

Build a DIY Recycled Antenna (To Get Free T.V!)

by [Gjdj3](#) on February 18, 2009

Table of Contents

- intro: Build a DIY Recycled Antenna (To Get Free T.V!) 2
- step 1: Deciding on an Antenna 2
- step 2: Materials 3
- step 3: Cut the Can In Half (and wash it out) 4
- step 4: Strip the Coaxial Cable 4
- step 5: Solder Everything Together 4
- step 6: Hanging your Antenna 5
- step 7: Congratulations 5
- Related Instructables 6
- Advertisements 6
 - Customized Instructable T-shirts 6
- Comments 6

intro: Build a DIY Recycled Antenna (To Get Free T.V!)

Due to all of the recent talk about the "DTV Switch-Over", T.V. has been something that is on my mind. I recently scrounged a perfectly good T.V. on trash day. It still amazes me that people will throw stuff like this out.

Anyway, since I got the T.V. I've been experimenting with different ways to get signal. At first I was tempted to try to run a cable wire up from the basement at my house. My parents ruled that out. Then I tried using a paper clip in the antenna in spot on the T.V. That gave too weak of a signal.

That led me to build what my dad has dubbed the "Cantenna." **It's all from materials that I got in my recycling bin or took from old projects.** If I can find this stuff, you can too.

This is great because now I have free and easy T.V. that I pay absolutely **nothing** for (except electricity).

NOTE: I'd like to apologize. Image notes aren't working for some reason. If you're having trouble with anything, just leave a comment.



step 1: Deciding on an Antenna

NOTE: YOU CAN SKIP THIS STEP UNLESS YOU'RE INTERESTED IN THE SCIENCE BEHIND THE ANTENNA. YOU CAN BUILD THE PROJECT JUST FINE WITHOUT KNOWING THIS.

Seriously. This step will probably bore most people away from the project. If you aren't interested, just skip it!

When the paper clip wasn't working as an antenna for my T.V., I seriously was thinking about going out and buying a real antenna. Then I decided I would really try hard to be green. So I hit the interwebs and started googling. I found out that one of the best types of antenna for my purpose would be a "Dipole antenna." According to wikipedia ([here](#)), "These antennas are the simplest practical antennas from a theoretical point of view." Simple is always good. I won't get into all of the details here because that's what wikipedia is for.

So, I did some more googling and discovered that I could skip all of the calculations on wikipedia, and basically just hang up two halves of the same can.

Well, if you survived that you can continue to the next step now.

*Note: Image taken from wikipedia and used under Fair Use (It has a GNU free documentation license so I think that's okay).



step 2: Materials

Except for tools, I didn't pay for very much of the project. I took the T.V. out of the trash (along with the coaxial cable), I am using a Dr. Pepper can that was going to be recycled, and the wire I used came from an old computer I took apart.

Parts:

T.V.

A Coaxial Cable

An old soft drink can

Duct Tape

Tools:

Wire cutters

Wire Strippers

Soldering Iron

Solder

Electrical Tape or Heat shrink tubing



step 3: Cut the Can In Half (and wash it out)

This step is self-explanatory. Just cut the can in half, down the middle and length-wise. Just look at the pictures if you don't understand.

I mainly used scissors, but I needed wire cutters to get through some of the thicker parts of the can.

When you have the can in two, just wash it out to get any old drink residue out of it. Be careful not to cut your hands on the edges! Also, you may want to do all of the cutting over the sink. My can dripped a lot as you can see in the picture.



step 4: Strip the Coaxial Cable

The next thing to do is strip the coaxial cable. This will make it easy to wire the cans to it.

Stripping the cable may be a little bit tricky. I just cut off one of the ends off then started stripping the insulation away. As you can see from the picture, it doesn't have to be a very clean job, you just need to be able to solidly attach the wires in the cable.



step 5: Solder Everything Together

Now you just have to solder everything together.

The first thing I did was punch one small hole in each can. This gave me something to thread the wire through and helped give a better soldered connection. I then soldered one wire to each of the cans.

Next, I soldered the wire from one can too the outside coaxial wire, and the wire from the other can to the inside coaxial wire.

Once everything was soldered I used electrical tape and hot glue to insulate everything.

