VOLUME XLII, NUMBER 6

SPURIOUS EMISSIONS

JUNE 2016

INDIAN RIVER ARC

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KN4JN

CLUB MINUTES

The meeting began at 732pm with the pledge of allegiance. Next, visitors Jim AE1KB, Ricky K4JTT and Shellie K4SAD were recognized. Ricky is not really a visitor.
President Dave KU0R talked about Ray N4LEM being in recovery and asked for prayers. Larry WD5CKN and Ricky visited Ray and reported he looks good. Dave then thanked all who worked on the .37 repeater antenna replacement. He then called for approval of the meeting minutes of the May meeting. A motion was heard, seconded and approved by acclamation.

Next, Treasurer Larry KK4WDD reported that we have $1123.23 in the checking account and $1276.84 in the soon to be depleted equipment fund. A motion to approve the treasurer's report was heard, seconded and approved by acclamation.

Next Dave reported for the technical committee: all the repeaters are running nicely. The .88 is in dual FM/Fusion mode but the .37 is not yet. He wants to wait a bit longer before making the transition. The new antenna is doing a great job. Dave got into the .37 from Auburndale, on Interstate 4. The old antenna had a huge hole from a lightning strike. Dave asked for signal reports, especially from the north end of the county. Southern and western ranges seem excellent; we have folks from Palm Bay checking into our ARES net. There was speculation that .37 has as good coverage as the old .135 repeater.

Next Dave covered upcoming events: the next QRP outing is on June 18, likely at Manatee Cove Park, and Field Day will be at the Club House on SR3, using the AJ4IR call sign.

Larry WD5CKN reported for Central EC that the hurricane season will be normal, according to NOAA. There will be a Hurricane expo on the 4th of June at the Rockledge Police Department and on June 11 at city hall, in Palm Bay. BEARS 1 will be present at these events. Ricky will take Ray Cassis County EC position until such time Ray can recover from his surgery. The Emergency Plan is being revised to make ARES more independent of the County. The new plan will address emergencies besides hurricanes. It also changes the role of BEARS in emergency preparedness, increasing their involvement. The plan needs to be reviewed and Larry hopes to have a finalized version by Christmas. Following Larry's report, it was suggested that we should submit a claim for the lightning damage to the .37 antenna.

Greg AB4GO reported for the Red Cross that the Orlando branch sometime back delivered some excess computer equipment which is in storage in this facility and we have been asked to move it. He needs to figure out where to move it to.
Vice President Viron N4VEP reported that his mobile install is working well.

Curtis KK4PYP announced that he does the Brevard County newsletter and he needs someone to take over the county wide newsletter, at least until September. He also reported that the Monday night net on 147.36 at 8pm, following the LISATS net, needs a backup net control.

Old Business? Nothing.

Dave next queried the group on who made HF contacts this last week, and almost everyone had some HF activity. Ricky reported that he did a Dxpedition to the Dry Tortugas and described experiencing a solar flare effect that knocked off all of the HF bands. Dave K4UZM reported that we did the usual Memorial Day Special Event station at the Veterans Memorial Center and experienced very bad band conditions as well.

Dave KU0R put on a slide show about the tower climb and replacement of the antenna. Jim Grossman was on the tower for 5 hours.

Following the slide show the winning 50-50 ticket was found to be held by Shellie K4SAD.

Our entertainment for the evening was Larry WD5CKN and Ricky K4JTT who demonstrated sending an ICS-213 form from one computer to another using hand held radios via *fldigi*.
A motion to adjourn occurred 903pm at and was moved and approved.

Respectfully Submitted

Steve N4UTQ

Secretary

HAPPENINGS

The Doctor Will See You Now!

"Open Wire Feed Lines" is the focus of the current (May 5) episode of the "ARRL The Doctor is In" podcast. Listen...and learn!

