



TranSend



Newsletter of the Northwest Oregon Traffic and Training Net

Summer 2021

Edited by Debbie W0DSF Newsletter Editor

A Field Day Ground Plane Antenna for the 70cm Band You Can Build in One Hour

This was one of my 2001 Field Day projects! The design is straight out of the ARRL Antenna Book and can be built in very short order. Use it in the field or as a base station antenna. It is so small that it is easy to transport and set up anywhere! Perfect for hitting the 440MhzWORC repeaters!



Figure 1: 442 MHz Ground Plane Antenna Here is a list of materials:

One SO-239 chassis mount socket (or female N-type socket, such as Amphenol 082-97-RFX)



OFFICIAL NTS LOGO
c. ARRL

Four 4-40x 3/8" or 1/2" brass screws

Four 4-40 brass nuts

One 1/16" x 36" brazing rod

One 1/8" brazing rod piece, 7" long

A length of coax to run from the antenna to your transceiver or HT.

Get the brazing rods from a friendly farmer or body shop (or get a few at Harbor Freight)

For the coax, you have a lot of choices, but for field use with a hand held transceiver, 25' of LMR-195UF with a PL-259 plug at one end and a female SMA connector at the other end to connect to the HT would be ideal, but Chinese KMR-240 is cheaper and will do the job (find on Amazon). The connector to your transceiver just depends on your rig. Some have SO-239, some SMA (Subminiature version A), others use BNC (Bayonet Neill-Councilman). Solder the 1/8" inch brazing rod to the center connector on the SO-239. Cut the 1/16" brazing rod into four 9" pieces, then wrap one end of each piece around a small drill bit (7/64" is about right) to form a tight loop. Trim the loop so that the end does not overlap the rest of the rod and forms a tight eyelet for a 4-40 screw. Bend each rod just beyond the eyelet at a 45-degree angle (bending raises the impedance of the antenna from



Field Day (Cont.)

about 23 ohms to 50 ohms to match the coax and transceiver output).

Figure 2: Loop and bend



with 4-40 brass screw
Mount the radials to the SO-239
as shown below:



Figure 3: Radials installed. LMR-195 with PL-259 UHF connectors for my FTM-400DX

Cut the radials to about 7-1/2". If you have a Mini VNA (Vector Network Analyzer), trim the radials until the SWR across the 70cm band broadens. Trim the radiator to get the SWR dip at your desired operating frequency.

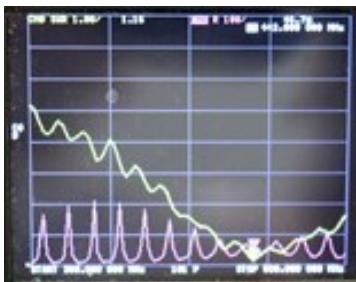


Figure 4: Note SWR of 1.16 and resistance of 46.7 ohms at 442 Mhz.

Sweep is from 300 MHz to 500 MHz

If you don't have a VNA, then you can trim the radials and radiator using an SWR meter for optimization (it just takes more patience). Otherwise, just trim the radials to about 6-3/4" and trim the vertical radiator to 6-3/8" for operation at about 442MHz.

The antenna can be left "free hanging" with the coax running through a 1" PVC pipe – great for the field! You are done! Get on the air and get some QSOs!

73! Ed Wilson W1GTN

Alternate Net Controls Needed

The NTTN is in need of alternate net control stations. If you can hear, write and repeat what you have written, you can be a net control.

What is an alternate net control? It is a person who can do a net when the regular net control is unavailable. Most of the time the alternate will know in advance of the date that they are needed.

HOW TO BE A GOOD AND EFFECTIVE NET CONTROL OPERATOR

Keep in mind that you are in control of the net, so don't let people take over your net. Maintain your cool, but be firm and keep control of the net. Run the net, don't let the net run you.

You can lead by example by using proper ITU phonetics when you are identifying with your callsign.

Bear in mind that we are Net Control Stations or Operators. Never identify yourself as a Net Controller; we are not directing air traffic.

Always speak slowly and clearly. Listen, listen, and listen. When you listen carefully, you will be able to pick out a piece of callsign, a name or location out of a pileup. This will help you sort out the mix. Example: There is a pileup, but you have sorted things out like this: I heard a callsign beginning with KU, will that station please check in now? Recognize that station. I also heard a station in Boring, will that station please check in now? Recognize that station. I believe I heard a person named Mike, will you please check in now? Recognize that station. You have unraveled the mess.



NCS (Cont.)

