



THE FRANKFORD RADIO CLUB NEWSLETTER

PROFICIENCY THROUGH COMPETITION

CALENDAR

January 2006:

- 7-8 ARRL RTTY Roundup
- 10 FRC Main Meeting, Phila**
- 10 Remy Meeting B**
- 14-15 North Amer. QSO Party, CW
- 19 T.I.T.S. Meeting, Noon**
- 21-22 North Amer. QSO Party, SSB
- 24 Remy Meeting B**
- 28-29 CQ 160 Meter Contest, CW

February 2006:

- 4-5 Delaware QSO Party
- 4 North American Sprint, SSB
- 11 North American Sprint, CW
- 14 FRC Main Meeting, Phila**
- 14 Remy Meeting B**
- 16 T.I.T.S. Meeting, Noon**
- 18-19 ARRL DX Test, CW**
- 25-26 CQ 160 Meter Contest, SSB
- 28 Remy Meeting B**

March 2006:

- 4-5 ARRL DX Test, SSB**
- 14 FRC Main Meeting, Phila**
- 14 Remy Meeting B**
- 16 T.I.T.S. Meeting, Noon**
- 18-19 Russian DX Test
- 25-26 CQ WPX Contest, SSB
- 28 Remy Meeting B**

CHANGES

None this month

Deadline for February issue:

Sunday, January 29, 2006

President's Column

I would like to wish everyone in the club and all those who support our activities the very best for 2006.

The CQ World Wide contest for 2005 is now in the books. I don't know how we did yet but hopefully I'll have some idea by the January meeting. Now, it's time to set your sights on the ARRL DX contest. The CW weekend is February 18 & 19. The Phone weekend is March 4 & 5. If you need a place to operate let us know. There are several Multi-Op stations that still need help.

I have seen a lot of chatter on the reflector of people thinking of changing their logging programs. If you want to be ready with new software for ARRL, now is the time to get it setup and running and tested. Learning a new program during the contest is not very productive.

We had a nice turnout for the December meeting at the King of Prussia fire-house. Barry, **W2UP**, gave a talk on his trip to Macedonia to compete in the High Speed CW World Championships. Barry had a lot of pictures that never made it into the article he did for QST which made for a very entertaining presentation. Thanks Barry.

The January meeting will be January 9th at the College in Philadelphia. I hope to see many members and guests there.

73 - John - K3ZV



MEETINGS

Main Meeting in King of Prussia

The main monthly meeting of the **Frankford Radio Club** will be held Philadelphia on Tuesday, January 10 at 8 PM. Location is Rosenburger Hall, Room 102 at the University of the Sciences.



T.I.T.S. meeting—The Trexlertown International Transmitting Society meets on Thursday, January 19 at 12:00 noon. Location is the Hometown Diner on Route 222 in Trexlertown..

Rexy Meeting B—The Rexy's **FRC Meeting B** meets about 8 PM on the second and fourth Tuesdays of each month.

The Benefit of Joining FRC

Thanks to Jack, **N2VW**, for the following from the Burlington County Radio Club Newsletter:

"Confessions of a semi-serious contester:

Over the years I have been a casual contester. I'd make some contest contacts here and there. My prime motivation was to pass out a few points, gather some awards - WAC - WAS - DXCC. Earlier this year, I joined the Frankford Radio Club - a contest club. I joined FRC with some trepidation - some of these guys are the big guns of the contest world. With just a few contests under my belt with the FRC, I have noticed a difference. I have upgraded my station. I am working on improving my antenna situation. But, best of all, I am a better, more skilled operator. I am now copying Morse code directly to the computer instead of using paper. Try a contest, you'll have fun.

73,
Bob Nelson
K2QPN@ARRL.NET
President
Burlington County Radio Club"

