

SPRING 2023 ANTENNA TUNE-UP CLINIC

WHAT Once a ham has their antenna working at some level, they often don't bother to see how much better it can perform with a few improvements. Even if they wanted to, they usually don't have the instruments or knowledge to do this themselves. This is your chance to see how much more performance you can squeeze out of your antenna with a few key changes. We'll do some basic tests on your antenna system and then make some recommendations. We will even have some devices you can try out on your antenna on the spot, and re-test to see if it helped. Then you'll know what to buy and how to install it.

This is a follow-up event from the Antenna Shootout where we do a live test of your antenna's HF transmission and reception performance. By participating in the Antenna Tune-up Clinic, you should be able to boost your antenna's performance in time for Field Day 2023!

WHY The objective is to see exactly how much we might be able to improve your antenna, and then what you can do to make those changes yourself later on.

WHO Anyone interested in testing their antennas or just hanging out to learn about antennas and ham radio are welcome. The idea is to try out different antenna approaches and share what is learned. This invite is going out to all Las Vegas area ham clubs and groups so we can have a very lively turnout. We especially welcome newbies and those simply interested in seeing different antennas in action.

COST There is NO COST to participate. Just check-in at the beginning so we can know where to email the "before & after" results of your antenna tests.

WHEN Saturday morning May 20th. See the timetable below for event timing.

WHERE The clinic will be held on the south edge of AnSan Sister City Park (right behind the Search & Rescue building off Ducharme & Buffalo). There are nice picnic tables under trees right next to street parking (on Cherry River Dr.) with open grass next to it. We'll be setting up the rig on the table in the middle of the south edge of the park.

SETUP The Las Vegas City Parks prohibit driving anything into the ground to prevent puncture of irrigation lines. Use wide bases and weights for tripods and masts. Be sure to mark any ground radials and guy wires with bright colored tape or cloth. There is no height restriction but the trees are short.

We'll set up a 100W rig with an internal tuner on the table with an inline power meter going into a multi-coax switching system. The switch will select each antenna, one at a time, which eliminates possible interference. You'll connect your coax back to the switch (SO-239 sockets) at the rig.

TESTING

- 1) SWR scan (at the antenna feed point) & capture (S1P file) across the entire HF spectrum (3-30)
- 2) Tune the rig to the antenna for the current HF band (for each band the antenna is capable of)
- 3) Measure RF power at the rig end of your coax
- 4) Check for RF leakage (common-mode current) on your coax with RF Field Strength Meter
- 5) Make appropriate (temporary) corrections
- 6) Second SWR scan and S1P file capture to see if improvements have been made
- 7) Make recommendations for more permanent corrections

SPRING 2023 ANTENNA TUNE-UP CLINIC

FEEDBACK We'll give you specific things to try, and have samples of some devices we'll use during the event to actually see if they help during the re-test phase. That includes different types of BalUns, UnUns, Common-Mode Chokes (CMCs), antenna tuners and ground tuners.

BRING Bring EVERYTHING you think you will need to set up your antenna system and connect it to the central rig. That includes different lengths of coax, as we can't predict how far out you'll have to set up.

WEATHER It might be chilly in the morning and bright during the day, so dress and protect yourself accordingly. You might want to bring gloves, hat, sunglasses, warm drinks and snacks.

TIMETABLE

9am Check-ins, operator briefing and setup
10am Antenna characterization starts
11am Feedback and Recommendations session
12pm Re-testing of adjusted antennas
1pm Tear-down and group lunch nearby where results are presented

CAPACITY: We can spread out the feed lines only so far, so we'll have to limit the number of antennas that can be set up. We will have the ability to test up to 12 antennas total in concentric circles. You may set up ONE ANTENNA until 10am, and if we still have open slots, you can then set up a second antenna until all those are taken, and so on. We will start testing at 11am. So FIRST COME, FIRST SERVED!

LOGGING: RBN logs all signals received so we can download it to a CSV file later. We will also log the strength of the received signals from HF beacons from every antenna on every band it is capable of operating on. The results will be compiled and distributed to all who check in at the event.

SCORING: For each CW call on each antenna and on each band we will average out the product of signal strength (dB) times the distance (miles) to account for different number of "spotters" hearing the antenna. Antennas will not be expected to operate on all bands.

RSVP TO:

Rudi Wiedemann – K7RAW (The Antenna Whisperer)
775-287-7756 (M) [leave a VM if no answer] rudi@wiedemann.cc