



# February 2018 Author: Frank KG4IGC

### **From Your President:**

Greetings to all of our club members, can you believe that we are already into the month of February? Last month seemed to go by so fast, but it was a busy contesting month for the Swamp Foxes. Our annual meeting went very well this year; a good time was had by all. There was good attendance and a nice array of subjects covered including SFCG accomplishments, new goals for 2019, safety practices, and getting the club call on the air more often. We also talked about possible SFCG multi-op contesting, SFOTA, The SCQP, 13 Colonies, and how we added six new members added to the roster in 2018.

Ron N4VZ gave a really good presentation on frequency allocations for other countries and running split to improve your contest scores. He also talked about support ending for Windows 7 & the hush hush end of support for Windows 8 as well. Details of Ron's presentation can be found below in the Member Contributions.

We had two visitors, Mark Tarplee N4UFP the South Carolina Section Manager and Dan Cunningham, the incoming President of the Columbia ARC. Mark filled us in with the latest news with the ARRL, and Dan sat in with the board after the meeting to discuss the SC QSO Party. The meeting was to help Dan understand what exactly is it that we do in the SCQP and things like who runs it, what costs are involved, and what we can do between our two clubs to work together. The SFCG will be supporting the SCQP by participating with bonus stations and financial support of the cost of postage. We also have three of our members on the SCQP board; they are Dave WN4AFP, Bill N4IQ, & Frank KG4IGC. We will be adding two members from the Columbia ARC after the 2019 event.

Our club voted to give financial support of 50.00 at the meeting to help cover the cost of shipping SCQP awards annually. We also voted to fund awards for the 2019 Swamp Fox on the Air. The Columbia ARC will be supporting the SCQP with awards. Minutes from the meeting will be posted on the club business page of our website soon. We gained two new members at the January meeting, Phil Chartier AC4Q and Mark Tarplee NU4FP.

The club voted in a new treasurer Phil Brown NI7R, congratulations Phil and welcome to the board! The club would like to thank our outgoing treasurer Dave Fuseler NJ4F for all of his hard work and dedication in the past couple of years. All other officers were voted in for another term and are as follows: President Frank KG4IGC, Vice President Dave WN4AFP, & Secretary Bill N4IQ. We need someone to volunteer to put together and present a new contest related presentation for next year's meeting. This can be strategies, setup, antennas, software, etc. If you would like to commit to doing a presentation for next year's meeting, please contact <u>Frank KG4IGC</u>.

### Brag List:

WB4HRL: Certificate: ARRL School Round Up 2018

### **Member Contributions:**

### **DX Does Not Answer You**

## Are They Deaf?

By Ron N4VZ

**REMINDER**: Don't transmit out of band during contests. A USB signal on 14.349.0 with a 2.8 KHz wide signal will be transmitting out to 14.351.9 which is out of band.

Although a U.S. amateur and DX target country may share a band allocation, the U.S. Amateur and DX station are not necessarily authorized to transmit on the same frequencies. How are you going to work these stations?

Background

Coordination of frequency usage world-wide is handled by the ITU – a part of the U.N. You might think that this will result in every

country having common frequency allocations and usage but this is not the case. There are several reasons.

- Only members of the U.N. can be voting members of the ITU. Only these nations have some 'obligation' to adopt ITU regulations but there is no way to force them to do so.
- There can be a long delay, as much as 10 years before an individual country adopts a new or changed ITU regulation. This creates a condition where some countries are operating under a new allocation and other countries are not.
- There can be differences in how regulations are adopted. This is partly due to how the frequencies were used prior to the regulation. In the U.S., the 60 Meter band is channelized USB where in other countries it is a block allocation.
- Some countries just have no interest in following international regulations.
- The ITU has broken the world into 3 zones. The U.S. is in region 2. The ITU regulations may differ between regions. For example, in the 40M band;
  - Region 1 & 2 Phone band begins at 7.040 while region 3 begins at 7.030
  - Region 3 top limit for phone is 7.100, region 1 top limit is 7.200 and region 2 top limit is 7.300 but region 2 may operate phone 7.075 to 7.100 west of 130 degrees west or below 20 degrees north. Got it?

### How to Work DX without a common transmit frequency

In S&P mode, scan outside your own band limits. 40 Meter General Class phone in the U.S. begins at 7.175 while region 3 ends at 7.100. Listen for a DX station calling and saying something like "listening 7180". This means you need to work him split listening on the current frequency and transmitting on 7180. He is doing the same in reverse.