FRC CQWW CW Claimed Scores

Station	QSOs	Zones	Cntrys	Class	Score	Station	QSOs	Zones	Cntrys	Class	Score
AA1K	2,629	131	437	A	4,133,904	N3NR				A	144,796
AB2E				AA	636,228	N3RJ				A	524,991
HS0ZDJ	1,015	101	253	AA	814,554	N3RS	4,938	166	629	MM	11,084,685
	<i>Op W2YR</i>						<i>Ops N3RS K3IPK N3ED N3NA W8FJ</i>				
K2DM	500	70	191	A	365,139	N3RW	175	23	72	7	47,075
K2GN	603	88	298	AA	645,392	N3ZA	723	102	329	AA	906,510
K2NG				AA	4,620,006	NA2U	1,202	122	437	AA	1,881,594
K2OWE				AA	226,048	NE3F				M2	3,448,215
K2QPN				AA	306,240		<i>Ops NE3F K3ATO KA5VCQ KE2VB</i>				
K2SB				AA	632,745		<i>KS3F W3CF</i>				
K2SG	954	82	303	AA	1,038,739	NN3Q	1,510	107	404	AA	2,187,080
K3BU	75	10	26	Q1.8	5,436	NO2R	960	115	464	AA	1,560,405
K3JGJ	267	18	85	3.5	76,529	P40W	6,535	153	460	A	12,000,000
K3NM	797	111	426	AA	1,205,028		<i>Op W2GD</i>				
K3OO	2,819	150	551	MS	5,583,465	V26K	5,469	114	409	A	7,175,560
	<i>Ops K3OO N2TK</i>						<i>Op AA3B</i>				
K3PH	1,772	122	458	AA	2,911,600	W1GD	1,040	119	432	AA	1,605,369
K3WW	2,768	139	534	AA	5,307,951	W2CG				AA	159,775
K3ZV	813	88	297	AA	879,725	W2RD				AA	478,820
KC1XX	7,015	176	679	MM	16,657,965	W2REH				AA	534,873
	<i>Ops KC1XX K1GQ K1QX N2AA N3RD</i>					W2UP	3,297	145	540	AA	6,430,095
	<i>W1FV W2RQ WA1Z</i>					W2YC	1,514	124	471	MM	2,543,030
KD3TB				AA	11,680		<i>Ops W2YC AA2WN WK2W</i>				
KF3B	1,511	93	311	AA	1,763,864	W2YR				AA	
KP2/K3MD	2,671	80	219	A	1,773,967	W3AP				A	132,384
	<i>Op K3MD</i>					W3BGN				A	3,646,512
KQ3F	1,660	112	414	AA	2,484,824	W3FV	1,535	120	413	AA	2,305,758
N1RK				AA	116,928	W3GK				AA	841,925
N2CQ				AA	136,890	W3GM	885	115	385	AA	1,246,000
N2LT				A	3,732,984		<i>Op K3ND</i>				
N2NT	3,106	136	485	A	5,502,681	WE3C	2,167	130	438	A	3,495,472
N2RM	1,318	82	249	A	1,265,744	WP2Z	8,230	152	542	M2	13,786,020
N2VM				A	38,413		<i>Ops K3CT K3TEJ</i>				
N2WKS				AA	225,896	WT3Q	1,013	135	492	M2	1,769,394
N3BNA				MS			<i>Ops WT3Q K3OX N3BNA</i>				
	<i>Ops N3BNA WT3Q</i>										
N3GNW	273	65	181	AA	176,874						
N3KN	620	82	278	AA	608,040						
N3MX	915	104	395	MS	1,272,949						
	<i>Ops N3MX K3YD</i>										

Only the a portion of multiop scores, based on the percentage of FRC members at the operation count for the club. Full scores are reported above.

ARRL 160M Contest FRC Claimed Scores

Station	QSOs	US/VE	DX	Score	Class
AB2E	435	78		73,008	SOH
W2YC	613	76	20	124,608	SOH
K3OO				26,340	M
W3BGN	1,138	78	31	281,111	SOH
K3QPN				8,325	M
AA1K	1,525	79	45	438,092	M
K3OO	200	48	12	26,340	M
W3IZ	185	48	9	22,629	
AA3B	540	67	13	90,000	M
K3NM	100	49	9	13,340	M
N2NT	902	77	30	222,881	SOH
N2NC	275	54	6	34,260	SOL
WT3Q	305	72	16	59,488	SOL
K3WW	1,359	79	44	387,819	M
K3MD	739	74	19	144,429	M
N3NA	398	62	9	59,498	SOH
W3RJ				129,105	SOH
W8FJ	645	92		126,684	
N1RK	174	48		16,992	M
KF3B	780	74	25	166,320	SOH
N3ZA	108	45	3	10,395	M
NN3Q	928	71	29	206,900	M
W2GD	1,430	79	46	418,875	M
<i>Ops. W2GD, K2GN, K2SZ, K2TW, KC2COB, N2EA, N2HM, N2OO, W1GD, W2ARP, W2KRP, W2NO, W2RQ</i>					
N3MX	104	41	7	9,266	SOH
NO2R	1,361	79	44	390,894	M
<i>Ops. NO2R, K2NG</i>					
N3RJ				52,602	SOH
W3FV	365	68	8	57,760	M
WE3C	1,276			325,583	SOH