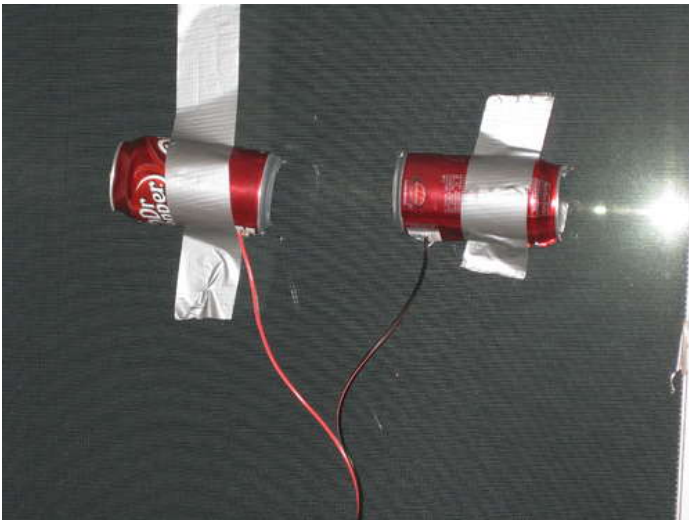


step 6: Hanging your Antenna

Now that you've finished making the antenna, all that is left to do is hang it up so it can get a signal. Two good places would be in an attic or on a window. The best place would be on your attic window. Basically someplace high up and without much blocking it from the signal. You should also hang it somewhere convenient.

Just take all three factors into consideration and decide on a good spot.

Now, duct tape to two can halves to the window. They should be lined up and a couple of inches apart.



step 7: Congratulations

Now you've finished your own CANTenna. If you used all recycled parts you probably didn't spend any money and now have free T.V. Enjoy it!

If you have any troubles, want to say anything good, or pretty much anything at all, just leave a comment. Feedback is always appreciated.

Also, if you like my 'ible you could always give it a vote in the Epilog contest.

Thank you and have fun with your Free T.V.!



Related Instructables



Comments

9 comments [Add Comment](#)



bylerfamily says:
So you can get free t.v.?Cool...

Feb 21, 2009. 12:02 PM [REPLY](#)



rippinblaise says:
ya....global broadcast
they've been doing it forever
but they're gonna stop doing it the way you can pick up on soda cans in a few months when they switch to digital
you can make a digital antenna, but you still need a converter box
they have an instructable on a digital antenna though.
but that only solves half the problem

Feb 26, 2009. 6:33 PM [REPLY](#)



lilshawn says:
FIRST FAIL

Feb 19, 2009. 6:31 PM [REPLY](#)

well...free t.v. until the DTV "takeover" in a few months.

please note, i have cable and am not affected by the DTV "takeover"

please also note that i use the word "takeover" because i feel there is no reason to change to DTV anyways.



Gjdj3 says:
I don't understand the "FAIL" that you mention.

Feb 19, 2009. 8:11 PM [REPLY](#)

There are also 2 other problems with your comment.

1st. You can still get free T.V. after the switch over. You can apply for a coupon to get a free converter box. The T.V. would still be free.

2nd. Regardless of what you may feel, there are reasons to switch over to DTV. For example, government funded agencies like Fire and Police

http://www.instructables.com/id/Build_a_DIY_Recycled_Antenna_To_Get_Free_TV/

departments need the extra analog space for their broadcasts. That's just one good reason to switch over.

Please, next time leave a constructive comment.



lilshawn says:

Feb 21, 2009. 10:11 AM [REPLY](#)

government funded agencies like Fire and Police departments need the extra analog space for their broadcasts?

most government funded agencies like Fire and Police departments have been using digital transmitters and receivers for a number of years now. although still using an "analog" frequency, the information is transmitted digitally, thus you are able to "share" the bandwidth with many different units. you can even have direct communications between units, as they all have a unique ID.

i feel the government wishes (and has done so in the past) to sell off the frequencies to the highest bidder and make money off it.

i guess i don't understand why in this day and age of computers and technology why people would watch television with a set of "rabbit ears" when you can watch tv on your computer now.



Meggeler says:

Feb 19, 2009. 5:31 PM [REPLY](#)

That is an excellent idea. In my particular area the HDTV or DTV have moved to the UHF range. If your 'normal' analog TV receives UHF you are cool. This CANTenna should work well with DTV. Not sure about the larger (longer) wave VHF channels

I wish all rather than some, DTV had to be added to the UHF spectrum but it has a shorter range. Maybe the reason I see so many complains :)



Gjdj3 says:

Feb 19, 2009. 8:11 PM [REPLY](#)

Thanks for your comment!



rhackenb says:

Feb 19, 2009. 10:23 AM [REPLY](#)

Are you using this with a digital to analog converter? Also, does it matter whether you cut the can longwise or around the middle? Finally, is the end result any better than just using two longer wires to form an actual dipole antenna without the cans?



Gjdj3 says:

Feb 19, 2009. 11:57 AM [REPLY](#)

1) No, I'm not using this with a converter yet. T.V. doesn't go out in my area until June.

2) It works better if you cut the can lengthwise.

3) The end result worked better for me than two wires did.