

[click here for tech notes on our line of Slinky Dipoles and inverted Vee Antennas](#)

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Some Of Our Technical and Non-Technical Notes On Our

Slinky Antenna ®

A Slinky® is a toy and a science class tool made from a flexible 90 turn spring coil with a diameter of 2 3/4 inches. Each Slinky coil contains approximately 67 feet of spring steel wire and weighs about 1/2 pound. When a Slinky is compressed, it is only 1/1.4" long, but it can be stretched into a helix as long as 15 feet in length without becoming deformed .

An antenna made from Slinky coils -is light weight and simple to put up and if need be out of sight. Slinky type antennas are great for improved broadcast. and, short-wave listening. Another use is for ham radio transmitting in a limited space environment or outdoors where the antenna can be many times smaller than a regular dipole, long wire, inverted vee or vertical antenna.

Slinky antennas can be made to cover any frequency range in the medium and short-wave bands for receiving or transmitting.

While we have been experimentation with slinky coils as antennas since the 1960's, we love to play with them and seem to discover something new every time we put one up or adjust the ones we have up. No doubt there is still much to be discovered!

A standard (original) Slinky coil is a quarter wave between 7 and 8 megahertz when stretched out to only 5 to 15 feet.

To tune the Slinky within that range, all you have to do is extend the coil to approximate size then expand -or -contract it to reach the desired resonance.

Close to 7-1/2 feet, a Slinky is a quarter wavelength at the upper end of the 40 meter ham, therefore a dipole antenna for 40 meters can be easily made

from a pair of original Slinkies with pretty good transmission and reception results.

Many people use our Single and Double Short-wave Slinky antennas to fit the small area inside an apartment, on a balcony or deck and even in a hotel room because they can be put up or taken down in a couple of minutes and can be transported in something as simple as a suitcase or plastic grocery bag or just carry it in your hand.

Ham Radio Dipoles above the 40 meter band can easily be made by simply using an antenna tuner which almost all hams own, but can also be easily made by simply shorting out some of the coils on the outer end of each Slinky. The length and number of coils to use depends on the height above ground and surrounding buildings, gutters, TV antennas and other large man made objects.

Another way to change the frequency is to hang a different length wire pigtail with an alligator clip on one end to the outer ends of the Slinky coils and just let them hang down and blow in the breeze.

This is especially easy for making an 75-80 dipole out of a 40 meter Slinky Dipole when you don't have an antenna tuner handy.

By adding another original Slinky coil to each end of the 40 meter dipole, and stretching the whole antenna to about 30 feet in length, you can make an 80 meter dipole that will fit in most attics and family rooms and even a basement ceiling or hallway.

Our Single Slinky and Junior Slinky antennas work extremely well for short-wave reception from .5 to 30 mhz, but you can get even better reception with a double Slinky antenna if you're really interested in short-wave listening and also listening to the HF Ham Bands.

The 2 Slinky doublet antennas have a resonant peak around 5 to 11 mhz and also around 16 to 24 mhz which covers most short-wave broadcast frequencies and the HF ham bands, but do quite well on all the other frequencies between .5 and 30 mhz too!

I use my 2-80 ham dipoles at 35 feet for my HF and 6 and 2 meter ham radio transceivers, and for short-wave and scanner listening too.

When I checked both my 2-80 dipoles with an MFJ-259B antenna analyzer they both had an SWR less than 1.5:1 from 50 mhz all the way to 180 mhz.

When using the antennas alone or with an antenna tuner, any given frequency will be resonant in two different stretches of the antenna, but the antenna will always be more efficient with the longer length.

You will notice that receive signal strengths will be about the same no matter how far you stretch out the Slinkies, but there should be a slight increase when they are both stretched out to around 15 feet each. The resonant frequency range will also be wider at longer lengths.

The single can be stretched out at any angle that fits your space at the given location and moment. You can tie a string to one end and tie the other end to a tree, post, fence, gutter, downspout, or even a 10 ft piece of 1" PVC slid down into a chain link fence post like I've done.

The dipole or doublet can be used in almost any configuration too. It can be used as a sloper, a vertical, a dipole, and inverted vee, a flat top or any combination of these configurations.

Most people don't think about using our Slinky Antennas as anything but a simple dipole, but they work equally well as a vertical with the hot side going vertical and the ground side laying on the floor or ground and an inverted vee with the center insulator suspended and the two Slinkies coming down at 45 or almost any other angle you can stretch them to fit.

The 2-80 can also be used inside with the center insulator in a corner and the Slinkies strung along the ceiling wall junction or down to the wall floor junction in the corners of the room.

In all instances, a small diameter Dacron or polyester rope or even weed eater line should be strung through the center of the entire antenna for support and to keep the heavier center from sagging.

Indoor Installation of the Slinky Ham Radio Dipole Antennas

First, we must tell you something that you have to already know unless you bought your ham license from a crooked VE!

No indoor antenna is ever going to work as well as the same antenna mounted outdoors! This is due to the antenna being inside the office, house, camper, garage, apartment, condo, grass shack, igloo or cave. After all, we don't know you or how you live, so we can't speculate!

Inside you are usually surrounded by gutters, heating ducts and electrical wire, central air and are usually sitting on top of a furnace that has hundreds of feet of metal ductwork running in all directions below (and/or above) you.

BUT, indoor antennas do have the advantage of being out of sight of your neighbors, wife and children and they are very easy to adjust or change when the weather or height would not allow you to do so if it

were outside.