Amateur Radio Vanity Call Sign Processing Will Resume January 4

The FCC has announced that routine processing of Amateur Radio vanity call sign applications will resume Wednesday, January 4, 2006. The Wireless Telecommunications Bureau (WTB) suspended vanity processing in September as an indirect result of its hurricane-related extensions of certain regulatory and filing deadlines. The Commission said licensees or applicants needing relief beyond the initial extension periods should follow the process for submitting waiver requests provided in §1.925 of the Commission's rules.

"The Bureau will consider additional relief related to the hurricanes on a case-by-case basis," the FCC said December 19 in a public notice. Earlier this year, the FCC announced it would extend filing and regulatory deadlines for licensees in parts of Louisiana, Mississippi, Alabama, Texas and Florida directly affected by hurricanes Katrina, Rita and Wilma. During the extension periods, the WTB temporarily suspended certain automated licensing functions. These included dismissing applications that are returned and not amended on a timely basis, changing the status of a call sign from active to expired if a license is not renewed within the two-year grace period for Amateur Radio licensees, and issuing vanity call signs.

Perhaps this should serve as a warning to those who might try to steal **K300**'s frequency in a future contest. He "knows" people!



Rick, K300 with Dave "The Hammer" Schultz



Rick, K300 with Larry "The Easton Assassin" Holmes

'Nuff Said!

HF Receiver Info

Thanks to Blair, **K3YD**, for both of the following:

FORWARDED FROM ICOM REFLECTOR

W1NR wrote:

>There is nothing that filters can do for you if someone is putting large amounts of RF energy on top of the signal you >are trying to hear.

While true, this is not the complete picture. A receiver can generate its own internal noise within the passband due to interfering signals which are outside the passband. This can happen in many ways:

1. IMD products are generated when two external signals (both of which may be outside the passband) mix to create internal (to the receiver) signals within the passband. IMD dynamic range is the metric for this problem.
2. Internal phase noise which is generated by the receiver's own synthesizer. This sounds like white noise and effectively raises the noise floor of the receiver.
3. In-band IMD which is the result of signals within the receiver's passband being distorted by the receiver itself.

For a good understanding of these issues, there are several good articles:

"QST Product Reviews -- In Depth, In English" by KC1SX (who actually does ARRL's Product Tests)

<http://www.arrl.org/tis/info/pdf/0408032.pdf>

"The DX Prowess of HF Receivers" by SP7HT <http://www.arrl.org/tis/info/pdf/020910qex036.pdf>

"Radios Used in a Contest Environment" by Rob Sherwood NC0B of Sherwood Engineering at the 2004 Dayton Hamvention <http://www.sherweng.com/presentation.html>

...and a follow-up Receiver Performance White Paper by Sherwood:

<http://www.sherweng.com/images/MeasurementAccuracy&SampleVariation.pdf> <http://www.sherweng.com/images/MeasurementAccuracy%26SampleVariation.pdf>

Tom Rauch W8JI on Receiver Performance <http://www.w8ji.com/receivers.htm>

73, Bill W4ZV

Low Band DXing

I [W4ZV] gave a short talk on hearing weak DX on the low bands at the South East DX and Contesting Convention (SEDCO) on October 1. Click the bottom of the following web page to view (you must have MS Powerpoint installed). Hopefully most slides are self-explanatory since I did not make a written copy of the entire talk.

<http://users.vnet.net/btippett/sedco.htm>

CONTESTING — TIPS, TECHNIQUES, RESOURCES

Reprinted with permission from the November 30, 2005 Contest Rate Sheet

Jim K9YC recently finished and published three years worth of practical research on the use of ferrites for eliminating RFI from audio gear. The paper (<http://audiosystemsgroup.com/SAC0305Ferrites.pdf>) should be quite helpful to RFI detectives everywhere. He also has created a presentation geared to hams trying to eliminate RFI in and around their stations - <http://audiosystemsgroup.com/Ferrites-Ham.pdf>. Thanks, Jim!