If you think you have a callsign, repeat it back. There is no need to ask if it is correct. People will be more than happy to come back with a correction if it isn't right.

You are not a DJ/Radio Talk Show Host, be yourself. Speak concisely and with clarity.

Always make a note if a person checks into your net with traffic. If there is traffic to be handled on your net, acknowledge the station with traffic. If there is no one else with traffic, ask the person to list the traffic. If it is going to a regular net participant, you may have the person call their station to deliver their traffic. If it is not going to a regular net participant, ask if anybody would like to pick up the traffic.

If a person checks in with a QST, make a note of it. Always ask the person if it can wait until after roll call. Occasionally, someone will need to be out early or it might be information pertinent to the net and need to be given priority.

If you have Echolink stations checking into the net, allow additional time for the node to catch up. It takes a full 2 seconds of dead air time to allow it to key up. Have patience. If you are well into the net and hear an Echolink station connect, stop your check-ins and pick up the Echolink station. After you have the

Echolink station checked in, resume your normal check-ins where you left off. Treat those on Echolink like stations needing to secure early, Echolink can automatically disconnect at any given time on its own since it is an internet connection. You might say, "George, you are free to secure at any time, since you are on Echolink."

Remember to identify your station every 10 minutes as required by Part 97.

Read the net script as it is written. Do not adlib. There is information that your net manager/supervisor wants out.

For new net control operators and alternate net controls, follow along with the experienced net control operators. Copy down call signs. This will help you when you are a net control station. If you are on other nets, copy down call signs.

If you are a net control station, let the net manager, assistant net manager or the net secretary know when you need an alternate net control to replace you. It is their responsibility to make sure the net is covered. It is customary for those in charge of the net to try to make sure that all alternate net controls get to do a net, so they can keep their skills sharp.

Be sure to remain courteous. When you are a net control operator, you can become easily frustrated; try not to let it show through in your voice.

Don't get distracted from a callsign by getting hung up on names. Names are nice, but not important. Concentrate on the callsign and getting it correct. The more you hear a callsign, the easier it will be for you to recognize. This is the beginning of being able to associate a voice with a callsign. (You may have heard someone say, "Relay off of voice recognition.")

If you have questions, don't be afraid to ask. The only dumb question is the one that isn't asked. If you don't want to ask on the air, email the net manager, assistant, or another net control station. Seek an answer.

If you are interested in being a net control station, email the net manager, Kevin Fox at: ku0l@arrl.net

If you have questions, you can ask them on the air, since the NTTN is a training net. The questions may help others, as well as yourself. You may also address questions in an email to Kevin.

Keep in mind that you will most likely know in advance if an alternate is needed. However, there are a few exceptions, like an emergency or a forgotten appointment that makes the regular net control unavailable. Under a few circumstances, you will hear someone asking for an alternate net control to pick up the net.



Solving the Problem of Antennas in a Homeowners Association Environment

As far as HOAs go, I live in a great one. My modest house is in a small neighborhood of single-family homes, and our HOA exists solely to keep up the common areas and maintain a consistent curb appeal to protect resale values. My apologies in advance if you live in a condominium or similar complex, because your rules will be stricter than mine. Your mileage may vary.

My HOA boilerplate CC&Rs from 1977 cover the usual -- no couches on the porch, no bubblegum pink house paint, no cars on the lawn, all things for which I am constantly grateful. However, they also ban visual affronts such as antennas or even parking one's car in the driveway. It's these I take issue with.

When I was elected HOA president last year, I was able to read through the board archives going back to the very beginning. It was interesting to see how the boards over time responded to members who wanted to install satellite television dishes in the 1990s, and then solar panels in the early 2000s. The board decided in 1996 to allow 18" dishes if their placement was approved by the architectural review team. Then in 2013, the CC&Rs were amended

to permit solar panels, also needing architectural review for placement and visual impact. The point I'm trying to make here is that the rules can and do change with the times. But sometimes they need a nudge from a persistent homeowner.

A few months ago I planted the seed with my board, explaining the 1996 FCC Telecommunications Act and how it was refined in 2000 to cover antennas that receive and transmit fixed wireless signals. It was a casual comment to let them know we can no longer ban antennas outright; our approach now should be to require discreet placement. No objections, so far so good, and I left it there.

Earlier this month I stuck a modest 8' vertical on my roof and came out to my neighborhood as a proud openly-ham W7CBK. One neighbor joked "nice lightning rod!" The others had no problem with it either so next I approached our architectural review trio. #1 said "no comment, don't ask me about it again." #2 said the vertical was very discreet and he had no problem with it. #3 applauded me for learning how to send voice, data, and even text messages during an EmComm situation. But said not to bring it up again and don't push it unless someone complains. Well, it's not a yes, but it also isn't a no, so we're leaving it at don't-ask-don't-tell. And I can live with that.

