



Azalea Coast Amateur Radio Club

August 2020
Edition



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From The Editor

No July issue, so you didn't miss anything. I've been busier than the proverbial one-legged man in a butt kicking contest lately.

June 1st to November 30th is the "official" hurricane season on the east coast. Wilmington is a better-than-average target for all types of tropical storms. Question is...are you ready? Is your equipment ready? Take a good hard look at what you have and what you can turn into a portable or emergency communications station. Are you prepared to operate your equipment for long periods of time without commercial power?

Have a question you want answered? Curious about something ham related but need some ideas or guidance? Stumped about something and need help? We have mentors that can give you the advice you need. Please see the "Need help? Contact us" link on the home page of ac4rc.org.

73!

Upcoming Important Club Events

Aug 18th

Monthly club meeting, 7:30 PM
**No in-person meeting – online using
Zoom video conferencing**

Every Monday

2 Meter Rag Chew, 9:00PM
147.18MHz, +0.600 offset, 88.5 tone
Norman (KI4YSY) is net control



Field Day 2020 in in the books!

by Mike (NI2S) & Jeff (W4BIX)

After much discussion, waiting for official word from the county and much planning – Field Day 2020 is complete. It was a go at the usual location of Ogden Park, albeit with COVID-19 rules in effect.

Mike (NI2S) was the Field Day Coordinator this year and a lot of effort was expended into planning amid the COVID-19 restrictions. Once Field Day started Mike kept up a running commentary on our club's Facebook page. Here are some of his postings:

We ran into antenna issues with the modified G5RV. We replaced it with a less than ideally situated end fed antenna. We did see an improvement between no contacts at all and some contacts, but at a slow pace.

20m didn't seem very open. We tried 15 (dead) and 10. There were a few stations on ten, and we worked most of them.

We're going to try and get an 80m dipole up. We're running out of daylight.

Soapbox update: We put up a 80 dipole in the dark, it's not to the highest possible elevation, but the antenna is working well on 80m.

Haven't put up an ant at night in a long time. During Field Day, part of the objective is to overcome obstacles, and keep on truckin'.

We were also surprised when the lights auto-shut off and had to scramble to solve that challenge as well.

Are we having fun? Heck yeah we're having fun!

Another Soapbox update @3:30 am. 80 meters is played out, and it seems like many stations shut down right around 3:30 am since 80 is fairly quiet. Time for a break.

My graveyard-shift partner worked Hawaii on 40 meters FT8.

After a break I may see if my brain will cooperate and take a stab at CW, where there will be no dupes, and I can give my voice a rest.

We got very lucky on WX. It's pleasant right now with a steady breeze which is helping keep the bugs at bay.

We are wrapping up FD at the park a bit early. So if you were thinking of stopping by today, we'll probably be gone. We worked roughly 500 stations.

Final Soapbox of Field Day 2020: Well, this most unusual FD is now in the books. Set up went smoothly, right up until it didn't. Our 'main' HF dipole didn't work (reason to be determined), prompting an improvised replacement in the dark of night. I am reminded here, of the high probability that I have never attended a Field Day where Murphy did not make an appearance. It also wasn't terribly helpful that the overhead lights at shelter #1 auto-shut off in the middle of the night. Something ALWAYS goes wrong. The true test of the event, is how you overcome these obstacles to get your station on the air and keep it going. The weather was cooperative - the first time in years as I understand it. While it was certainly warm, it was not oppressively hot, and most importantly, there was no rain, and no lightning. There was a refreshing breeze well into the early morning hours. Because of COVID19, I did not have high hopes for widespread club participation, so I was pleasantly surprised that a goodly number of us showed up Saturday - thank you all! The objective of the Club Field Day effort is not to 'win' our operating category, but to provide all members the opportunity to have an immersive experience in what it takes to throw a bunch of 'parts' together, create and sustain an emergency communications station, and hopefully, have fun doing it. Oh yes, speaking of 'immersive' - Sunday morning I had the opportunity to help one of Steve's recent test 'graduates' make his first contact on HF, which was also his first FD contact.

Thanks to all who participated, and/or supported us. A particular shout-out to my Graveyard-shift partner Jeff McCulloch, and also to Harrison Murray who stayed with us until very late and worked plenty of HF stations on 80 meters.

A bonus this year was that our club's efforts were published both online and in print with the Star News!







August VE Testing Results

by Bill (N2COP)

For the first time in months the Azalea Coast Amateur Radio Club was able to conduct an in-person VE testing session at the CFCC North campus. In attendance were five VE's and ten examinees. The results of the session yielded 4 new Technicians, 3 new General and 4 new Extras.