SSB mode is the most common mode impacted by this issue, but other modes do have differences. Japan does not allow transmissions between 3.575.0 and 3.599.0 for example.

Remember that just because a country allows transmission on a frequency doesn't mean EVERY ham can do so. Just like the U.S., there are restrictions by license class.

Remember just because the ITU regulation allows a frequency a country may not. If you have a target country in mind, you should research their specific frequency allocations.

6 Meters can be tricky. Amateur allocation is often secondary with many limitations. 6 Meter usage is not allowed at all in region 1. If you are targeting this band more research is recommended.

### Resources

The ARRL has a chart showing amateur frequency allocation by region and major emission type. <u>http://www.arrl.org/amateur-frequencies-outside-the-us</u>

The ITU's International Amateur Radio Club 4U1ITU has a web page at <u>https://life.itu.int/radioclub/ars.htm</u>

This has a lot of useful information relating to this topic.

The IARU Radio Club has a page which has information about individual country differences. It is tedious to work through but the best source of information on this topic. It is actually footnotes to the frequency allocation documents found on the site but I find it useful just to look directly at the footnotes.

https://life.itu.int/radioclub/rr/arsfoot.htm

## Things to know

### **Microsoft end of OS support**

Client operating systems	Latest update or service pack	End of mainstream support	End of extended support
Windows XP	Service Pack 3	14 April 2009	8 April 2014
Windows Vista	Service Pack 2	10 April 2012	11 April 2017
Windows 7 *	Service Pack 1	13 January 2015	14 January 2020
Windows 8	Windows 8.1	9 January 2018	10 January 2023
Windows 10, released in July 2015 **	N/A	13 October 2020	14 October 2025

Microsoft's lifecycle support page still clearly shows 'Windows 8' is supported - which it isn't. Image credit: Microsoft

In the table above, Windows 8 refers to Windows 8.1 Update. Windows 8.1 (not update) and Windows 8.0 no longer supported as of August 2015. All security updates for Windows 8 (other than Win 8 Update) end January 2020.

If you have automatic updates for Windows 7 or 8 you might be pushed a Windows 10 'upgrade'. This was common while the upgrade was free (it is no longer free) but some users are reporting it is still happening.

## From the reflector:

Dave WN4AFP let the club know that the 2019 SFOTA competition is up and running. The 2019 SFOTA runs from December 22, 2018 through December 21, 2019. We run with these because we want all the scores in my December 31st each year. We have to create awards to have ready at the January meeting.

Bill N4IQ let us know that N1MM + now has an interface with WSJTx for FT8 in contest mode that became available January 2, 2019. <u>Here are the instructions for interfacing</u>. The new N1MM+ interface integrates the logs and also gives a list of FT8 decodes showing needed multiplier and stations.

Frank KG4IGC has suggested making more use of the chat rooms on the groups.io reflector. One use is during contests to help motivate each other and let everyone know how you are doing in the contest. Another use would be to chat about different subjects of interest to the club in real time. **NOTE:** *If you join a chat while contesting, make sure you do not use it for spotting yourself or other stations. Many contests have rules about spotting.* 

Al NE4EA told the club that he participated in his very first RTTY contest, and had a great time. He said the beginning was slow going, but ended strong with 111 RTTY contacts and 56 FT-8 contacts in the log. Great job AL!

Dave NJ4F shared some pointers from his 15 years of RTTY contesting:

- 1. It's all about saving time to a lot of guys, not re-sending useless or redundant information. If you are S&Ping, once you call a running station, if he answers you, he obviously has your call, and of course he knows who he is. So the usual reply is your call (so you will know he is answering you and not one of the other 8 stations calling), and the exchange. The reply would be: {YOURCALL} 599 SC SC. No need to send the RST more than once, we all know it will always be 599.
- 2. Always send the rest of the exchange twice, just to make sure noise doesn't interfere. And since he already knows who you are, and you know he is sending to you because he sent your call, the only thing he is looking for is the exchange: 599 SC SC. He's not looking for your call or his, UR, DE, K, QSL, or anything else used in a ragchew.
- 3. Once in a while, the runner will call CQ instead of acknowledging. Oh well, usually it means he got it, and doesn't want to waste time, so just assume it's a gud contact and go on.
- 4. Another macro I set up is for re-sending <u>the exchange only</u> 3 times. If they ask for a repeat, they already know the 599. Don't forget about a space at the end of a macro. Without it, noise adds to the exchange and they can't click on it."

