



The KLARION

Newsletter of the Keuka Lake Amateur Radio Association
Summer 2015

FCC Enforcement Bureau Field Resources Will Shrink

According to an internal FCC Enforcement Bureau (EB) memorandum, the Bureau plans to ask the full Commission to cut two-thirds of its field offices and eliminate nearly one-half of its field agents. At the same time, the Bureau would develop a so-called “Tiger Team” of field agents as a flexible strike force it could deploy as needed. In the March 10 memorandum to Enforcement Bureau field staff — obtained by ARRL and others — EB Chief Travis LeBlanc and FCC Managing Director Jon Wilkins cited the need to take “a fresh look” at the Bureau’s 20-year-old operating model in light of technology changes and tighter budgets. ARRL CEO David Sumner, K1ZZ, expressed dismay at the proposals.

“The ARRL is concerned that there is already no sense of urgency in the FCC’s enforcement activities targeting spectrum polluters, such as utilities with noisy power lines, or the few violators in our own ranks,” Sumner said. “It is troubling to see recommendations for such drastic reductions in the Commission’s geographic footprint and the number of field agents at a time when the Field staff is facing ever-increasing challenges.”

The EB and the Office of the Managing Director initiated an effort last fall to modernize the Bureau’s field operations, the memorandum said.

“This project sought to ensure that the Field’s structure, operations, expenses, and equipment were properly aligned with the Commission’s overall mission and resources,” LeBlanc and Wilkins said. The Commission hired outside consultants to analyze the EB’s current “operating model,” gathering input from employees, outside experts, and internal and external stakeholders.

Under its “Phase I” field modernization scheme, the Bureau will recommend to the full Commission that it adjust the primary focus of its reduced field office complement to RF spectrum enforcement. The EB will also recommend “adjusting” the number of field agents from 63 to 33. To compensate, part of that field staff complement would include what the EB called a “Tiger Team” of agents “flexible enough to support other high-priority initiatives.” Under the plan, all field agents would have to have electrical engineering backgrounds “to support the primary focus on RF spectrum enforcement.” The Bureau will also propose standardizing its investigatory and sanctioning processes.

Management would not be spared. Under the recommendations, the EB field organization chart would shrink from 21 to 5 director positions, and from 10 to 3 administrative support positions.

Under the proposals, the field office would reduce its “geographic footprint,” from 24 sites to 8 sites and would “pre-position” equipment in several other strategic locations. Offices slated to stay under the plan would be New York City; Columbia, Maryland — the site of the Bureau’s HF Direction-Finding Center; Chicago; Atlanta; Miami; Dallas; Los Angeles, and San Francisco. The EB would deploy equipment in or near several other cities, initially to include Kansas City, Salt Lake City, Phoenix, Seattle, San Juan, Anchorage, Honolulu, and Billings, Montana.

Part of the plan calls for the EB to establish “beneficial partnerships between the Field and other organizations that may support increasing our effectiveness.”

During a March 4 US House Subcommittee on Communications and Technology Committee hearing on the FCC’s FY2016 budget, Rep Michael Pompeo (R-KS) pressed Wilkins on whether the FCC intended to close any field offices and eliminate any personnel. Wilkins attempted to dodge offering a direct answer, and hedged on whether any cuts were planned. He also said the Bureau had not yet received a final report from the outside consultant it had worked with. US Rep Greg Walden, W7EQI (R-OR), chairs the subcommittee.