My neighbor on one side has solar panels, the other side driveways has a DirectTV dish, I have a vertical that gets me on the air, and we all park in our driveways.

EDITOR'S NOTE

If you would like to contribute, or if you would like to see an article on a certain subject, I can be reached in several ways:

E-mail w0dsf@arrl.net

Winlink: W0DSF

On the air

The net meets daily at 6:05 pm local time on the repeaters of the Western Oregon Radio Club. The frequencies are as follows:

145.27, 145.43, 146.80,

442.875, 441.825 and

443.150 all with a pl of 107.2

These are all linked up during the net, so use the repeater that works best for you.

I welcome all comments, good or bad (hopefully I won't get too many of the latter. Hi)

Let's hear from you!



THE GREAT SEPTIC TANK ADVENTURE

OR do you know where your ---- is

After much "reminding" of the septic tank needing to be pumped, both by my wife and needing to use the "super plunger" a couple times a week. I relented and called the local "honey pumper truck" company and was given a date and time that they would arrive. It was a week out and I felt secure in the fact, that although it had been about 1995 since last it had been pumped, I remembered where it was.

So, I dilly dallied around for the first couple of days and then went out to uncover the lid. Did I mention that I do not water my grass? Any way I started to attempt to dig a hole in my yard, that had about the same hardness level as a asphalt driveway, and broke my shovel handle. A mental picture for you--to walk on anything not level and smooth, I need my cane, so I have my cane in my left hand and the shovel in my right. I placed the shove brace with my cane for balance and step on the shovel with my right foot. Then gingerly step on it with me left foot. So here I am perched upon the shovel and keeping my balance with my cane. The shovel penetrates the "earth" about one inch and stops. So, I begin to rock right and left to force it into the ground. I start gently and then get more forceful. Shortly after, as I gathered myself and my belongings from our assorted positions on the ground, I realized the handle was no longer attached to the shovel head and although my cellphone had made a beautiful landing on the patio, after flying out of my shirt pocket, the LCD screen no longer worked.

So off to the store to get a new shovel. I also got a post hole digger (two handle clam blade style) and made sure the shovel had a composite NON BRAKABLE handle. I also dropped my phone off for repair HI HI

I came home and ground a sharper edge on both tools and found a 1/8-inch hardened steel rod to use as a prod. It was 3 foot long and I bent 6inches of it over 90degrees for a handle.

Armed anew I set forth in my search. I would first use the post hole digger to get a 1-foot-deep hole as a starting spot and then the shovel to dig a trench from there, using the cane shovel sway back and forth method, well let's just sat that the tank was not where I thought it was! I was dealing with an area 20feet wide and 75feet long, with the 25 being north and south and the other east of where I started. On the western edge is a fence with a 12foot gats hinged at the north side of the property. My first trench started at the southern post for that gate and ended up running from the patio next to the house, north to 4feet from the hinged post.

I stopped there, because all data I could find, used my probe to check deeper than I had dug (about 2 to 2 1/2 feet). that the tank was 1,500 gallons and measured either 10x10 or 5 1/2x8 feet.

All along I had stopped at places to hard to dig and filled the hole with water. At this point I changed tactics and would dig as far as I could with the post hole digger and when hitting hard pan fill the hole with water. After 6 to 8 holes, it was time to get out of the heat ad hydrate/rest in the house while the water soaked in and softened the ground. Dig soak wet rest poke/probe--Repeat for 3 days.

I then enlisted aid from a friend familiar with metal detectors and we researched to find the best detector for our purpose and a rental company that had one. Armed with our modern tecno-wonder we started our search. We found 2 water lines an old mic off of a kids battery powered jeep-pieces of wire-some knives and forks-and a realization that nails used to be cheap and that guys building frame works for pouring concrete patios like candy bars. I sat this because all along the patio we found lots of nails and foil wrappers 1 to 1 1/2 feet down.NO TANK FOUND

I forgot to mention that I had gone to the county records dept. to get a property plot map, it only showed property lines, but after explaining what I was looking for, I was directed to the HEALTH DEPT. records office. They found a file that contained septic info and e-mailed it to me. I rushed home to get the e-mail--

That was about noon and at 4:30 I rushed back to the office to ask why I had not received it--got there at 4:50 and even though the door sign said it closed at 5:00--



