

# The N3FRQ Last-Minute Loop

## A quick and easy tuned-loop antenna for AM broadcast.

Rev. 0.2

Over the years I've designed and built a number to loop antennas for BCB DX. They're really pretty simple, but the casual DX'er may not have the time, materials, and skills to build one. This time lets throw something together in time for the Contest, a few days in the future. We're going to observe the ACE-KISS principle of engineering, Avoid Creeping Elegance—Keep It Simple, Stupid!



We're going to work with simple tools and amterials. You'll need:

Box—Mine is 10 x 14 inches

Variable Capacitor—about 400 pF

Knob for cap.

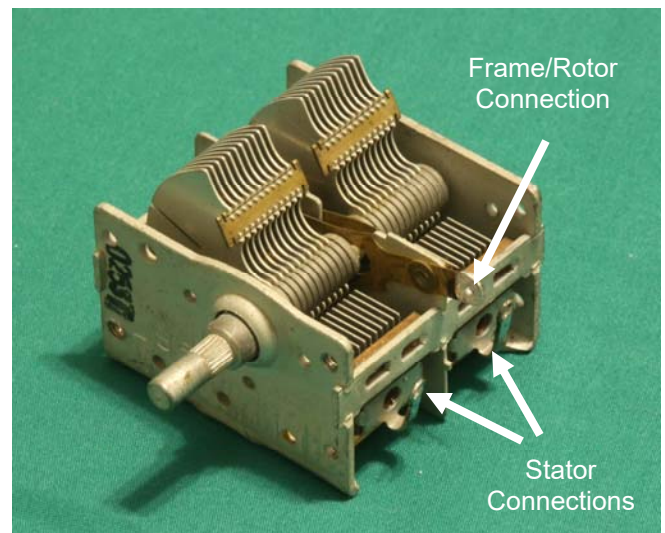
Insulated wire— about #22—about 70 feet

## Tuning Capacitor

There will be a lot of variation here, depending upon what you have in your junkbox. You'll need to identify the connections, we'll use just one section (stator) of this one.

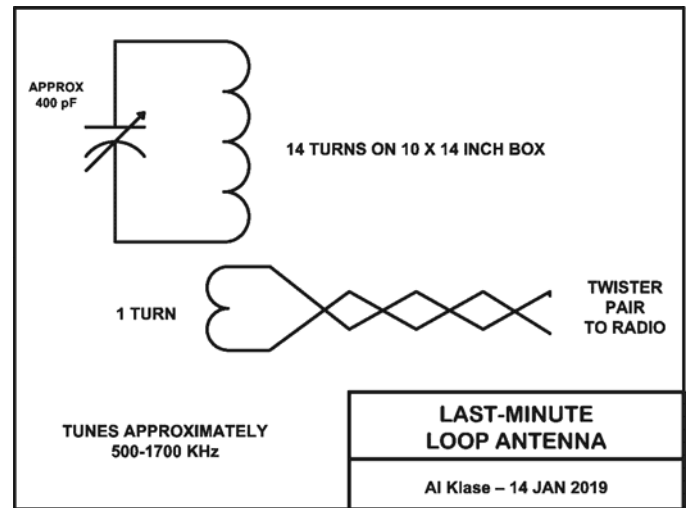
You'll also need to figure out how to mount the cap to the box. Screws and flat washers would be great, but there are a lot of potential complications.

So, I used foam mounting tape. It took two layers to clear the bumps on the cap frame. Other alternatives are hot-melt glue, or sutering it in place with wire or heavy thread, etc.





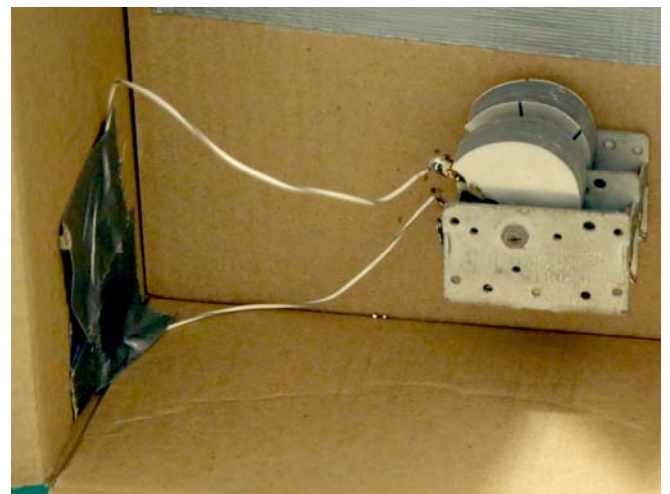
I taped down the inside box flap, and hacked a hole for the cap shaft. Then peeled off the backing on the mounting tape and stuck it to the box.



Ignore brown wire and clear tape for the moment. I took a SWAG (Silly Wild Assed Guess) and wound 14 turns around the box.

Connect the ends of this winding to the capacitor.

In retrospect, I should have just punched two holes in the box for each wire end, and brought the wire in, back out, and in to secure, rather than messing with tape.





Test the tuning range before taping up the box. Tune your portable to a weak station in the middle of the AM broadcast band, and place it near the loop. You should hear the signal strength increase when you tune the loop to the station.

Make sure you can do this at both ends of the band. If you can't reach the high end of the band, remove a turn, and retest. If you can't reach the bottom of the band, add a turn and retest.

The radio in the picture is standing on end, ferrite rod pointing upward, to reduce signal strength here in Jersey City, so the peak from the loop is more obvious.

Add the one turn coupling loop next to the main winding leaving 6-foot leads to the radio. Twinst them gently, about one turn per inch. Secure the ends with a little tape or an overhand not.

Wind some tape around the box to secure the windings. Tape the box shut.

Connect to the antenna and ground terminals of your radio, and enjoy DX listening.

This loop can also be used to improve reception on sets with internal loop antennas, by bringing it close to the radio.