Spreadsheets are often pressed into service for logging chores, but converting the resulting files to ADIF for submitting them to a contest sponsor or importing into a "real" logging program is a pain. Luckily there are well-documented procedures for making the conversion at <http://www.g6csy.net/ham/adif.html> and

<http://www.storm.ca/~ve3iay/spreadsh.html>. As long as we're on the subject, the Web page at

<http://www.qsl.net/dxkeeper/conversion.htm> lists quite a number of log conversion programs. (Thanks, Steve KE8LS)

Reprinted with permission from the December 14, 2005 Contest Rate Sheet

Icom has a whole bunch of new ham radio videos on their Web site at <http://icomamerica.com/amateur/video>. There are a trio on the 2005 Dayton Hamvention, a D-STAR presentation by N5MIJ and N5ZPR, two on ham radio in India featuring VU2RBI, and a feature on ham radio from Channel 12 TV in Chattanooga, TN.

West Mountain Radio (<http://www.westmountainradio.com/>) has a new rig control product, the "RIGtalk USB Rig Control Interface." New laptops and PCs often don't have RS-232 ports, so the USB interface becomes ever more important. The interface works with the Icom and Ten-Tec CI-V interface and the Yaesu CAT interface and costs \$49.95.

ARRL DX CW operators are licking their chops in anticipation of the 3Y0X Peter I multiplier, the DXpedition planning on being active during the contest. DX Engineering (<http://www.dxengineering.com/>) has supplied them with a special, ruggedized 75/80-meter vertical to withstand the rugged climate and put out a big low-band signal. You can also purchase a 3Y0X hat, just right for winter-time antenna work, that will support the expedition.

Have any antenna modelers in the family? AntenneX has just released CD-ROM #13 with 1133 articles plus free software for antenna utilities, antenna & network designs and modeling. The CD is available at <http://www.antennex.com/news/index.html>.

Dave K1TTT has just published "Building a Super Station" covering over 20 years of building a contest station. There are lots of operating pictures and bunches of technical and contesting tidbits. It's available in a full color printed version or for download at: <http://www.lulu.com/content/182762>. Whether you're a serious contester or not, you'll find plenty of value here.

Morse Ring tones

Thanks to Blair, **K3YD**, for the following:

From RadCom (November 2005, p. 10)

Ring tone programmer and Morse fanatic Andy booth, M1RGZ, has developed a free-to-use online computer program to generate personalized Morse code ring tones for mobile [cell] phones. Andy's website, <http://morsetones.no-ip.org/>, makes it easy. You simply enter a message, choose a ring tone speed and pitch, then activate. A MIDI file will then be generated that you can copy to your mobile phone.

CONTESTING — TIPS, TECHNIQUES, RESOURCES

Reprinted with permission from the December 14, 2005 Contest Rate Sheet

If you have submitted your log to the ssb@cqww.com or cw@cqww.com email addresses and have not received an acknowledgment reply from the CQWW Robot, at least one ISP (AOL) has apparently lost some email. Whether you are an AOL user or not, first check your "spam box" for the CQWW Robot reply. Your ISP may have "filtered" it for you. Or you may have filtered it for yourself if you're using your own spam solution. Regardless, even if you have received a confirmation number, check these Web pages to make sure your log has been received: SSB: http://www.cqww.com/logs-received_ssb.htm, CW: http://www.cqww.com/logs-received_cw.htm. The lists are auto-updated at least daily. (Thanks, Dave KM3T)

Dave K8CC contributes a not-so-well-known transmission-line trick - the 1/12th wavelength transformer. Dave's station uses surplus 75-ohm CATV hardline, matching the antennas to 75 ohms, then matching the transmission lines to the rig's preferred 50 ohms with the transformer. Place a 1/12th wavelength section of 75-ohm impedance in series with another 1/12th wavelength section of 50-ohm cable. Connect the 50-ohm section to the 75-ohm load and you'll see a 50-ohm at the output of the 75-ohm section. It looks like this: 50 ohms in ===75===[]===50=== 75-ohm load.

