

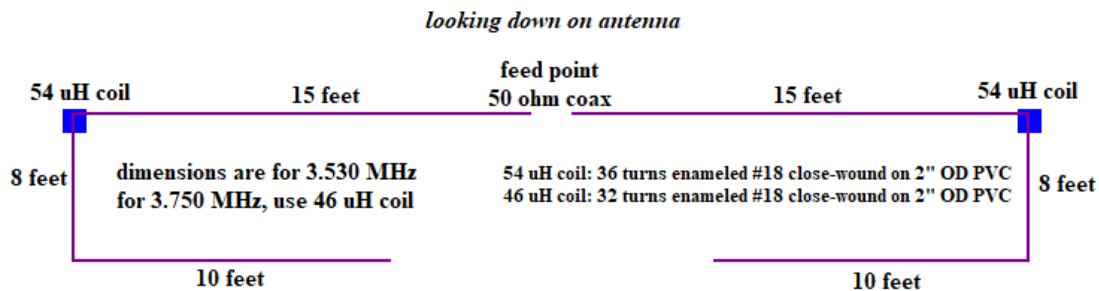
## Low-Profile Traffic Net Antennas

The FCC's Part 97 rules and regulations (the Amateur Radio Service) are designed to provide an amateur radio service having a fundamental purpose as expressed in five principles. Two of these principles are relevant to traffic handling: recognition and enhancement of the value of the amateur service to the public as a voluntary noncommercial communication service, and an expansion of the existing reservoir within the amateur radio service of trained operators.

If you're interested in this aspect of the hobby (see [nts2.arrl.org](https://www.nts2.arrl.org) for more on Traffic Handling) but it's tough to participate due to antenna issues, this article offers several suggestions for low-profile antennas for 40m (generally the longer distance area nets) and 75m and 80m (generally the NVIS section and regional nets). For this article, antenna solutions fall into three categories – small commercial antennas, using commercial parts to make an antenna or rolling your own antenna.

As for commercial antennas, there are many small antennas (loops, for example) on the market. Pay special attention to the power handling capability and the bands covered. With respect to using commercial parts, a simple attic antenna could be made with a 40m or a 75m/80m mobile antenna (like a Hamstick, for example, that is 8 feet long). Add some radials on the floor of the attic (bend around to fit) and you'll have a decent traffic handling antenna. Or put two mobile antennas back-to-back for a 16-foot horizontal dipole.

A rectangular loop of 66 feet of wire, plus two loading coils, will get you on 75m or 80m. Here's a sketch of this antenna. You can eliminate (or jumper) the loading coils and use this on 40m.



This can fit in an attic. It can be hung from twin-lead screw-in standoffs. The pattern is omnidirectional at the higher elevation angles (great for NVIS with section and regional nets), and will be down about an S-unit from a full-sized dipole. Vary the 10-foot sections for lowest SWR.

Another suggestion is to lay a full-size insulated-wire dipole on your roof in a rectangular fashion. And, visit [home.arrl.org/action/Shop/Store](https://www.home.arrl.org/action/Shop/Store) for relevant book titles with other ideas.

Finally, always run calculations to confirm being compliant with RF exposure limits. See "RF Exposure Limits for an Attic Antenna" (<https://nediv.arrl.org/limited-ham/>) and [www.arrl.org/rf-exposure-calculator](https://www.arrl.org/rf-exposure-calculator).