Septic (Cont.)

door was locked and no amount of door rattling helped. So I was there again at 8AM morning next. A different gal came to the window to inquire of my needs. As soon as I started to explain, the gal from the day before popped up and said, "YOUR E_MAIL BOUNCED", since my address started with my call sign, I had given it to her both in phonetics and English, for her to transcribe. This time I had it printed in a bold font size 18 and magnified to the point, where I had to use landscape to keep it on one line. I handed it to her, and she said "OOOH THOSE ARE Z's NOT 2's. She sent them anew and printed out the page with the map for free and handed it to me. I did not to ruin the surprise, so I did not look at it until I got back home and in the proper area. I first notice that the map was dated 2006. Then that it showed the leech field and distribution box locations and then had dotted lines heading towards the area of the tank, which terminated, about even with the eastern edge of the house, where there was a little circle drawn with a S in the center of it. Upon opening my newly received e-mail and perusing its full content. I realized it was a drawing to show that my new pole barn/shop would not interfere with the septic leech fields so that building permit could be issued. Who do suppose the contractor got the info from to draw the plans?? You got it YOURS TRULY!

OK it's the evening before the pump truck is to arrive and I am worn out mentally and physically, so I have

a stiff rum and Dr. Pepper, no Pepsi or Coke in the house, only 2 fingers of rum, but I do admit that the fingers were spread apart as far as they would go and it was a LARGE tumbler. I slept well right up till 5am and then popped out of bed into my clothes right after I pushed the start button on the coffee pot which I had readied before going to bed. About the time I got my shoes on the pot had just enough in it for 1/2 of my large cup, which I sipped on whilst it produce enough to fill it(it being my cup). Then out to locate the tank before 8am. NO LUCK--called the pump co, at 7:30 to inform them of situation and was informed that they were able to locate for me. First two guys show up with pump truck, right on time. After listing to run down of what I knew and tried, they had a good laugh and got a fancy (tile prod) from their truck. It was a fancy heavy-duty rod for probing into the ground in search of tanks tile lines or anything solid. Theirs was equipped not only with a T handle but with a sliding wight that enabled them to slam hammer it both down and up after it got stuck in my grounds hard pan. After about 45minutes they called in the BIG GUNS. The next 2 guys shoed up with fancy toys.

So now, after being appraised of the situation, the 2 new arrivals begin looking for the cleanout. After 10 minutes or so we concluded that they didn't believe cleanouts were needed in 1941 (when the house was built). So we pulled a toilet, to enable the use of the first toy. A long snake that had a camera/signal sending device threaded to the end of it. When fed down the pipe to the tank, it could let them see when they were in the tank and condition of pipe on its trip 2 send a signal that their receiver could use to locate tank and discern its depth. Great idea but it got stuck under the house and would go no further. Next, they pulled a ball looking thing out of another box. The ball was to be flushed down the pipe and fulfilled the same duties except no camera. After much discussing it was decided that it also would get stuck and with no wall to pull it back, would only cause a complete



blockage of the pipe, We decided not to employ it. So with a jolly "call us when you find the tank to reschedule the pump "They all departed.

Time for a new approach! No more nilly willy here then there guess work. I had another two-finger refreshment and planned my full-on assault; I used the military 6P approach. First thing the next morning I went shopping and since no one would sell me C4 or TNT, I got a rotating sprinkler-A 3/16 X 4foot flexible drill bit-And no tile prods to be had-so I got a 3/8 4-foot cold rolled rod. Once bask home I deployed the sprinkler and built my prod with part of my broken shovel shaft for the handle. I then called one of our nieces, to see if she and her hubby, would have a day off soon and would help. It was arranged for 8am next morn. I spent the rest of the day moving the sprinkler around and making sure all other devices were ready and batteries charged.

Now its early morning of TD Day (tank discovery) and the sun is rising on the battlefield, I have begun to sprinkle anew, since the ground is still akin to concrete. I am also sipping coffee and watching for ground movement (indication of tank sneaking from one location to another)

I shut off sprinkler at 7:30 and battle group of 2 arrives on time. I lay out the battle plan-which is a 1-foot grid square search, starting on the eastern front in the southern quadrant with an extra 45-degree plunge under the patio, just to be sure the tank hasn't hidden under it. I believe it was I believe it was a little guy

on my right shoulder turned on a siren of sorts and started yelling "battle stations battle stations-prepare to launch depth charges 'that BROUGHT A SMILE TO MY FACE---bur then this little guy on my left shoulder rang his Claxton and yelled dive dive, dive. So the battle was on!

