



INDIAN
RIVER ARC

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SPURIOUS EMISSIONS

JUNE, 2018

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CLUB MINUTES

President Dave KU0R began the meeting at 1943 with the Pledge of Allegiance.

Following the Pledge, visitor Mike W2MAL was introduced. New ham, Celena KN4MHO was recognized.

The meeting minutes for the May meeting were published in the newsletter. A motion was heard to approve the meeting minutes, then a second, and the May meeting minutes were approved by acclamation.

Larry KK4WDD, our Treasurer, reported we have \$2028.37 plus or minus \$20 in checking and \$1777.51 in the equipment fund.

A motion was heard to accept the meeting minutes for audit; a second was heard and the Treasurer's report was approved by acclamation.

Dave KU0R reported for the Technical Committee and said that all repeaters are up and running, as well as the 220 repeater. The fusion repeaters are going to be replaced with the Bridgecom repeaters soon.

The go kits: one is assembled and the others need a power supply. The antennas are on hand. We should try and get the antennas installed prior to the arrival of a hurricane, but there is an administrative delay in dealing with Wuesthoff.

Next, Les W9BCH our Emergency Coordinator, reported that he had some training from the county; also, PCARS is not using their 85 repeater; it may be down. Dwaine KM4HCN reported about the RACES parking lot drill last Saturday. It went well and they passed voice message traffic over the radios. The exercise included 5 set ups and TARC had their trailer there for net control. The protocols and paperwork for messaging were taught. Then Dave mentioned that we need a CSV file that contains a listing of all the repeaters allocated to the Emergency Plan, for radio programming and for commonality.

Field Day will be held at the club house on SR3 north of 528. Steve N4UTQ promoted

the Field Day Mutual Assistant Net that will use the 2m simplex calling frequency, 146.52. Field Day sites will contact each other one hour before start of the event to insure all sites are ready. This year we will attempt all-solar power but there will be a generator for back up. Greg AB4GO pointed out that we have filters for keeping the 20 meter signals out of the 15 meter station. This year we will double the amount of spare ribs and Dave offered Jane's incredible potato salad. New Ham Celena KN4HMO was the winner of the 50-50 drawing.

Following the 50-50 drawing a short video, "What Your Wife Really Thinks About Your RV Ham Radio Station" was viewed.

A motion to adjourn occurred at 2031 and was moved and approved.

Respectfully Submitted,
Steve Luchuk Secretary

HAPPENINGS

The club will hold **Field Day 2018** at the Club House on North Courtenay Pkwy on June 23-24. This year the plan is to use solar power for the operation.

"RF Loss" is the topic of the May 10 episode of the "[ARRL The Doctor is In](#)" podcast.

Solar Eclipse QSO Party Research

The first science results from the Solar Eclipse QSO Party ([SEQP](#)) last August 21 have been [published](#) in the American Geophysical Union journal *Geophysical Research Letters*. In the paper, "Modeling Amateur Radio Soundings of the Ionospheric Response to the 2017 Great American Eclipse," Nathaniel Frissell, W2NAF, and team present Reverse Beacon

Network (RBN) observations of the SEQP and compare them with [ray tracings](#) through an [eclipsed version of the physics-based ionospheric model SAMI3](#).

On 14 MHz (20 meters), eclipse effects were observed as a drop off in communications for an hour before and an hour after eclipse maximum. On 7 MHz (40 meters), typical path lengths extended

from about 500 kilometers (310 miles) to 1,000 kilometers (620 miles) for 45 minutes before and after eclipse maximum. On 1.8 MHz (160 meters) and 3.5 MHz (80 meters), eclipse effects were observed as band openings 20 to 45 minutes around eclipse maximum. By using ray tracing to compare these observations with the SAMI3 model, it was found that the majority of 14

HAPPENINGS

MHz signals refracted off the ionosphere at heights less than 125 kilometers (77.5 miles) in the E region. On the lower bands, 1.8, 3.5, and 7 MHz, it was found that signals likely refracted off heights greater than 125 kilometers (77.5

miles) in the F region. More information at <http://www.arrl.org/news/solar-eclipse-qso-party-research-results-published-in-geophysical-research-letters>

Hamvention Forum Videos Now Searchable on YouTube

Videos of some Hamvention 2018 forums are available in the YouTube Dayton Hamvention 2018 videos playlist. Among those available are the [TAPR Forum](#), the [SDR Forum](#), and the [HamSCI Forum](#).

Some hams figures.

Amateur ranks are growing slowly. As of 2017 there was a total of 748,136 licensed hams in the US. Of those, 9,056 were Novice licensees, 378,002 Technician, 174, 206 General, 41,938 Advance, and 145,034 Amateur Extra. Although 32,196

new licenses were issued in 2017, the amateur ranks lost some 27,000 members for a net growth of only 5,349 hams.