Tom W1TEF tried an experiment by combining a couple of park activations with the NAQP CQ running QRP. He reports that it did not work out too good. From Tom:" It was hard to squeeze a spot to run parks without getting a lot of extraneous QSOs and the folks who were park chasers were getting frustrated with me, so discretion being the better part of valor, I switched to SSB.

Frank KG4IGC managed to put together two teams for the NAQP SSB. Both teams did very well in the contest; team 1 had a total of 64,614 points and team 2 made 17, 839 points.

Gil KS4YX inquired who all would be participating in winter field day.

Hans WU0B told the club about his SO2R effort in the NAQP SSB.

Frank KG4IGC posted the results from the January 2019 election. The officers for this year are as follows: President: KG4IGC, Vice President Dave WN4AFP, Treasurer Phil N7IR, and Secretary Bill N4IQ.

Dave WN4AFP shared an email from Dean NW2K concerning the Phone Fray mini tests:

**Phone Fray** - Tuesday Evenings, 9:30pm EST (0230-0300z Wednesday), this is a 30-minute SSB contest. Please bring a friend and introduce a new contester into the mix. One QSO or many, please enter your score. The Phone Fray is weekly and mirrors NAQP SSB; exchange name and S/P/C, mults per band. Suggested center frequencies are: 21.325, 14.250, 7.175, 3.800, 1.875. General Ops can be found above 3.800. Twenty may be open at the start, then folks move down to 40, 80, and Q's are had on 160 in the last 5-10 minutes.

Rules are here:

http://www.perluma.com/Phone Fray Contest Rules.pdf

Join the free Yahoo Groups Reflector for communications:

https://groups.yahoo.com/neo/groups/PhoneFray/info

No logs, just report scores to <u>http://www.3830scores.com</u>

Dave WN4AFP also reminded the club that the South Carolina QSO Party is Feb. 23rd 2019 at 1500z. Abbeville County is the Rare County this year. Abbeville county contacts are worth an extra 50 points. WW4SF and W4CAE will be running multiple bonus stations (250 points). If you have a mobile station, we'd love to have you on the air for this event. Dave will be working SO3R at N4IQ using the call WN4AFP which will be worth another 50 points.

We are also looking for volunteers to run the WW4SF bonus stations again this year. If you would like to be a bonus station, please contact <u>Dave WN4AFP</u> ASAP.

### From the SCQP website:

To celebrate five years of North and South Carolina QSO party synergy Chairmen Marty, W4MY, (North Carolina) and Dave, WN4AFP (South Carolina) are teaming up to operate very special bonus stations for the QSO parties this year.

The two QP leaders are teaming up to activate and operate Bonus Station WN4AFP/W4MY as a full weekend bonus. The Chairmen will be the ops. When you you work this bonus it will be either Dave or Marty. (And maybe a helper on digital in NCQP.) In addition to being in the slate of bonus stations, there are some additional perks offered to those that get these guys in their log.

Working this bonus station (one QSO in NCQP, and one in SCQP – and submitting your log to each appropriately) puts you in a the hat

for a very special drawing. The two state QSO Party committees are sponsoring a \$200 ham radio store gift certificate to go to the winner. This is open to both In-State and Out-of-State Single-Ops and In-State Mobiles who submit logs to both North and South Carolina QSO parties.

### **Other News:**

Dues: Reminders: Yearly dues are now due in January; late on Mar 1 Payment can be made to Phil NI7R, or via our club business page on the website. Methods: Paypal, check or money order made out to Swamp Fox Contest Group, cash, debit/credit card (PayPal).

\*\*Please note: If you use the "Friends and Family" option to send, PayPal doesn't take their percentage out.

Dues: - \$10 per person Family rate: Still \$10.00

The preliminary results of the 2018 ARRL November Sweepstakes have been posted: <u>CW Sweepstakes</u> <u>SSB Sweepstakes</u>

ARRL Board of Directors Annual Meeting January 18-19, 2019 minutes are out and can be found <u>here</u>.