Here's another piece of software to perform analysis on contest logs. It's called SH5 and was written by UA4WLI. The software is available at <http://rescab.nm.ru/>. (Thanks, Bob N6TV and Howie N4AF)

Here's a great evening project - a circular SWR, Gain, Loss and Return Loss chart by F5BU. Download the pieces in PDF format from <http://tk5ep.free.fr/tech/abaqueROS/gainchart.php>, print them out and attach them - voila! (Thanks, Scott KB0FHP)

Those of you working with long Beverage runs, elevated radials, or the like may be interested in the following article on working with "hi-tensile wire" from the University of California Farm Extension program. <http://www.foothill.net/~ringram/hitensle.htm> (Thanks, Bob K0RC)

More on Beverages - "Memorandum on the Beverage Wave Antenna for Reception of Frequencies in the 550 - 1500 Kilocycle Band" by Benjamin Wolf and Adolph Anderson. Original Article, <http://www.akdart.com/bev/bev.html>. Converted to HTML for better legibility: <http://www.akdart.com/bev/bev2a.html> (Thanks, John W0UN)

For those of us who wear glasses, headphones can be a pain, literally. Airline pilots have a solution with David Clark "Stop-Gap" eyeglass frame cushions. (<http://davidclark.com/PDFFiles/TwoWayBrochure.pdf>) Placed on eyeglass frame temples, Stop-Gaps provide added comfort and stop noise from leaking through the ear seal. These are available from many aviation supply shops. (Thanks, Bob N6TV and John VE3EJ)

Speaking of headphones, so to speak, their foam earphone pads can take a beating over a contest season, degenerating into grubby, foam-shedding gunk. RadioShack has several replacement foam pad sets and I've found model number 33-380 to be a good fit for the Heil BM boomsets, for example. Heil's prices and service for replacements are quite good, but if you find yourself needing new ones on contest day, the local RadioShack may have them on the rack.

Here is an animation (1.8 Mb in size) of 10-meter conditions in North America for the preceding 24 hour period - <http://propnet.findu.com/yesterday.gif>. Data is gathered by volunteers using PSK31. For more information and additional maps, browse to <http://www.PropNET.org> <http://www.propnet.org/>. (Thanks, Ev W2EV)

Reprinted with permission from the December 28, 2005 Contest Rate Sheet

WRTC Application deadline extended to 20 Jan 2006! "Dear WRTC 2006 friends: We thank you all for the applications already received. We perfectly understand that with the Region s division is not so easy to come up with the final application. We also have several applicants that are still consolidating their application document. For application date requirement we will consider the date of the first submission. Considering that we decided to postpone our dead line from next Dec 31st up to January 20th 2006. Thanks for supporting WRTC 2006. Best 73, Oms."

Al Waller K3TKJ announces that an Icom IC-756PROIII will be given away as part of the annual QSL/QTH Web site fund-raising drive. The drawing will be held on 15 Jan 2006 and donors to QSL/QTH.net are automatically entered into the drawing. More information is available at <http://www.qsl.net/>.

Icom owners have several third-party options for band decoders that operate from the Icom CI-V data interface:

- microHam's band decoder (<http://www.microham.com/band%20decoder.html>)
- Bob K6XX has a homebrew design at (<http://www.k6xx.com/radio/icbsciv.html>)
- Elecraft's KRC2 is very flexible (<http://www.elecraft.com/>) (Thanks, Risto W6RK and Rick K6VVA)

"If you are recycling a bottle for outdoor use, make sure you see 'PETE' or 'PET' (polyethyleneterephthalate, a.k.a. 'polyester') on the bottom. PP (polypropylene) and PE (polyethylene) will not hold up so well, particularly if they are food-grade which has limited stabilizer options. PET is inherently stable, and its structure will also filter UV to give some protection to whatever the project will house." (Thanks, Stan KD4BTH)

There is a very nice summary of several types of basic transistor circuits, "An introduction to analog circuits part 1: transistors and more" by Reno Rossetti on the Planet Analog Web site: <http://www.planetanalog.com/showArticle.jhtml?articleID=163702498>.

Visited the Heil Sound Web site lately? There is a useful page of topics of interest to all at <http://heilsound.com/amateur/harmonics.htm#DC> <http://heilsound.com/amateur/harmonics.htm>. This issue includes notes about setting your DSP properly, getting rid of RFI to your mike, and other things.