This is an extraordinary event from Saturday's VE test session. Travis Henry (far left in the picture below) from Carolina Beach not only took all three exams (Technician, General, Extra) in one session, he had perfect scores on all three ! He's a musician who wants to use Amateur Radio for drone control. Celebrating at the test session while temporarily removing their masks are L-R Travis Henry and VE examiners Stan White-KI4NC, Jack Jacobs-WD4OIN, Robert Gooch-KN4AME, Steve Wilder-AJ4JJ, and in front Bill Morine-N2COP. With the exception of the this picture, the test session was held with everyone wearing masks and sitting at least six feet apart.



As you will see in the email reply from Maria Somma, ARRL's VE team manager, the accomplishment by Travis Henry this past Saturday of passing all three exams with a perfect score in one session is not unprecedented. It may have been a first for us, but not in the country. Regardless, Travis deserves accolades for his feat.

Hi Bill –

That is very exciting news!

A few times a year, we do receive reports of someone passing all three levels at one session with a perfect score.

Usually (but not always), the individual is an engineer or an engineering student at a university.

*Sincerely,
Maria Somma, AB1FM
ARRL VEC Manager*

Field Day History 1933-1998

courtesy of the Clallam County Amateur Radio Club and ARRL QST

In 1933, The June 1933 QST announced that the second Saturday in June, for a period of 27 hours, starting at 4 pm local time, that hams would go into the "field" and set up portable stations.

W1BDI F.E. Handy said:
"The real object of this contest is to test 'portables' wherever they may be available.... If successful, we want to make it an annual affair."

The scoring of that first contest was each QSO with fixed stations will count 1 point, contacts with other portables count 2 points, and DX contacts count 3 points. Multiply QSO

points by the total number of ARRL sections, plus countries worked

September 1933 QST announced the winner of the 1st Annual Field Day was W4PAW. They made 62 QSOs and had 28 sections for a total of 1876 points.

1934 Field Day #2 is announced.

1936 Field Day was so popular that a second Field Day was held August 22nd-23rd of that year. The highest qso total for June was 143 and the highest qso total for August was 136.

1937-Field day #5 is announced for June 19th-20th. The FD message bonus was added. The winning qso for this FD was 204 QSO's at a rate of 7.5 qso's/hr.

1938- Field Day period goes from 4 pm Saturday Local time to 6 pm Sunday Local time.

1939- the first rule to include all station apparatus must fall within a 100 ft radius excluding antennas.

1940-The 100' rule is changed to 500'. Home stations are allowed to work FD.

1941- The ARRL inadvertently forces a nationwide start time by notifying the FCC of the Field day period and the FCC communication 73-D references a single start time for all ham stations for Field Day from 4pm EST June 7th to 6pm EST June 8th.

1942-1945 All Ham activity ceases.

1946-Field day returns and adds a VHF only category

1948- 11 meters (now the CB band) is added for a Field Day Band. FD is shortened to 24 hrs. Battery and Emergency power categories are added.

1949- Mobile category added to FD.

1950- The modern day FD classes are established. The circle is increased to 1000'

1951- To encourage home emergency power, a home emergency power class is added Class D while home stations off power mains are class E.

1957- Simultaneous starts return, starts 4 pm EST and ends 4pm PST the next day. Anyone can operate 24 of the 27 operating period. 10,000th ham participates.

1963-ARRL rules that a FD site can only use one call sign.

1968- Setup within the 27 hr period is mandatory and the start time is moved to 1900z. All home stations are moved to Class D.

1969- The setup rule is hugely unpopular so ARRL changes the rule so that if you wait to set up you can operate the whole 27 hrs, otherwise you can only operate 24 hrs of the 27.

1970- A free Novice station is allowed. Starting time is moved to 1800z.

1972- Battery results are listed separately.

1973- Repeater rule is waived for satellite contacts and a 50 point sat bonus is included for the first time.

1974- A 100 point bonus is added for making contacts solely by natural power. 15 minutes rule for band changes is instituted.

1975- the Explosion of SSB leads the ARRL to institute a 2X multiplier for CW contacts.

1976- 10,000 qso mark is broken by W1VV/1

1977- The natural power bonus disappears and techs are now allowed to operate the Novice station. The 2X CW rule becomes permanent.

1980- RST is replaced with category and class for the exchange. Setup time is changed again, nothing can be set up before the 24 hr period.

natural power comes back as a 100 point bonus. Sat and FD message bonuses increase to 100 points.