The **Slingshot Antenna**

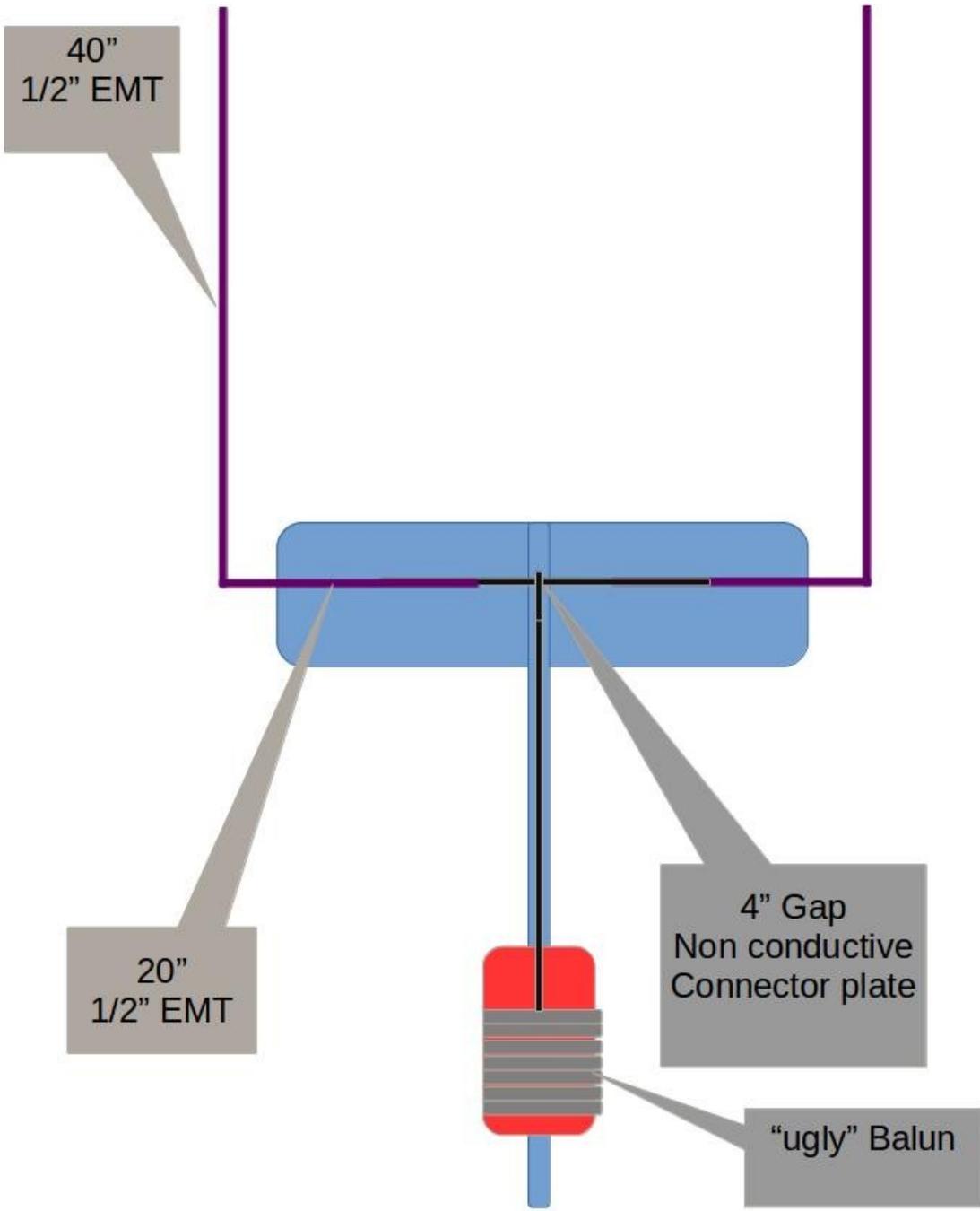
This is an old one! This was in QST back in 1976, but it's still a great antenna. See the drawing; this is basically two $\frac{3}{4}$ wave sections of electro metallic tubing attached to a non – conductive center mounting plate.

The measurements given will work well for the upper end of the FM portion of the 2 meter band (say 146 – 148 MHz).

My antenna modeling software shows that the maximum signal is off both ends (left and right, as drawn) and is roughly a figure eight. This is basically a beam antenna, so you will need to turn it in the proper direction (try an “armstrong” rotator ... a pipe wrench on the mast!)

I'd use an “ugly” balun rather than a direct connection to the coax ... 18 ' of coax wrapped on a 4” form works well. 4” DWV sewer pipe works well for the form, but an empty three liter soda bottle will work O.K. as well. You can secure the the coils to the form with either stretchy tape or with zip ties.

Give it a try, it'll do you well.



Words (or Phrases) You Don't Hear Anymore

Supper – in our house this was an evening meal. Dinner, on the other hand, was always a noon meal. Supper was quite often cold (particularly in summer, when no one wanted to heat up the kitchen cooking). Cold Campbells Pork and Beans and Jello Salad (Lime Jello with carrots and other shredded vegetables mixed in. Usually eaten with a large splop of Miracle Whip on top)

That's my smallpox vaccine scar – remember that little round scar on your upper arm?