Are your wire antennas only 10 feet off of the ground? Want to get them higher? Check out this great article called <u>The WK1J Hang 'Em</u> <u>High antenna launcher!</u>

We opened a poll last month to see what our club member's favorite mode of operation and power level in contests were. This will hopefully give us a better idea of who likes what type of contests. 14 of our members out of 32 participated in the poll. Results were as follows:

CW High Power 10.3% with 4 votes CW Low Power 10.3% with 4 votes CW QRP 5.1% with 2 votes Digital High Power 5.1% with 2 votes Digital Low Power 15.4% with 6 votes Digital QRP 0% with 0 votes SSB High Power 5.1% with 2 votes SSB Low Power 15.4% with 6 votes SSB QRP 5.1% with 2 votes RTTY High Power 15.4% with 6 votes RTTY Low Power 10.3% with four votes

### Hamfests:

### **Charleston Hamfest:**

Feb. 2nd, 2019 doors open @ 8AM and close at 3 PM

Armory Park Community Center, 5000 Lackawanna Blvd., N. Charleston, SC (32.885° N, 79.993° W) Exit 213 off I-26, East Montague Ave. The Center is close to Tanger Mall.

Talk in: The WA4USN linked Repeater System (146.790- No Tone Charleston, 146.940- Tone 123.0 Summerville and 147.045+ Tone 103.5 St. George). Other area repeaters are 145.450-, 146.760-, 147.180+, 147.270+, 147.300+, 147.345+, 443.800+, and 444.825+ (all with Tone 123.0) and 147.150+ Tone 91.5

More info: WA4USN.org

### SFOTA:

Congratulations to the following members for an outstanding job in the Swamp Fox on the Air Competition! Remember: <u>You have to play</u> <u>to win</u>. Most of these numbers are within reach to all of our members, be sure to get on the air in 2019 and topple our 2018 winners!!

#### **Most Contacts CW:**

1<sup>st</sup> place: Bill N4IQ 9832 q's, 2<sup>nd</sup> Place: Dave WN4AFP 4424 q's, 3<sup>rd</sup> Place: Phil NI7R 2533 q's

#### Most Contacts SSB:

1<sup>st</sup> place: Bill N4IQ 1570 q's, 2<sup>nd</sup> Place: Dave WN4AFP 1521 q's, 3<sup>rd</sup> Place: Hans WU0B 1441 Q's

#### **Most Contacts Digital:**

**1st place:** Bill N4IQ 241 q's, **2<sup>nd</sup> Place**: Al NE4EA 87 q's, **3<sup>rd</sup> Place**: Ted K7OM 16 q's

#### **Most Contacts RTTY:**

**1**<sup>st</sup> **place**: Bill N4IQ 6847 q's, **2**<sup>nd</sup> **Place**: Ted K7OM 5004 q's, **3**<sup>rd</sup> **Place**: NJ4F 1494 q's

#### Most QSO's overall:

**1st place:** Bill N4IQ 17473 q's, **2<sup>nd</sup> Place**: Ted K7OM 8195 q's, **3<sup>rd</sup> Place**: WN4AFP 5945 q's

#### Most Improved in 2018:

Ted K7OM had total 5728 q's in 2017 and 8195 q's in 2018, an improvement of 2,467 q's! Congratulations on a <u>great</u> job Ted!

#### **Current Leaderboard**

	2019 OVERALL STANDINGS							
	CALL	Contests	CW QSO'S	SSB QSO'S	DIGITAL QSO'S	RTTY QSO'S	TOTAL QSO'S	
1)	N4IQ	9	1201	0	8	1487	2696	
2)	KG4IGC	3	255	426	0	513	1194	
3)	WN4AFP	21	810	109	0	63	982	
4)	K7OM	5	260	0	0	452	712	
5)	KS4YX	4	233	13	27	390	663	
6)	N4VZ	2	0	171	232	241	644	
7)	NI7R	2	401	0	0	0	401	
8)	WB4HRL	3	0	230	0	0	230	
9)	KG6MC	2	222	5	0	0	227	
10)	NJ4F	1	180	0	0	0	180	
11)	WU0B	2	0	173	0	0	173	
12)	K4KWB	1	0	125	0	0	125	
13)	NE4EA	1	0	43	0	0	43	
14)	AJ4UQ	1	0	0	0	25	25	