Sponsored by DX Engineering, "ARRL The Doctor is In" is an informative discussion of all things technical. Listen on your computer, tablet, or smartphone -- whenever and wherever you like!

Every 2 weeks, your host, *QST* Editor in Chief Steve Ford, WB8IMY, and the Doctor himself, Joel Hallas, W1ZR, will discuss a broad range of technical topics. You can also e-mail your questions to doctor@arrl.org, and the Doctor may answer them in a future podcast.

Enjoy "ARRL The Doctor is In" on Apple iTunes, or by using your iPhone or iPad podcast app (just search for "ARRL The Doctor is In"). You can also listen online at Blubrry, or at Stitcher (free registration required, or browse the site as a guest) and through the free Stitcher app for iOS, Kindle, or Android devices.

podcast before, download our beginner's guide

HAPPENINGS

Field Day Locations in Brevard County—June 25–26, 2016

K4KSC —Titusville ARC
FoxLake Park,Titusville, FL
GOTA: YES
Talk-in: 146.910 - PL107.2
Contact: Jan Ferguson
321-298-4693
w4ren@aol.com

IRARC—Plans are afoot to hold Field Day at the club house on State Road 3. Contact Steve Luchuck N4UTQ for details.

PCARS—W4MLB
1980 Hughes Road
Melbourne, FL
GOTA: YES
Talk-in: 146.850 PCARS Repeater
Contact: Eric Smitt
321-698-8307
k9eseric@gmail.com
www.pcars.org

Ethics and Operating Procedures for the Radio Amateur, an operating guide written by John, ON4UN, and Mark, ON4WW, is now in the custodianship of the IARU. The PDF booklet is available in over 25 different languages, and a PowerPoint presentation suitable for club meetings is also available in three languages. (Kip, W6SZN via WWDXC reflector) .

The Doctor Will See You Now!

"Hunting Down Interference" is the topic of the next(May 19) episode of the "ARRL The Doctor is In" podcast. Listen...and learn!

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Every 2 weeks, your host, *QST* Editor in Chief Steve Ford, WB8IMY, and the Doctor himself, Joel Hallas, W1ZR, will discuss a broad range of technical topics. You can also e-mail your questions odoctor@arrl.org, and the Doctor may answer them in a future podcast.

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If you've never listened to a podcast before, download our beginner's guide

ON THE AIR

Russian "Inventors of Telecommunications" Stations on the Air: Special event stations in Russia will be on the air from March 16 until June 16 as part of the international scientific-educational radio marathon called "Inventors of Telecommunications," established by the Russian Geographical Society and supported by radio clubs and Amateur Radio operators. There will be awards and certificates. Each RT73-prefix station represents a historical figure in the area of telecommunications or electronics. For example, RT73BA represents Alexander Graham Bell, RT73EA represents Edwin Howard Armstrong, RT73VZ represents Vladimir Kosmich Zworykin, and RT73NT represents Nikola Tesla. -- Thanks to The Daily DX

BAHRAIN, A9. Special event call sign A9110RR is QRV until the end of the year to celebrate the 110th anniversary of the ITU Radio Regulations. QSL direct via A92AA.

TURKEY, TC. Look for special event station TC2016ANT to be active during Expo 2016 Antalya, with the theme of Flowers and Children, between April 23 and October 30. QSL via TA4ED.

HONDURAS, HR. Gerard, F2JD will be active as HR5/F2JD from Copan from April 16 to July 13. Activity will be on all HF bands using CW, SSB and RTTY.

BELIZE, V3. Henk, PA0C is QRV as V31HV and V31HV/P until October.city. QSL direct to home call. Activity is on 80, 40, 20 and 15 meter using CW, SSB and JT65.

Vertical Antennas by Armando Delgado, KN4JN

The most popular HF amateur antennas are the horizontal dipole and the vertical. This popularity is due to the fact that both types of antennas are structurally simple and work. Each kind has its advantages and disadvantages, structurally and in performance. This article will focus on the vertical antenna only.

