larger.

You could even start with a hammer and nail, then use drill bits. If you don't have a drill, start with a nail hole and use a file to get the hole to the required size. If you're using a bolt on connector, make four more holes for the bolts - you can use the connector as a drilling guide.

Assemble the probe and mount in can

Now you'll need that bit of wire. You'll need a soldering iron

When you've got your wire correctly sized, solder it into the

Connect your antenna to your wireless card or

To use your cantenna, you'll need a special cable commonl
<http://www.seattlewireless.net/index.cgi?PigTail>

You'll want to have a wireless NIC or access point with an e

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[Fleeman Anderson & Bird](#)

Fleeman Anderson & Bird has a "cantenna kit" for sale

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[Hyperlinktech](#)

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[Antenna Systems](#)

Hook up your cable, point the antenna at a friend's, and see

This antenna has linear polarization. That means that how y

For more information, check out these resources:

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[The ARRL Antenna Handbook](#)

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[A Tin Can Design with good theory information.](#)

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[A free on-line book on microwave antennas](#)

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["Juice Up" your Tin Cantenna with a surplus satellite dish.](#)

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[Spreadsheet for optimum can size calculation](#)

[**Go to the Homebrew WiFi Antenna Shootout**](#)
[**Go to the Wireless Home**](#)



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