1981- Due to the popularity of packet radio, a 100 point bonus is instituted for one packet QSO and the repeater rules are waived for qso's through a digipeater. The Yankee Clipper Contest Club W2RQ turn in an impressive 11,201 qso total for Field Day.

1984- power multiplier is changed from 200 watts to anything less than 150 watts.

1993- Due to the influx of Technicians, a 100 point bonus is added for making 10 VHF/UHF contacts and a free VHF/UHF station is allowed class A and B.

1994- The modern FD record is set by K6CAB 15A by getting 3450 QRP QSO's for a total score of 30,150

1998- Free packet station and bonus are eliminated, but RTTY/PSK31 are added as a 3rd FD mode. The 100 point bonus for VHF/UHF stations is deleted.

Emergency Preparedness

by Jeff (W4BIX)



The Wilmington area has already been visited by extreme tropical weather this year. Were you prepared? Take some time this week (yep...NOW!) to inventory or take stock of your operating situation. In this issue, I'll highlight power sources.

You can have all of the best operating radios ever made, but without some kind of power they are just expensive bricks. Power can come from a variety of sources – batteries, power grid, solar power, generators. Each have their strengths and weaknesses. Evaluate what you have, what you would like to have and what will work for your station. In this newsletter, I'll focus on power for your station.

Battery: Batteries provide quiet power but eventually need recharging. Battery technology is evolving and while they get smaller, they can provide longer-lasting power than ever before. Here are some types of batteries:

Wet – these are your typical car or marine deep cycle batteries with liquid electrolyte. If you use car-type batteries look into getting heavy duty marine batteries. They are built to sustain the heavy charge & deep discharge cycles your station will require. Try to get a 12VDC battery with a high amp hour (Ah) rating of at least 75Ah or greater.

Sealed - This term can refer to a number of different constructions, including only a slight modification to the flooded style. In that case, even though the user does not have access to the cell compartments, the internal structure is still basically the same as a flooded battery. The only difference is that the manufacturer has ensured that a sufficient amount of acid is in the battery to sustain the chemical reaction under normal use throughout the battery warranty period.

VRLA - This stands for Valve Regulated Lead Acid battery. This is also a sealed battery. The valve regulating mechanism allows for a safe escape of hydrogen and oxygen gasses during charging.

AGM - The Absorbed Glass Mat construction allows the electrolyte to be suspended in close proximity with the plates active material. In theory, this enhances both the discharge and recharge efficiency. Actually, the AGM batteries are a variant of sealed VRLA batteries, just a more advanced design. Popular usage includes

high performance engine starting, power sports, deep cycle, solar and storage batteries.

Gel - the Gel Cell Battery is similar to the AGM battery style because the electrolyte is suspended, but different because technically the AGM battery is still considered to be a wet cell. The electrolyte in a gel cell battery has a silica additive that causes it to set up or stiffen. The recharge voltages on this type of cell are lower than the other styles of lead acid battery. This is probably the most sensitive cell in terms of adverse reactions to over-voltage charging. Gel batteries are best used in VERY DEEP cycle application and may last a bit longer in hot weather applications. If the incorrect battery charger is used on a Gel Cell battery, poor performance and premature failure is certain. Battery chargers with gel profile will have information either on the unit, or in the manual, about gel compatibility. Note about Gel Batteries: It is very common for individuals to use the term Gel Cell when referring to sealed, maintenance-free batteries, much like one would use Kleenex when referring to facial tissue or "Xerox machine" when referring to a copy machine. Be very careful when specifying a charger. More often than not, what someone thinks to be a Gel Cell is really a sealed, maintenance-free VRLA or AGM-style battery. Learn more about differences between gel cell vs an AGM battery.

Solar: Solar, with an initial heavy investment can recharge those batteries quietly and noiselessly. There are many types of systems available specifically geared towards amateur radio. Take a look at systems advertised in suppliers like DX Engineering. Also consider going the Harbor Freight route with their solar panels and controller. You will need some type of controller to gather the energy from the solar panels and divert that energy to a battery charger or direct connection to your radio system. A video on solar power for amateur radio use:

<https://www.youtube.com/watch?v=g-hgt6pvGxo>

Also take a look at this website:

<http://k5pa.com/Ham%20Radio/Portable%20with%20Solar.htm>

Generator: A generator provides a quicker recharge for the batteries and a good power source but has its limitations. It can and will usually induce "generator hash" on your radio – a very annoying source of RF noise. A small Honda or Predator generator in the range of 2000-2200 watts is sufficient. Take a look at the following videos:

<https://www.youtube.com/watch?v=rOH7Ze7wreQ>

<https://www.youtube.com/watch?v=7H44ieuwmcO>

<https://www.youtube.com/watch?v=f8-jxMtpklw>

<https://www.youtube.com/watch?v=iCCUgoboidk>

Power Grid: Of course power grid is the most stable, but can fail quickly in tropical storm or hurricane weather. Sometimes you will be without power grid electricity for days. Start off using your power grid and be prepared to switch to your back up power source of choice once the electric company source fails.