#### 2040 OVED ALL STANDINGS

#### 2019 INDIVIDUAL MODE STANDINGS

CALL	CW QSO'S	CALL	SSB QSO'S	CALL	DIGITAL QSO'S	CALL	RTTY QSO'S
N4IQ	1201	KG4IGC	426	N4VZ	232	N4IQ	1487
WN4AFP	810	WB4HRL	230	KS4YX	27	KG4IGC	513
NI7R	401	WU0B	173	N4IQ	8	K7OM	452
K7OM	260	N4VZ	171			KS4YX	390
KG4IGC	255	K4KWB	125			N4VZ	241
KS4YX	233	WN4AFP	109			WN4AFP	63
KG6MC	222	NE4EA	43			AJ4UQ	25
NJ4F	180	KS4YX	13				
		KG6MC	5				

From the SFOTA committee: We would like to wish everyone good luck in the 2019 SFOTA in-house rivalry! Let's get those rigs on the air and rack up those Q's!! All claimed scores must be posted to 3830scores.com and don't forget that your SFOTA scores must be posted on the leaderboard within 10 days. GO SWAMP FOXES!!!

### **Contests:**

**CWops Mini-CWT Test** Jan 31, 2019 0300z N4IQ SOHP (SO2R) 115 Q's 12,075 WN4AFP SOLP 11 Q's 121 **Phone Fray:** Jan. 30, 2019 KG6MC Single Op LP 5 Q's 20 WU0B Single Op LP 4 Q's 12

CQ 160 Meter Contest:Jan, 25, 2019KG6MC Single Op HP 222 Q's27,234NJ4F Single Op HP 180 Q's26,070NI7R Single Op HP 210 Q's22,448K7OM Single Op LP 185 Q's18,103

### Club Total: 93,855

## Winter Field Day: Jan. 26, 2019

WB4HRL 1H LP 140 Ph.Q's , 840

KS4YX 27 CW Q's, 13 Ph. Q's 41 Dig. Q's, 5,960

#### BARTG RTTY Sprint: Jan. 26, 2019

K70M 52 Q's, 6,240

## Hungarian DX Contest: Jan 19, 2019

K70M SOABCW HP 42 Q's 2,030

North America QSO Party: Jan. 19, 2019 SFCG Reptiles Team 1 KG4IGC SOLP 426 q's, 44,730 WU0B SOLP 169 q's, 10,985 K4KWB SOLP 125 q's, 7,875 NE4EA SOLP 43q's, 1,204 SFCG Reptiles Team 2 WN4AFP SOLP 109 q's, 5,014 N4VZ SOLP 171q's 12,825 W1TEF (unforeseen problems with antenna) **Individual Scores:** WB4HRL SOLP 57q's 2,280 ARRL VHF Contest Jan. 19, 2019 KS4YX SOLP 27q's 432 ARRL RTTY RU Jan.5, 2019

K7OM SOHP 400 q's	28,000
NJ4F SOHP 187 q's	9,537

KG4IGC SOLP 513 Q'S	44,631			
KS4YX SOLP 349 Q'S	25,477			
NE4EA SOLP 111 Q'S, 56 DIG Q'S	9,352			
WN4AFP SOLP 63 Q'S,	2,079			
KM4RK SOLP 57 Q'S	1,824			
AJ4UQ SOLP 25 Q'S	400			
N4IQ SOHPU (SO2R) 1428 Q'S, 9 DIG Q'S 149,449				
N4VZ SOHP 473 Q'S	47,300			

Club Total: 292,849

### **Upcoming Contests:**

<u>QRP Fox Hunt</u>, Feb 1, 0200z to Feb 1, 0330z; CW; Bands: 80m Only; RST + (state/province/country) + name + power output; Logs due: January 24.

<u>NCCC Sprint Ladder</u>, Feb 1, 0230z to Feb 1, 0300z; CW; Bands: 160, 80, 40, 20, 15, 10, 6m; Serial No. + Name + QTH; Logs due: January 27.

<u>Vermont QSO Party</u>, Feb 2, 0000z to Feb 4, 0000z; All; Bands: 160, 80, 40, 20, 15, 10, VHF/UHF; VT: RS(T) + County, non-VT W/VE: RS(T) + (state/province), DX: RS(T); Logs due: March 3.

<u>10-10 Int. Winter Contest, SSB</u>, Feb 2, 0001z to Feb 3, 2359z; Phone; Bands: 10m Only; 10-10 Member: Name + 10-10 number + (state/province/country), Non-Member: Name + 0 + (state/province/country); Logs due: February 11.