I've finished eating. May I please be excused? - if I said “I'm done” my grandmother always asked “what kind of cookie are you”? People were finished, cookies were done!

Fill the icecube trays. We have company coming tonight. - remember when refrigerators had ice cube trays?

Don't forget to hang the speaker up on the rack before driving away. - remember the drive in? Three kids in the back of the station wagon with a huge can of pop corn we brought from home.

Pinky Swear – two people locking pinkies to swear silence to a shared secret. It didn't get much more serious than this.

Fill 'er up and check the oil – and you got Green Stamps, free maps, and a clean windshield too!

Go hang the clothes on the line – and don't forget to put the stretchers in the legs of your father's work pants! Anybody else's family use starch on their **dungarees**? You could hurt yourself on the creases!

I need to go on the roof and turn the antenna for better reception – yup, we really did this. I also had a TV antenna on a mast with a handle on it so it was easier to turn!

Galoshes – I not only had a pair of these, but I buckled all four buckles! These were sometimes called **Arctics** ... as in, “I got a new pair of four buckle Arctics for Christmas.”

We got our Sabin vaccine today – that was a good one. Oral polio vaccine, and it came on a sugar cube!

High School dress code – girls hemlines which couldn't be above the middle of their knee, and boys could not wear dungarees to school (didn't matter if they were starched!)

Good Night and may God Bless – Red Skelton's closing at the end of every show.

My watch stopped. I forgot to wind it this morning – yup, we really did ... at least once a day.

The mumps make you look like a chipmonk! - They did too! I may be a member of the last generation to actually see what the mumps look like. I remember trying to eat a piece of maple sugar candy when I had the mumps ... baaaad mistake!

Kids, get under your desks and cover the back of your head with your hands – we had a **film strip** which went with this called “Duck and Cover” ... it's a wonder any of us came out right!

What is a **Trunked Radio System?**

A trunked radio system (or a trunking radio system) is a fairly complex computer controlled radio system. Basically, this type of system allows the sharing of relatively few radio frequencies among a large group of users.

In essence, a trunked radio system is a packet switching computer* network. It works something like this:

1. A users radio sends data packets to a computer, operating on a dedicated frequency (called a control channel), to speak with a specific talk-group (for example a fire department).
2. The control channel sends a digital signal to all radios monitoring that talkgroup, instructing the radios to automatically switch to the frequency indicated by the system to monitor the transmission.
3. After the user is done speaking, the users' radio returns to monitoring the control channel for additional transmissions.

You could think of this as being like a large multi-line telephone switchboard. It really doesn't matter what line number you call on, the call “rolls” to the next available number. This arrangement allows multiple groups of users to share a relatively small number of actual frequencies without hearing each other.

To the user, a trunked radio looks just like an “ordinary” radio. It has a “channel knob” to select the “channel” the user wishes to use. In reality, the “channel knob” does not change the channel; it refers to the internal programming, which causes a talkgroup affiliation to be transmitted on the control channel.

Why do you, as a licensed radio amateur, care about this? Many of us serve as emergency communicators, and the trunked radio system is the wave of the future. If you serve inside an emergency operations center, at some point, you will come face to face with a trunked system.

It will probably be in your favor to understand how it works ... and now you do.

Incidentally, amateurs also use this type of technology. This is what the APCO 25 repeaters were (and are) all about, and there are still some of those around. Crack open your repeater directory!

*Packet switching is really what makes the internet work. Discrete bits of data (packets) are transmitted from the originators end and then reassembled on the users end to create what you see on your computer monitor.

Solar Powered Field Day 2000

From the October / November 2000 edition of “Home Power”:

On the last weekend of June, 2000 KLARA and Four Winds Renewable Energy Systems teamed up for solar and wind powered Field Day. The event was held at Snell Farms (a group home for boys between 12 and 18).

The prime movers for this event were Roy and Debbi Koehler (from KLARA) and Roy Butler (also a KLARA member and owner of Four Winds).

The system consisted of four 220 amp-hour golf cart batteries, a 256 watt Uni-Solar array and a Whisper H500 wind turbine on a 10 foot tilt up tower. The EZ-Wire center which came with the Whisper was used as the charge controller, system monitor, and DC load center.