Research, research, research. Do your research to find out what you can afford and what will work best for you and your station. ARRL provides some sources of great information. This article is 10 years old already, but a good start for information:

<http://www.arrl.org/files/file/Public%20Service/TrainingModules/Emergency-Power-for-Amateur-Radio-Stations-SoCal-ERC-Aug-2010.pdf>

August 2020

Contest Calendar

From WA7BNM

<https://www.contestcalendar.com/>

+ Batavia FT8 Contest	0000Z, Aug 1 to 2359Z, Aug 2
+ 10-10 Int. Summer Contest, SSB	0001Z, Aug 1 to 2359Z, Aug 2
+ European HF Championship	1200Z-2359Z, Aug 1
+ WAB 144 MHz Low Power Phone	1400Z-1800Z, Aug 1
+ RTTYOPS Weekend Sprint	1600Z-1959Z, Aug 1
+ ARRL 222 MHz and Up Distance Contest	1800Z, Aug 1 to 1800Z, Aug 2
+ North American QSO Party, CW	1800Z, Aug 1 to 0559Z, Aug 2
+ SARL HF Phone Contest	1400Z-1700Z, Aug 2
+ Worldwide Sideband Activity Contest	0100Z-0159Z, Aug 4
+ ARS Spartan Sprint	0100Z-0300Z, Aug 4
+ RTTYOPS Weeksprint	1700Z-1900Z, Aug 4
+ Phone Fray	0230Z-0300Z, Aug 5
+ CWops Mini-CWT Test	1300Z-1400Z, Aug 5
+ VHF-UHF FT8 Activity Contest	1700Z-2000Z, Aug 5
+ CWops Mini-CWT Test	1900Z-2000Z, Aug 5
+ CWops Mini-CWT Test	0300Z-0400Z, Aug 6
+ RTTYOPS Weeksprint	1700Z-1900Z, Aug 6
+ NRAU 10m Activity Contest	1800Z-1900Z, Aug 6 (CW) and 1900Z-2000Z, Aug 6 (SSB) and 2000Z-2100Z, Aug 6 (FM) and 2100Z-2200Z, Aug 6 (Dig)
+ SKCC Sprint Europe	1900Z-2100Z, Aug 6
+ QRP Fox Hunt	0100Z-0230Z, Aug 7
+ NCCC RTTY Sprint	0145Z-0215Z, Aug 7
+ NCCC Sprint	0230Z-0300Z, Aug 7
+ WAE DX Contest, CW	0000Z, Aug 8 to 2359Z, Aug 9
+ QRP ARCI European Sprint	0800Z-1100Z, Aug 8
+ SKCC Weekend Sprintathon	1200Z, Aug 8 to 2400Z, Aug 9
+ Maryland-DC QSO Party	1400Z, Aug 8 to 0400Z, Aug 9
+ RTTYOPS Weekend Sprint	1600Z-1959Z, Aug 8
+ 4 States QRP Group Second Sunday Sprint	0000Z-0200Z, Aug 10
+ SARL Youth Sprint	1200Z-1400Z, Aug 10
+ Worldwide Sideband Activity Contest	0100Z-0159Z, Aug 11
+ MMonVHF/DUBUS 144 MHz Meteorscatter Sprint Contest	1500Z, Aug 11 to 1459Z, Aug 13
+ RTTYOPS Weeksprint	1700Z-1900Z, Aug 11
+ NAQCC CW Sprint	0030Z-0230Z, Aug 12
+ Phone Fray	0230Z-0300Z, Aug 12
+ CWops Mini-CWT Test	1300Z-1400Z, Aug 12
+ VHF-UHF FT8 Activity Contest	1700Z-2000Z, Aug 12
+ CWops Mini-CWT Test	1900Z-2000Z, Aug 12
+ CWops Mini-CWT Test	0300Z-0400Z, Aug 13
+ RTTYOPS Weeksprint	1700Z-1900Z, Aug 13
+ QRP Fox Hunt	0100Z-0230Z, Aug 14
+ NCCC RTTY Sprint	0145Z-0215Z, Aug 14