ARRL to Sponsor 2018 Atlantic Hurricane Season Webinar

ARRL will sponsor a 2018 Atlantic Hurricane Season webinar on Monday, June 11, at 8 PM ET. The approximately 90-minute session will address the role of Amateur Radio during the 2018 hurricane season. Anyone interested in hurricane preparedness and response is invited to attend this online presentation. Those

planning to attend should [register](#) in advance.

The 2018 KH1/KH7Z [Baker Island DXpedition](#), set to get under way on June 27 and continue until July 7 Their effort will include round-the-clock operation on 20 meters. Operation is planned on SSB, CW, RTTY, and FT8. The team has also published its [planned operating frequencies](#). The KH1/KH7Z DXpedition will field seven operating positions. Baker/Howland Islands (KH1) is the fifth most-wanted DXCC entity.

ON THE AIR

REPUBLIC OF KOREA, HL. Special event station HL50IARU is QRV until the end of October 2018 to celebrate the 50th anniversary of IARU Region III.

SLOVAK REPUBLIC, OM. Members of the radio club Horec are QRV with special event call OM75TESLA until the end of the year to commemorate Nikola Tesla's death 75 years ago. QSL via OM3KHT.

AUSTRALIA, VK. Special event station VI50IARU3 is QRV until August 31 to celebrate the

50th anniversary of IARU Region III.

06/08/2018 | Grand Prix de Montreal - Racing 2018 Jun 8-Jun 15, 0000Z-0000Z, VE2SPEED, St-Jerome, QC. VE2JCW. 14.030 3.525 14.340 7.020. QSL. Jean Charron, 17 Elisabeth, St-Jerome, QC J7Z 2S9, CANADA. All Bands, All modes.

06/18/2018 | NASA on the Air (NOTA), 35th Anniversary of the First American Woman to Fly in Space

Jun 18-Jun 24, 0000Z-2359Z, NN4SA, Huntsville, AL. NASA Marshall Space Flight Center Amateur Radio Club. 21.295 14.235 7.195. QSL. Marshall Amateur Radio Club, NN4SA, c/o Don Hediger, ES35, Huntsville, AL 35812. Send S.A.S.E. for NN4SA NOTA QSL card or login to nasaontheair.wordpress.com for details regarding an end of year downloadable certificate for NOTA. <https://nasaontheair.wordpress.com>

T88YL Koror Island Palau

Tatsuko, JJ1BDT will be active as

T88YL from Koror Island, IOTA OC - 009, Palau, 22 - 27 June 2018. She will operate on 40, 17, 15m SSB.

ZF2LT Grand Cayman Island Lawrence, K8HTC will be active as ZF2LT from Grand Cayman Island, Cayman Islands, IOTA NA - 016, 18 - 24 June 2018. He will operate on HF Bands.

Another Long Story by Steve Luchuck, N4UTQ

I started out in Ham Radio with a Swan 500C in a two story condominium in Cocoa Beach with a lovely attic. The high slope in the attic allowed me to run inverted V(s) down the rafters for 10, 15 and 20 meters. I was in a hurry to get set up right after I got my general ticket and rather than using a common feed point, I bought three cheap 50 foot coax from Radio Shack using RG-59. These three feed lines came down through the attic access in the master bedroom, down the stairs to my operating position in the family

room. At the time, I did not know enough to use a balun or center insulator. I merely cut off the PL-259 and soldered the RG-59 to the antenna elements. Later I purchased a 40 meter isotron and an 80 meter isotron which necessitated two more Radio Shack coax cables. So there I am, living in a condo, with an antenna for each band my Swan 500C could operate on. I did my early HF operating on 15 and 20

mostly and a little on 10, according to the logs I kept at the time.

In 1995 we moved into the ranch style house in Merritt Island. The attic was much less accommodating but there was room for a 20 meter dipole, so I placed one there the day after we moved in. Initially I found the antenna tuned a little higher up the band than where I wanted it to be so I attached three inches of wire to a couple of alligator clips

and clipped them on the tips of the antenna and the antenna was perfect! I used this single antenna for many years. One night I heard somebody calling CQ and he was very light, but there were no other stations nearby to provide QRM and nobody was going back to this fellow. I called him back and he was very happy to be talking to anyone since he had just gotten his general ticket and I was his first contact. We talked for a few minutes and I asked him what he was using for an antenna and he

came back and told me about his 20 meter dipole in the attic of his one story house. Well guess what, I have known a lot of hams whose only antenna is a 20 meter dipole in the attic. On another occasion when they were having riots in Haiti, the only communication to the island was a ham known as Father John. The Salvation Army appealed to the operators monitoring the Maritime Mobile Service Net on 14.300 to come down to 14.265 to assist the Satern net. When I tuned down to 14.265, the Net Control operator was calling for a Florida station and nobody was responding. After the third of forth call for a Florida operator, I responded. Net control explained to me they wanted to conduct a propagation check to see how well I could be heard and he asked me to read something out of QST for a few minutes. Not having a QST, I read from the Swan operating manual. Following my transmission, they went around providing Net Control with my signal report. I did well in Texas, Oregon, and New Jersey. Only Montreal said I was light but completely readable and he was off the tip of the antenna. This remains my only observation that the dipole is slightly directional. I tell people not to worry at all about orientation of their dipole antennas.