Black Sea Cup International, Feb 2, 1200z to Feb 3, 1159z; CW, SSB; Bands: 160, 80, 40, 20, 15, 10m; HQ: RS(T) + club/org abbreviation, Black Sea Countries: RS(T) + ITU Zone No., BSCC Members: RS(T) + "BS" + club

number, Others: RS(T) + ITU Zone No.; Logs due: February 13.

<u>F9AA Cup, CW</u>, Feb 2, 1200z to Feb 3, 1200z; CW; Bands: 80, 40, 20, 15, 10, 2m; RST + Serial No.; Logs due: March 4.

<u>Mexico RTTY International Contest</u>, Feb 2, 1200z to Feb 3, 2359z; RTTY Only; Bands: 80, 40, 20, 15, 10m; XE: RST + State, non-XE: RST + Serial No.; Logs due: March 9.

FYBO Winter QRP Sprint, Feb 2, 1400z to Feb 3, 0000z; CW, SSB, Digital; Bands: 160, 80, 40, 20, 15, 10m; RS(T) + (state/province/country)+ name + power out + temperature(F); Logs due: March 4.

<u>Minnesota QSO Party</u>, Feb 2, 1400z to Feb 3, 0000z; CW (CW/RTTY/PSK), Phone (FM/SSB), FT8 (see rules); Bands: 160, 80, 40, 20, 15, 10m; MN: Name + County, W/VE: Name + (state/province), DX: Name; Logs due: February 16.

AGCW Straight Key Party, Feb 2, 1600z to Feb 2, 1900z; CW; Bands: 80m Only; AGCW: RST + Serial No. + "/" + Class + "/" + Name + "/" + Age; Logs due: February 28.

British Columbia QSO Party, Feb 2, 1600z to Feb 3, 0400z and, Feb 3, 1600z to Feb 4, 0000z; CW, SSB, Digital; Bands: 160, 80, 40, 20, 15, 10m; BC: RS(T) + District, non-BC: RS(T) + (state/province/"DX"); Logs due: March 4.

FISTS Winter Slow Speed Sprint, Feb 2, 1700z to Feb 2, 2100z; CW; Bands: 80, 40, 20, 15, 10m; FISTS: RST + (state/province/country) + first name + FISTS No., non-FISTS: RST + (state/province/country) + first name + power; Logs due: March 4.

North American Sprint, CW, Feb 3, 0000z to Feb 3, 0400z; CW; Bands: 80, 40, 20m; [other station's call] + [your call] + [serial no.] + [your name] + [your state/province/country]; Logs due: February 10.

<u>RSGB 80m Club Championship, SSB</u>, Feb 4, 2000z to Feb 4, 2130z; SSB; Bands: 80m Only; RS + Serial No.; Logs due: February 5.

<u>ARS Spartan Sprint</u>, Feb 5, 0200z to Feb 5, 0400z; CW; Bands: 80, 40, 20, 15, 10m; RST + (state/province/country) + Power; Logs due: February 7.

<u>QRP Fox Hunt</u>, Feb 6, 0200z to Feb 6, 0330z; CW; Bands: 80m Only; RST + (state/province/country) + name + power output; Logs due: January 24.

<u>Phone Fray</u>, Feb 6, 0230z to Feb 6, 0300z; SSB; Bands: 160, 80, 40, 20, 15m; NA: Name + (state/province/country), non-NA: Name; Logs due: January 25.

<u>CWops Mini-CWT Test</u>, Feb 6, 1300z to Feb 6, 1400z and, Feb 6, 1900z to Feb 6, 2000z and, Feb 7, 0300z to Feb 7, 0400z; CW; Bands: 160, 80, 40, 20, 15, 10m; Member: Name + Member No., non-Member: Name + (state/province/country); Logs due: January 26.

<u>UKEICC 80m Contest</u>, Feb 6, 2000z to Feb 6, 2100z; CW; Bands: 80m Only; 4-Character grid square; Logs due: January 30.

#### **VHF+ CONTESTS**

See NCCC Sprint Ladder, Winter Field Day, Vermont QSO Party, F9AA Cup, CW

### **Newsletter Contributions:**

If you would like to submit an article, contesting news, or perhaps a write up on any projects you are working on that you would like to share with the club please send them to <u>kg4igc@att.net</u>.

I'd like to thank Kevan N4XL and Gil KS4YX for their contributions of articles for the newsletters in 2018.