If you run out of "Coax Seal" on your next antenna project, you could try "Duct Seal" that is found at places like Lowes and Home Depot. It's a soft pliable putty that doesn't harden. Self-vulcanizing tape is also available at hardware-type stores and has the added advantage of being a lot easier to remove than putty. The old stand-by is three carefully-wrapped layers of Scotch 33+ or 88+ tape. When your editor was preparing for the K7C trip, Kimo KH7U demonstrated that a piece of mastic (a flexible material not unlike putty) at significant diameter transitions, such as at the back of the PL-259 outer shell, make the tape wrap behave much better. (Thanks, Rick KC8AON, Larry N8LP, and George K5TR)

<http://www.qsl.net/lz1jz>



N2SS
FRC DX NEWS
 Editor

JANUARY **21ST YEAR** **2006**

**Notes From
Your Editor**

Happy New year 2006. I've just gotten used to writing "20--" instead of "19--" and now I have to deal with 06 instead of 05! It all just goes by too quickly. A happy and healthy 2006 to you and your family.

**ANOTHER SUCCESSFUL
HOLIDAY MEETING B**

We had a great turnout for what has to be at least our 15th annual holiday dinner. Years ago we used to have an annual FRC Holiday dinner. I recall radio related presentations but such that they would be of interest to our significant others. There were also award presentations that, among other things, served to let the other half know why you closeted yourself up in the shack (or someone else's shack) for 4 weekends a year. Wonder if that is doable again? Might be interesting to take a poll and assess possible interest.



POSTAGE INCREASE

Don't forget the postage increase. It is effective January 8th, 2006.

**CURRENT OFFICIAL ARRL
DXCC STATISTICS**

Active Count.....	335
Deleted Count	58
Last Addition.....	VP6/D
Last Deletion.....	STØ

**5H -
TANZANIA**

5H1C will be the call used for the upcoming operation from Jan 24th to Feb 2nd from Zanzibar Island by F2VX, F4AJQ, F5JSD, F5VHQ, F6AML, F8BJI, F8BUI, F8IXZ and F9IE. Operations will be on 160 thru 10 Meters CW, SSB and digital modes. The ops are amenable to arranging skeds for 80 and 160 Meter contacts. To request a sked, send an email to Serge, F6AML not later than 20, at F6AML@aol.com and list

"Sked 5H1C" in the subject. The ops also plan to operate in the CQ WW 160M CW Contest at the end of the month. QSL via F5TVG.

DX ALERT LEGEND

- 160 METER ALERT
- IOTA ALERT
- RTTY ALERT
- WARC BAND ALERT

"S"pecial "S"alute

Have you made your contribution yet? Contribute to your Newsletter and get the "S" "S".

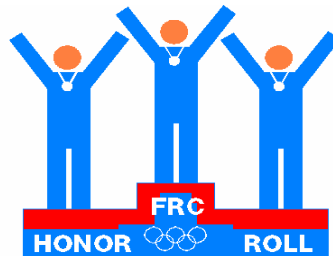
©

73, Tony N2SS

You can reach me as follows:
 H:856-227-4896 C:609-221-4899
n2ss@n2ss.com
argargano@comcast.net



Rexy's Holiday Dinner December 27th. Clockwise from bottom: K2SB, W2OF & XYL Sandy, WA2USI & harmonic Alyssa, K2QPN & XYL Marie, K2PS & XYL Maddy, KG2MY & XYL MaryAnn + harmonics, N2VW & XYL Maria, W2TV & XYL Ellie, AA2WN and N2SS behind the camera.



JANUARY **CONDUCTED by N2SS** **2006**

🌐 **WARC BANDS** 🌐

<u>30 Meters</u>	<u>17 Meters</u>	<u>12 Meters</u>
K2FL .. 331	K2FL...335	N2TK ..328
N2TK328	N2TK ..335	K2FL..... 326
N2LT318	N2LT 332	N2LT..... 321
W3BGN316	W3CF 331	W3BGN ... 314
K2RW296	W3BGN ... 328	W3CF 303
W2YC296	K2RW 324	N2SS..... 302
N2SS290	N2SS 320	K2RW 300
W8FJ287	W2UP 304	W2YC 273
K2PS284	K2PS 303	K2PS..... 268
W2UP270	W2YC 300	W2UP 257
N3RD251	W8FJ 291	W8FJ 228
N2MM233	N2MM..... 268	N1RK..... 218
K3II229	N1RK 253	KQ3F 217
W2LE212	KQ3F 252	K3II 202
KQ3F195	K3II 240	N3KN 191
NZ3O188	NZ3O 233	K2NJ 190
AA2WN...171	W2LE 202	NZ3O 188
W2RQ144	W2YR 202	W2YR 187
AB2E128	K2NJ 179	N2MM 185
W2YR132	K2JF 168	W2LE 176
K3CT126	N3KN 168	NA2U 154
N3KN119	NA2U 162	K2JF 135
K2NJ113	W2RQ 142	AB2E 92
K2JF112	K3ND 124	K3CT 76
N1RK107	AA2WN ... 116	W2RQ 62
NA2U105	AB2E 108	K3GYS 30
K3ND85	K3CT 91	N2VW 28
N2VW76	K3GYS 85	AA2WN 20
W3CF61	N2VW 67	W2CG 1
K3GYS17		