In many areas of our ONCE FREE COUNTRY antennas aren't allowed at all even though you may have paid a fortune for the land your home is built on. Your neighbors control your radio hobby as much as they can get away with it.

Indoor suggestions;

A simple eye hook or one of the cup hanger hooks mounted under the shelves in your old kitchen cabinets can be screwed into the top corner of the wood molding around a window or door and the antenna strung between these hooks.

If you have a corner window, it's really easy to use it as the mounting place for the center insulator. You can then run one side of the dipole to the corner to the left and the other to the corner to the right of that window, or to a closet door, or to a plant hanging hook screwed into the ceiling at any point that fits your situation.

You can also run the legs of the dipole down to the floor of each corner and place a hook there with a string or weed eater line as a stand off insulator.

One of the best places to put any antenna indoors is in your attic. There are usually no walls at all up there and you can run your antennas all over the place with nothing to get in your way or the incoming radio signal's way. See the photos on slinkyantennas.com. Another way to mount your antenna indoors is to run the coax up a corner and bring one leg of the dipole back down the same corner and the other leg to a top corner. That's less noticeable than the inverted vee.

Under The Soffets

Your Slinky Dipole or short-wave antenna can be easily hidden by putting hooks into the soffets at the corners of the house and tying the antenna to the hooks with a long piece of heavy fishing line or weed eater line strung through the entire antenna and its center insulator.

Outdoors

You can do anything you want to outdoors, after all you're a licensed ham radio operator and you took a test to get your license (We Hope) and you've probably done this so many times before it's old hat!

Just experiment and have fun and be sure to stay clear of all power lines!

FROM ONE OF OUR ORIGINAL
1966 INSTRUCTION SHEETS

Note; ALWAYS RUN A PIECE OF ROPE THROUGH THE ENTIRE ANTENNA AND DO NOT TO LET THEM GET TANGLED UP! STRETCH TOO FAR-THEY'LL LOSE THEIR SPRING!

The Slinky Dipole

Even if you're going to stretch it out tight or close to it, you should run a rope inside the coils. Each of these antennas works better at different lengths according to their height above ground and that usually takes a little experimenting at your location. Even with my 2-40 dipole in the attic, I run string through the entire antenna so that I can adjust it in both length and spacing. My vertical in the shack has nylon string through it too. It lets me adjust the height by simply looping string around any loop of the Slinky. I can make the top half close spaced and the bottom half wide spaced. I have one Slinky stretched from the top of a windowsill over to the old entertainment center, which houses my radios etc. I have another 2-160 in the attic stretched 66 feet from one end of the house to the other. It has nylon string running all the way through it.

You can also hang any of these antennas as inverted vees in a very small space! I also made an 80 meter vertical (25 feet long) out of one 67 foot Slinky by throwing a weighted string over a tree limb and pulling up one end of the Slinky with another string tied to the bottom end and letting it hang down and tying it off before it touched the ground. I used another Slinky as a ground radial at the bottom stretched out only 5 feet and attached each one to the coax ends. The possibilities are endless it seems, and I wake up in the middle of the night very often with more ideas, but there's not enough time in the day to try them all so far. I'm hoping all of you will try new things and get back to me on what you've done.

If you're going to use the original steel Slinky and the Black Oxide Coated Slinky antennas outside for any extended length of time, we suggest you get a 97¢ can of clear spray paint from Wal-Mart, stretch the antenna out to about 10 feet, and put a couple of coats of paint on the coils. After all, they're made from steel and will rust over time if not protected from the elements.

The antennas made from Solid Brass Antennas, 24K gold plated Brass ones and the powder ones do not need to be painted.

We don't do the painting here because we would have to meet OSHA requirements and build a \$100,000 professional paint shop and the antenna price would shoot up to around \$200 each.

Below is what we found in our own installations. Your results may vary due to height and surroundings

Model 280 2 Slinkies--With 84 ft of RG8X coax and the slinky coils stretched to 15 ft each,

I can easily tune mine to a very good SWR:

6 meter band (50 MHz): better than 1:1.2 over entire band, except up to 1.6 around 50.500 MHz

- 10 meter band (28 MHz): 1:1 over entire band
- 12 meter band (24 MHz): 1:1.2 over entire band
- 15 meter band (21 MHz): 1:2 at the low end, to 1:1.5 at the high end of the band
- 17 meter band (18 MHz): 1:1 over entire band
- 20 meter band (14 MHz): 1:1.5 at band limits, 1:1 up to 100 kHz from band limits
- 30 meter band (10 MHz): 1:1.1 at the low end, to 1:1.4 at the high end of the band
- 40 meter band (7 MHz): 1:1.5 at band limits, 1:1 up to 30 kHz from band limits
- 80 meter band (3.5 MHz): 1:1 over entire band
- 160 meter band (1.8 MHz): will not tune ON THE 2-40 AND 2-80, you need the double 2-160!
- 160 4 Slinky model WHICH TUNES 2 THRU 160 WITH ANY GOOD ANTENNA TUNER.

Have fun and please let us know some of the things you've done with these Slinkys and don't forget to check out

<http://slinkyantennas.com> and e-bay store @ <http://stores.ebay.com/slinkyantennas>

CAUTION! ALWAYS STAY CLEAR OF ALL ELECTRICAL POWER LINES

Installation, height and surrounding objects are different for every user. Some users don't need a tuner and some do!

Experiment with your new Slinky Dipole and you will find that it works very well in almost all situations!

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