SO WE WOULD DRILL A HOLE 3 OR NORE FEET DEEP AND THEN USE YHE PROD IF ANYTHING NEEDED CLARIFICATION. We were looking for a THUNK sound and got lots of THUD sounds instead (hardpan).WE proceeded on that line and drilled/prodded every foot until reaching the fence line on the north edge--then one foot west and back across, sounds easy doesn't it. But every couple of holes we had to pull out the drill and clean out the hard pan plugged drill flukes by tapping prying and scrapping with a small screwdriver. None of the water had penetrated deeper than 6inches.We continued and when stopping for water or rest breaks would leave the drill/prod in place as a marker. All was slow going but mostly uneventful until about 10 feet from the western front and 5feet from the southern quadrant. The drill encountered something different in the middle of a hard pan layer about 2feet down. So out came the drill and a dark brown geyser about 1/2 inch high followed it. My first thought was YA we at least found the mainline between house and tank followed by, how much work is it going to take to clean this up? About through I noticed the geyser was getting taller and was starting to look

like tap water. Then it dawned on me that we had hit a water line! So 2 hours later, the line was repaired and we had yet another 10 foot trench in the yard. Back to the grid pattern search. Finally, we had reached the western front and the location of my first trench next to the fence/gate. In my no stone left unturned approach we continued drilling (trench included), well about 1-foot to the north of said trench and about 12 to 16 inches down, we hit a solid object with the drill. Then it was time for the probe!--thunk thunk went the probe!!Net we used the 1 foot grid approach, to find and mark the edges/corners of the solid object (you know, the one that was where I said it could not be and found it to be 3x9feet.Upon digging on the eastern edge we found a concrete tank. Armed with my research I was looking for the cleanout lid, that was supposed to be within 1 foot of an edge, so we unearthed that far to the west from the eastern edge.NO LID--We then did likewise along the southern edge--heading west. About 1 1/2 feet along the course, we discovered a seam in the tank and followed the seam westward to another seam going north. By following the seam, which had 2 more 90degree turns, we ended back at our starting point. I didn't want to make any rasher decisions, so waited until all the earth had been removed, and a square object with a metal handle had been uncovered, that I declared" DR. Livingston I presume, "Yes I named the lid and gave it a Doctorate of Hideolgy degree.



Septic (Cont.)

A few factoids I had I continued my first trench 6 more inches-- I would have hit the tank 2 when using the metal detector--we used blue paint to mark interesting spots --and there was one directly over the metal handle. I ignored both because the tank was too large to fit in that space!! That would have been true had it been a 1500gal tank, as I remembered! But the 1000gal one fits nicely in that space.

Lessons learned here can be applied to almost anything--never let what you "know" stop you from finding what really is and the old military 6P's work (proper planning prevents piss poor performance)

Hal KC7ZZB

EDITOR'S NOTE

THANK YOU to all who have contributed to the Transend current and passed versions.

Emomm and Punlic Servic Tips

Traffic handling goes hand in hand with emergency and public service communications. How we talk are the same, clear, concise, to the point and slowly. So, with that thought in mind I am going to give you some tips on equipment for EMCOM and public service events.

Radios and antennas are the main stay of what we need. Handheld radios are nice since they are the least expensive radio, we can buy but have many limitations. Small batteries: if this is going to be your primary radio, buy a few extra batteries, I recommend at least 3. The other big issue is duty cycle. This is how much transmitting to how much receiving the radio is good for. Handhelds will heat up the more you use it (this can be to the point of making it hard to hold). The antenna, all the mount on the radio antennas is very lossy, even the aftermarket ones. If you plan on using a handheld, get a mobile antenna and adapter cable for your radio. Last drawback is power output. They advertise 5watt or 8 watts (which heat up very quickly) but if you check the output, you will find . out quickly with a full battery that they are not near what was advertised and the power drops as the battery level drops battery level drops

So, I recommend buying a mobile radio and antenna. This will get you more bang for you buck and in the long run you will be happier. For the radio there are some inexpensive 25-watt dual band radios on the market, you don't need all the bells and whistles that the high dollar radios have (various digital voice and things like cross band repeating are cool, but not needed).

My 1st mobile radio some 37 years ago was a used ICOM that I got at a hamfest for \$25.00 and it last me 10+ years.

I know that the pandemic has put the brakes on hamfests but check them out or ask some ELMER if they have some radios they would like to part with.

Next newsletter I will talk about mobile antennas, so you understand what you are looking at.

73

Kevin KU0L