+ NCCC Sprint	0230Z-0300Z, Aug 14
+ SARTG WW RTTY Contest	0000Z-0800Z, Aug 15 and 1600Z-2400Z, Aug 15 and 0800Z-1600Z, Aug 16
+ ARRL 10 GHz and Up Contest	0600 local, Aug 15 to 2400 local, Aug 16
+ Russian District Award Contest	0800Z, Aug 15 to 0800Z, Aug 16
+ Tisza Cup	1200Z, Aug 15 to 1159Z, Aug 16
+ Keyman's Club of Japan Contest	1200Z, Aug 15 to 1200Z, Aug 16
+ Feld Hell Sprint	1600Z-1759Z, Aug 15
+ North American QSO Party, SSB	1800Z, Aug 15 to 0559Z, Aug 16
+ CVA DX Contest, CW	2100Z, Aug 15 to 2100Z, Aug 16
+ SARL HF Digital Contest	1400Z-1700Z, Aug 16
+ NJQRP Skeeter Hunt	1700Z-2100Z, Aug 16
+ ARRL Rookie Roundup, RTTY	1800Z-2359Z, Aug 16
+ Run for the Bacon QRP Contest	2300Z, Aug 16 to 0100Z, Aug 17
+ Worldwide Sideband Activity Contest	0100Z-0159Z, Aug 18
+ RTTYOPS Weeksprint	1700Z-1900Z, Aug 18
+ Phone Fray	0230Z-0300Z, Aug 19
+ CWops Mini-CWT Test	1300Z-1400Z, Aug 19
+ CWops Mini-CWT Test	1900Z-2000Z, Aug 19
+ CWops Mini-CWT Test	0300Z-0400Z, Aug 20
+ RTTYOPS Weeksprint	1700Z-1900Z, Aug 20
+ QRP Fox Hunt	0100Z-0230Z, Aug 21
+ NCCC RTTY Sprint	0145Z-0215Z, Aug 21
+ NCCC Sprint Ladder	0230Z-0300Z, Aug 21
+ Hawaii QSO Party	0400Z, Aug 22 to 0400Z, Aug 24
+ RTTYOPS Weekend Sprint	1600Z-1959Z, Aug 22
+ Ohio QSO Party	1600Z, Aug 22 to 0400Z, Aug 23
+ CVA DX Contest, SSB	2100Z, Aug 22 to 2100Z, Aug 23
+ 50 MHz Fall Sprint	2300Z, Aug 22 to 0300Z, Aug 23
+ Worldwide Sideband Activity Contest	0100Z-0159Z, Aug 25
+ RTTYOPS Weeksprint	1700Z-1900Z, Aug 25
+ SKCC Sprint	0000Z-0200Z, Aug 26
+ Phone Fray	0230Z-0300Z, Aug 26
+ CWops Mini-CWT Test	1300Z-1400Z, Aug 26
+ CWops Mini-CWT Test	1900Z-2000Z, Aug 26
+ CWops Mini-CWT Test	0300Z-0400Z, Aug 27
+ RTTYOPS Weeksprint	1700Z-1900Z, Aug 27
+ QRP Fox Hunt	0100Z-0230Z, Aug 28
+ NCCC RTTY Sprint	0145Z-0215Z, Aug 28
+ NCCC Sprint Ladder	0230Z-0300Z, Aug 28
+ Feld Hell Sprint	0000Z-2359Z, Aug 29
+ ALARA Contest	0600Z Aug 29 to 0559Z, Aug 30
+ World Wide Digi DX Contest	1200Z, Aug 29 to 1200Z, Aug 30
+ YO DX HF Contest	1200Z, Aug 29 to 1200Z, Aug 30
+ W/VE Islands QSO Party	1200Z, Aug 29 to 0300Z, Aug 30
+ Kentucky State Parks on the Air	1400Z-2200Z, Aug 29
+ Kansas QSO Party	1400Z, Aug 29 to 0200Z, Aug 30 and 1400Z-2000Z, Aug 30
+ RTTYOPS Weekend Sprint	1600Z-1959Z, Aug 29

+ SARL HF CW Contest	1400Z-1700Z, Aug 30
+ QCX Challenge	1300Z-1400Z, Aug 31
+ QCX Challenge	1900Z-2000Z, Aug 31