Shortly after we moved to the house, my granddaughter was having her first birthday party. At the party, there were lots of young people my step-daughter's age, and my ex-wife had made a theme for the party about planning for the future, and toward that end she was giving oak tree twigs to the attendees. I planted that oak twig near the edge of the lake where it would get plenty of water. One day I noticed the twig was big enough and in the right position to hold up one end of an 80 meter antenna. I live on a cul de sac and have a pie shaped piece of property and at the other end is a nice pine tree. I don't operate 80 very much due to the hostility I experienced there, but we were making plans to hold an 80 meter net on Sundays. My

first outside antenna consisted of some clothes line, a balun and a roll of aluminum electric fence wire. Aluminum electric fence wire was available at Home Depot, 500 feet for about 5 dollars. I merely tied the balun in the middle of the clothes line and attached a run of fence wire to the balun just by wrapping the wire around the balun lug. No soldering needed! The aluminum wire is then just loosely wrapped around the clothes line and then you cut and wrap the excess around itself at the end. You tune the antenna by shortening it by successively wrapping more and more around the outbound wire. By the time it was at 3820, several feet had been wrapped around the outgoing wire. For some reason, you cannot do this with copper wire. With copper wire you need to trim what you take off or you will not see dip in SWR at the resonance point. I have made many antennas with aluminum electric fence wire and it is very difficult to take it down and use it somewhere else as it tends to wind back up on you and it kinks and breaks easily, its best to set it up, tune and use it and when you are done, just throw away or recycle the aluminum. Another thing to be aware of is that it shrinks when it gets cold. One day after a cold snap I found the point of resonance moved from 3820 to 3920.

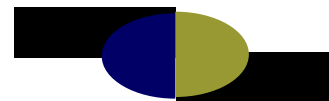
One Field day I had fabricated a 40 meter dipole using insulated steel wire and a balun. When we were setting up Jerry, KC4YDP, had another idea. Jerry had brought a section of ladder line and a block. The block attaches to the end of the ladder line and secures the dipole legs. We removed the legs from the balun and attached them to the block and put the balun on the other end of the ladder line and fed it with coax. We found that an-

tenna loaded up and contacts were made from 160 meters through 10 meters. This tweaked my interest in G5RV type antennas. I followed the directions and fabricated a G5RV for myself and discovered that a G5RV must be at least 35 feet high because there is 34 feet of ladder line that must not come in contact with the ground. I used this antenna at my Dad's house in Tennessee where he had nice tall trees. I found that the G5RV could be tuned down to 2:1 with a manual tuner and the tuner in the radio could take it the rest of the way and I made my only contacts on 160 there. It was on this trip something amazing happened. Greg had picked 7220 for a group QSO with friends back in Florida so I had the radio on in the kitchen on the long shot someone might call. I heard KA9ZHY calling CQ so I went back to him and we had a nice QSO for about 20 minutes. The next day I heard KA9ZHY calling CQ so I went back to him and the amazing thing happened! I was talking to the same station twice! This was something brand new to me. In the 22 years I had been active on HF, never had I ever talked to the same station twice! You can hear Daniel KA9ZHY any afternoon on 7220 until about 6pm or 6:30.

In 2015 my pine tree turned brown and died. Since it was holding up my Alpha Delta 160 thru 10 meter antenna I was adamant about taking it down. When the dead tree survived Mathew I was confident it should remain. When it survived Irma I was sure not taking it down. Following Irma, one of my 40 meter traps was causing an SWR of 2.7 on 7220 so I swapped the Alpha Delta for a mono band dipole I had made specifically for 7220, since band conditions have been so bad lately. Signals were now

pouring in on 7220 with the mono-band antenna. You have got to hear the difference to understand the difference between something that works and something that works well!

One antenna that is popular right now is the random wire end-fed. We used one of these for Field Day and it can be loaded up from 160 through 6 meters using only the tuner built into the radio. So when the pine tree bit the dust I was quick to get one of these up into my remaining tree. The first night I called my buddy in Texas, he said he could hear me and recognized my voice but could not hear me well enough to talk to. On top of that, I could barely hear my Texas friend and he is using a 2-element Yagi at 75 feet, running 1200 watts! So while the random wire end-fed loads up well, it is not a very good antenna and should be relegated to emergencies only. When I eventually got my 40 meter dipole back up, Wow! I could hear again! With band conditions as bad as they are these days, you cannot settle for something that just works.

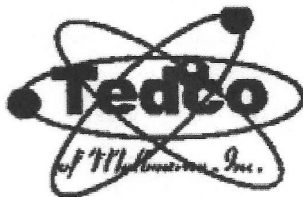


Editor's Note:

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