Over the past several years I've been asked one question. "Are you still building the receive loop antennas?" It is hard to believe twenty years have gone by, but to answer the question. YES, I am still building 160/80m, 80m and 160m receive loops.

Twenty years ago a friend of mine (W7AE/KY7U) (sk) and myself became interested in low band dxing. Lacking room for a beverage receiving antenna, we constructed several loop receiving antenna to see if we could find a suitable low /lower noise receiving antenna.

W7AE built the first loop for 160m following plans laid out in the ARRL Antenna Handbook. Encouraged by the results I built one for 80m. I found that with a proper pre-amp, such the Palomar series, or Armeo's PT-3 there was a significant lowering of noise, but the signals that I was unable to hear on my sloper now were quite workable using the receiving loop. For the past several years, we experimented with several different configurations, including a circular, and square loop. We found that the diamond configuration worked the best. The 80m version requires a pre-amp to bring the signal up to an acceptable quality. We've found that there is a one to two s unit difference (depending how high you set the gain on the preamp) in the lowering of noise. There have been several times that the loop has made the difference between working a DX station or not hearing him on my sloper.

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Low Band Links

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To construct the 160m loop you'll need 20ft on RG-59. Fold the RG-59 in half. On the 160m loop, it would be about 10ft from the end. On the 80m loop, it would be about 5 ft. from the end. You then mark the center, then measure 1/2 an inch on both sides. Strip away the outer cable, the braid, and then the foil covering the center conductor insulation. I then usually use heat shrink to weatherproof what I've cut away. Then cut some schedule 40 one inch pvc pipe into 3 lengths. Each should be 45 inches long. Cut one to 56 inches. That one will be the mast. Assemble the lengths you cut into a "T" configuration. Measure from the center 43 1/4 inches on the three 45inch lengths. Drill a hole large enough to pass through the RG-59. For the 80m loop, drill three holes 20 1/2 inches measured from the center of the "T". Loop the 20ft RG-59 through the holes drilled at 43 1/4 inches, then loop the 10ft length through the holes drilled at 20 1/2 inches. Install the male type "f" and weather boots on the RG-59 you just looped through the "T". Attach the 20ft cable to the 160m matching box. Also do the same with the 80m box. I find it easier to aim the 160m box with the SO-239 down. And the 80m box with the SO-239 up. That way the it will keep the harness short. Drill the mounting holes through the box, once you pull the loop tight. To tune the loops, attach each loop separately to your transceiver. DO NOT APPLY RF TO THE LOOP. This will damage the components, and probably your transceiver. Place the dial of your transceiver to the part of the band you want to use the loop on. Then adjust the the trimmer capacitor for maximum noise. Do this for both loops. Then attach the harness. The loops
should be ready for use. I usually weatherproof the boxes and frame. And I add a wood dowling to strengthen the mast. Construction of the boxes appears on the next page.
The trimmer values are aprox the vaue shown above. However I've used ARCO 468 for the 160m loop and ARCO 467 trimmers for the 80m loop, with great success. RG8X can be of random legth. I usually cut them to fit between the boxes. The lead to the receiver can be of any length.