There are three types of vertical antennas: the grounded vertical, which sits close to the ground but is electrically insulated from it; the ground plane antenna, which is placed at some height above ground and uses shortened radials; and the vertical dipole, that eliminates radials altogether. All these antennas share the same propagation patterns, though their physical and electrical characteristics are different. Verticals enjoy good theoretical advantages and suffer from bad practical disadvantages.

The biggest advantage of the vertical antenna is its radiation pattern. Verticals are omnidirectional, their radiation pattern creating a doughnut of radiation around the entire antenna. They also have a very low angle of radiation, invariable less than 15˚, which makes them ideal for dx contacts. All verticals share these characteristics.

The grounded vertical in its simplest form consists of a ¼ wavelength (λ/4) radiator standing at ground level but electrically isolated from it. It uses the ground as a reflector. The problem with this set up is that since antenna efficiency is equal to the ratio of the antenna radiation resistance to the entire system resistance and the λ/4

Vertical Antennas

resonant vertical antenna has a radiation resistance of 35 ohms, the ground resistance will be high enough to lower the antenna efficiency into the single digits. In order to raise the antenna efficiency the ground resistance must be lowered by adding ground radials. A resonant λ/4 vertical antenna with about 120 matching radials will have an efficiency in the 90 percentiles. One other draw back of the grounded vertical is that at the lower frequencies its height becomes a mechanical problem, requiring structural support. Likewise, the radial ground system at the lower frequencies will require a significant amount of real state.

A vertical antenna that addresses the problem of the ground radial real state is the ground plane antenna. This is a λ/4 radiator raised above ground. In doing so the ground reflexion diminishes and the number and length of the radials can be shortened. As a rule these antennas with 4 radials of 1/8 wavelength will have an efficiency in the 90 percentiles. Ground plane vertical antennas are very popular in the higher amateur frequencies because of their omnidirectional pattern, low angle of radiation, and simple structure. Like the grounded vertical, however, these antennas, in their basic design, become mechanically cumbersome in the lower amateur frequencies, due to their size.

The other common vertical antenna is the vertical dipole, which shares the omnidirectional pattern and low angle of radiation of the other verticals. The vertical dipole does not use the ground as a reflector and does not require ground radials plus, being a dipole, has a high efficiency and a higher radiation resistance than other vertical antennas at resonance. It, unfortunately, has the same drawbacks of other verticals at the lower amateur frequencies: it's size becomes problematic, requiring larger elements and guy support. The most popular commercial vertical dipoles are the GAP antennas. This company produces multiband antennas that with the use of resonant matching elements and capacitive hats allows all- band operations with reasonable antenna heights. Unfortunately, the designs of these antennas are rather complex, which makes them difficult for the do-it-yourselfer ham to build. Yet, single-band wire vertical dipoles for the higher HF frequencies seem practicable , but not many hams consider this option. For the ham with limited space or no trees in his property this antenna could be a workable solution.

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Brevard County Amateur Repeaters

For a listing of all the repeaters, including frequency, tone and location visit the following web site:

www.repeaterbook.com/repeaters/location_search.php?type=county&state_id=12&loc=Brevard

Reflection for Old Men

"Tho' much is taken, much abides; and tho'
we are not now that strength which in old days moved earth and heaven, that which we are, we are; one equal temper of heroic hearts, made weak by time and fate, but strong in will to strive, to seek, to find, and not to yield. "

Alfred Lord Tennyson

W1AW CW PRACTICE TRANSMISSIONS

Slow CW : (5-15WPM)
7 PM EST Mon, Wed, Fri

Fast CW: (35-10 WPM)
7 PM EST Tue, Thu

FREQUENCIES:

1.8025, 3.5815, 7.0475, 14.0475, 18.0975, 21.0675, 28.0675, 147.555

Send comments or contributions to the newsletter to the editor's email address:

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