

21 September 2023

FIARC Meeting Minutes – 26 August 2023

Attendees:

N7NW – Hal Goodell	W7JC – Jerry Cerny	KJ7RVR – Jane Tollett
AC7QN – Chuck Kemmer	K7ND – Jim Christianson	K7NMO – Pat Tackett

Thank you, Gail Ferguson K1GCF, for the delicious cookies.

1. Minutes from 22 July were unanimously approved.

2. FICRA Fair Report

- There was a lot of interest in the Yagi antennas when we walked around the Fair to find the Fox.
- The Morse Code did not get that much attention, maybe fewer children this year.
- One suggestion is to do voice-over-radio communication next year.

3. Yagi Antenna

- There was an issue with the attenuators that a few of us purchased. Chuck contacted the company, and they sent a detailed write-up of what the issues might be. **Attachment A.**
- If you can, we are looking for a few of us to bring radios and antennas to the Fair on Saturday so that people can use them to find Chuck's transmitter.

4. Potential Fall Class

- All potential attendees were contacted, only two responded by the Labor Day deadline so Hal, Jim and Jane decided not to have a Fall License class this year. Those who did respond were directed to Doug Munday who had previously indicated we could send folks his way.

4. Boy Scouts JOTA Jamboree On The Air

- Alex Hoffman, N3RDO, is a FIARC member and a new leader of Fox Island Scouts. He is interested in having his troop participate in the 2023 JOTA – Jamboree On The Air. Chuck mentioned he could set up a 20meter antenna, and Hal has his antenna. We could set up a couple of systems, even some QSL cards. Jane will not be able to help due to family issues, but Hal and Chuck indicated they could set something up.
- Jane has communicated this to Alex.

5. Used Equipment Donations

- Equipment can be donated to the Club; we can then find homes for it or loan it out.

6. Next Meeting – Saturday September 23

Respectfully Submitted,

JANE

EJ Tollett - KJ7RVR
970/531-1866

Attachment A

From: [John Clements](#)
Sent: Wednesday, August 23, 2023 12:53 PM
To: [Chuck](#)
Subject: Re: attenuators

Hello Chuck,

Sorry to hear we are having some problems with the attenuators. I was having a hard time to find your order to see what version you have V5, V7, Kit, Assembled.... but eventually found some from Fox Island ones towards the end of July and looks like all V7 assembled:

#19466 7/23 Tollet V7 Assembled

#19464 7/22 Barnes V7 Assembled

#19463 7/22 Holzgraf V7 Assembled

OK on getting the fox frequency on bypass and pass-thru. That tells me the switch is working and the diode isn't open. There is some slight attenuation on the fox frequency (~10-15db) but unless the signal is on the edge of noise to begin with with you probably won't notice the change as you rotate the pot, the change is more visible on a spectrum analyzer.

Since I'm unfamiliar with the testing or hunt but there are a couple things we can try, you may have already tried these.....

Basic Usage: First is how far away was the fox/testing done? Power level of the fox? For example a 1W HT 30 miles away will have too much attenuation. Same one in a park or back yard is plenty. At the opposite end a 10W transmitter in the back yard may need even more attenuation, like going +/-8MHz to gain full attenuation. Also with these new digital radios make sure the squelch is turned all the way off (I'm a fan of using old handheld scanners with a real squelch knob). The digital squelch is too slow to respond on a weak signal (especially the cheap Baofeng's!) and you want to hear noise all the time anyway. A back yard check with transmitting with one HT and listening for the offset on another is a quick test. Also sometimes I find trying both offsets (+4MHz and -4MHz) can have a difference but typically either way should work.

Checking the oscillator: If you have an SSB HF radio available we can test the 4MHz oscillator by tuning near 4.000MHz with the attenuator near the radio and listening for the oscillation. A handheld radio like the Degen 1103 works great and will hear the squeal several inches away. An IC-7300 is a little more RF tight and the attenuator needs to be almost in contact with the radio or near the antenna connector. A frequency counter if available using the probe on the potentiometer contact near the "min" pin and using either battery terminal for the ground should show a signal near 4.000MHz - might be 300Hz or so off as the probe will load the oscillator down a

bit. Also leaving the probe ground disconnected or having the attenuator antenna hooked up makes a nice antenna for the above radio test.

Offset Testing: The last thing I do with the assembled V7's before putting the final screws on and boxing up is a quick test using a 2M vertical antenna and an HT is with the National Weather service on 162.500MHz (offset at 166.500 or 158.550). It starts attenuation (going to full noise) at about the 11 o'clock position. For me that's about 15 miles away (300W transmitter) and closet to the limit of usability as there is some slight noise during regular reception. Start at the MIN position and work counter-clockwise until it's fully attenuated. I was looking at Fox Island and looks like Seattle (~32mi - 162.55 with offset at 166.55 or 158.55) and Capitol Peak (~25mi - 162.475 with offset at 166.475 or 158.475) are the nearest ones. Those may be way too far away to test with offset so I would not be surprised if they didn't work there from the island but somewhere closer to the transmitters.

Alternate Tests: Another test is a little more complicated and if your radio will receive FM broadcast you can also try this. The complicated part is finding a station where the 4MHz offset is on an unused frequency (or of your radio can tune 4MHz above or below the FM band). Easy to do here in the country with only a couple strong stations around but harder to find a clear offset channel in the larger cities where FM is wall to wall stations. For example KIRO 97.3FM, the 93.3 offset won't work due to KJR in Seattle but 101.3 might be a clear channel for the offset to try. 90.9 KVTI can offset to 86.9 if the radio will go down that low (KUOW is in the way on 94.9). An RTL-SDR type dongle and SDR++ or SDR# makes a nice radio to visually see how the attenuation works using various frequencies (FM, local repeaters,).

Let me know what you find and we'll go from there. If you have skype/zoom available I can show you how I do my above testing here. I can see an attenuator going bad but 3 is odd. Nevertheless if we have to I'll send you a return shipping label and we'll put them on the bench here for testing.

73 John kc9on

On 8/23/2023 11:40 AM, Chuck wrote:

On August 12 2023 our radio club WA7FI held it's 1st fox hunt using 3 of KC9ON 2 meter attenuators. All attenuators failed to produce the required mixed signal. The handheld radios received the transmitted signal in both on and bypass switch positions. No signal was heard on the 4 mhz offset frequencies.

What should we do?

73

Chuck Kemmer/AC7QN (member of WA7FI club)