K2FL and N2TK still duking it out for that elusive, undisputed **KING OF WARC**

Rules for FRC Honor Roll Listings.
Provide me with your total IOTAs worked, or countries (including deleted) worked for: WARC Bands, 160 Meters, Digital modes, Mobile, 6 Meters or your total for 80,40,20, 15 and 10 for 1.5K Club. Countries do not count until HQ Awards Committee takes action and announces a start date for a new country.

📻 160 Meters 📻

W3BGN293	K2PS 106
AA1K287	K2RW 93
WT3Q256	AB2E 90
N2LT248	N2VW 85
N2TK245	W2CG 85
K3SX229	W2YR 81
NO2R222	N2SS 79
W8FJ207	NA2U 78
W2UP190	W3CF 77
K3JIG190	K3NL 70
N2MM182	K3CT 63
K3NZ172	K2NJ 59
W2YC171	KQ3F 57
K3NM156	NZ3O 55
N3RS156	N1RK 51
K3II149	AA2WN 36
K2FL142	K2JF 34
K3ND136	W2LE 28
W2RQ123	N3KN 28
.....	K3GYS 12

W3BGN continues as the undisputed Top of Top Band.

📺 **R T T Y** 📺 **Digital**

W2UP337	W2YR 139
N2LT332	KQ3F 132
K2PS287	K2JF 113
K2RW266	W2LE 85
W2YC242	N2SS 53
K2NJ235	N1RK 39
AA2WN187	K3GYS 15
N3KN179	W8FJ 12



MOBILE DX

W2YC276	K3GYS 143
AA1K270	AA2WN 131
N2SS234	W2YR 21
K2JF150	



1.5K Club

K2FL..... 1708	KQ3F1453
W3BGN 1696	K2NJ1406
N2TK 1688	W3CF1403
N2LT 1684	AA2WN1369
W2UP 1665	K2JF1350
W2RQ 1623	NA2U1335
K2RW 1610	W2CG1305
N3RS 1603	N1RK1289
W8FJ 1593	N2VW1270
K3II 1573	K3CT1229
W2YC 1542	W2YR1148
NO2R 1533	W2LE1141
N3RD 1530	N3KN1111
N2MM 1524	K3NM1107
K2PS 1521	NZ3O1088
N2SS 1521	AB2E1164
K3ND 1501	



Islands On The Air

K2FL..... 999	NZ3O317
N2SS 822	N2VW261
W2YC 604	W3CF253
W8FJ592	W2YR234
N1RK546	K3GYS215
.....	AB2E205



6 METER DXCC

N2LT 106	N2SS55
K2NJ 100	N3KN52
K2PS 100	K2RW42
AA1K 99	W2YR41
K2JF 94	W2YC19
K3OO 77	AA2WN15
K3SX 75	N2TK11
N1RK 57	K3GYS10



THE FRANKFORD RADIO CLUB NEWSLETTER

P. O. Box 431 Albury, PA 18011-0431



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Repeater - 2 meters, 147.27/147.87 Output PL tone, 114.8

Home Page - www.gofrc.org

Meetings

Meetings are held on the 2nd Tuesday of each month (Sep through May) at 8 PM at the University of the Sciences, Philadelphia. Summer meetings are held at member homes (one Saturday/ Sunday per month).

Packet Cluster Contest/DX System

144.930 W3FRC
144.930 W2JT
144.950 K3ZV
145.010 N3ED
145.530 K3WW
145.530 AA1K
145.570 WT3Q
145.570 K2TW
145.590 N2NT
145.670 W3PP
145.730 N2BIM

Telnet DX Cluster

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