No really serious power was produced by the turbine, due to the short tower and trees surrounding the site.

The solar arrays were a different story!

- The first day gave good solid sun, putting 16 amps to the batteries. The DC load averaged 6 – 9 amps for most of the day, and the solar array kept right up with that (and then some!) We were able to put 96 amp-hours to the batteries.
- The second day of the event was heavily overcast, with a maximum output of 4 to 5 amps. By the time field day closed, at 1:00 PM, we had managed to get 20 amp-hours into the batteries.
- If we had been able to use all solid state rigs, we would have had **no** net discharge to the battery bank. The photovoltaic cells would have taken care of everything!

There were ten operators at the event and twenty five guests. 300 contacts, including twenty US states, Canadian provinces, The USS Yorktown (at sea!), Zambia, and South Africa.

A bunch of Hams got their first taste of solar at this event!

Thanks to Home Power, Roy and Debbi Koehler, and Roy Butler. It would be great to publish “recollections” of other Field Days (anyone have pictures and notes to share from field day at the Whitehead's farm?)

The End Fed Half Wave Antenna
The HF portable Antenna for You?
Your next Field Day Antenna?

The end fed half wave is, possibly, the simplest portable antenna to deploy in the field. It requires only a single support!

In it's simplest form it consists of:

1. a half wavelength of wire at the desired frequency. Use the formula for a half wavelength dipole to calculate length ($486 / \text{freq. in MHz}$).
2. An insulator for the top end. A ceramic dogbone works nicely.
3. An arrangement to attach the half wavelength of wire to the counterpoise or radials (more about this later)

This antenna can be arranged in a number of different ways:

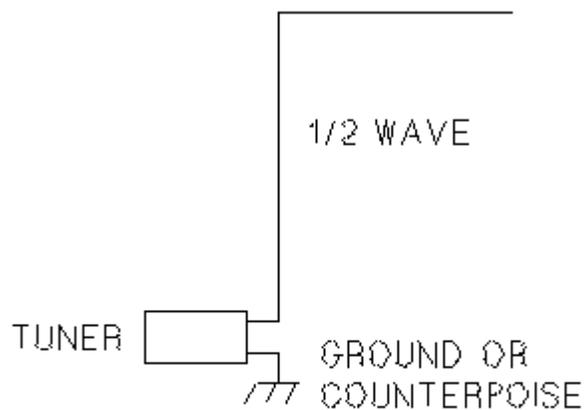


FIGURE 1 - INVERTED L

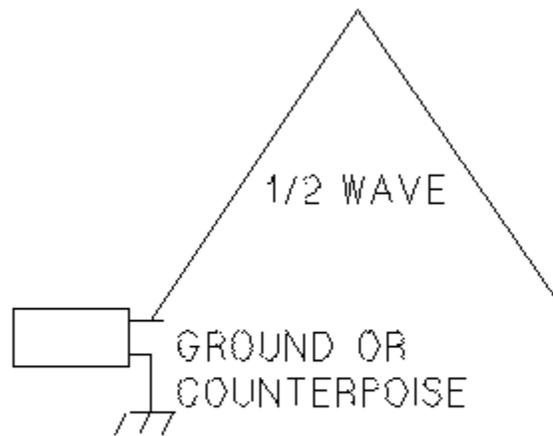


FIGURE 2 - INVERTED L

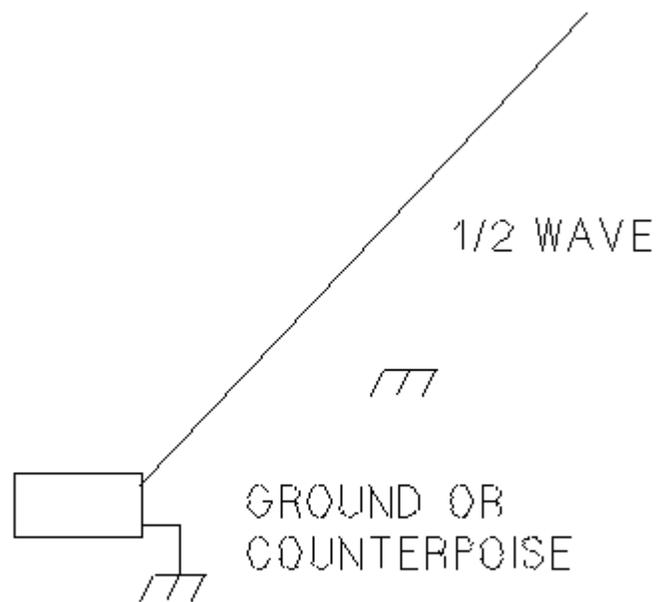


FIGURE 3 - SLOPER

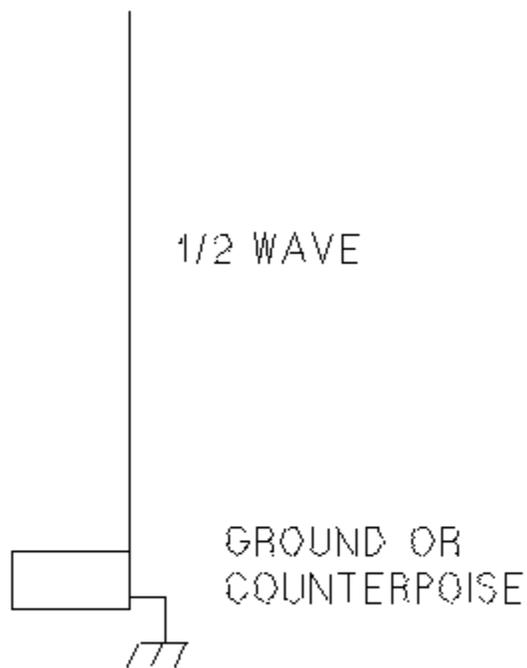


FIGURE 4 - VERTICAL

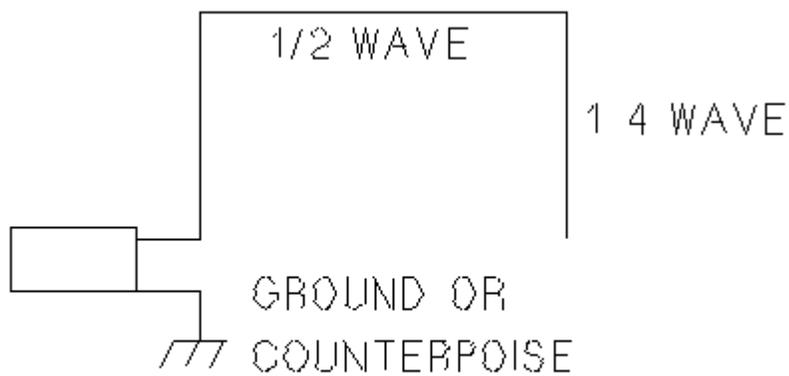


FIGURE 5 - HALF-SQUARE

O.K., so what about the “ground or counterpoise”? Well, as you might expect, there are a number of factors to be considered in this situation, including:

- Number and length of radials and type of wire
- Elevated, on the surface, or buried
- Voltage issues

I am not an electrical engineer, and I certainly do not want to start a big argument (this topic is one of the most hotly debated in amateur radio).

However, as a **general** rule, longer and more is better than shorter and fewer. I like insulated, stranded, 12 gauge house wire for both the radials, and the antenna, itself. For a semi-permanent installation I'd put the radials just under the surface. For portable use, just string them over the surface, and secure with landscape staples.

Be careful with this antenna, as it has the potential for very large voltages. Running 50 watts into this antenna can yield several hundred volts at the wire (luckily the amperage is fairly low). Most 12 gauge house wire (with good PVC insulation) is rated for a breakdown voltage of 600 volts, so use insulated wire and be careful where you put your fingers!

Thanks to Joe Everhart and the NJQRP group. Many of you have seen my 33' “portable” (it's better described as “luggable”) vertical antenna (with it's bucket of concrete as a counterweight). This is an end fed halfwave, as is the 43' vertical in my side yard. All work very well!

Next Time

Summer Fun:

1. Field Day 2015
2. Wine Country Classic Boat Regatta
3. The Red House Picnic
4. Portable in New Hampshire

The Roll Up J Pole and other antenna ideas

Coming Events

Whatever **you** would like to see!

Remember:

Operate in public

Be ready to explain what you are doing

Be an Amateur Radio Ambassador!