



THE FRANKFORD RADIO CLUB NEWSLETTER

PROFICIENCY THROUGH COMPETITION

CALENDAR

December:

- 9-10 ARRL 10 Meter Contest
- 12 FRC Meeting, Phila 8 PM**
- 21 T.I.T.S. Meeting, Noon**
- 28 Holiday Meeting B (page 2)**

January 2001:

- 9 FRC Meeting, Phila 8 PM**
- 18 T.I.T.S. Meeting, Noon**
- 23 Meeting B at Rexy's, 8 PM**
- 26-28 CQ WW 160M CW Contest

February 2001:

- 13 FRC Meeting, Phila 8 PM**
- 15 T.I.T.S. Meeting, Noon**
- 17-18 ARRL CW DX Contest**
- 24-25 CQ WW 160M SSB Contest
- 27 Meeting B at Rexy's, 8 PM**

March 2001:

- 3-4 ARRL SSB DX Contest**
- 13 FRC Meeting, Phila 8 PM**

CHANGE

Callsign Change

KC2FJZ is now K2QM

President's Column



(Editor's note: this was received prior to CQWW CW, but applies to ANY of the four major contests.)

DO!

Last month I wrote: DO YOUR BEST! This month I want to remind us all that the first word of that comment really does come first—you can't accomplish anything without the DO!

DO GET ON THE AIR! If you cannot get on for 48 hours (I cannot!) then get on for 40 hours (I can!) If not 40 hours then 24 hours. If not 24 then 12 hours! If not 12 hours then 8,6,4 hours. BUT GET ON! Out of a whole weekend you can surely find some time for **FRC**. So what if you could not do a great score like last year, DO what you can but DO!

DO MAKE POINTS FOR FRC! So you can't make 4 megs this year, so what. If 50 **FRC** members each make 500k that adds up to 25 meg.

DO SPOT MULTS! You never know who needs what. If the test is slow then spot the ordinary, the routine—they all count. DO spot them.

DO SIT IN THE CHAIR! N2VW has it all right—you cannot make points if you don't sit in the chair, DO SIT!

DO STAY THE COURSE! If conditions are lousy, they are lousy for everyone, if you keep in the race, you win. DO WIN!

DO AVOID EXCUSES! There are hundreds out there! If you need an excuse for not getting on, call me up! I have a million available. DO I feel like getting on the air all the time? Heck no. I just look at myself in the mirror and say – "that is a really BS reason not to get on!" DO AVOID RATIONALIZATION!

My best of luck to you all!! The SSB op who has pretensions for CW sends regards to you from V4, **BUT DO!!!!**

73, Alex, W2OX/V47KP

Holiday Meeting B Announcement

It is that time of year again! Our annual Holiday Meeting B will be held on Thursday, December 28. If you would like to attend, I need your name, your guest's name if you are bringing one, and your dinner choice. Monies will be collected the night of the dinner. This will count as an official **FRC** meeting.

Details for this year:

Date/Time: Thursday, December 28, 7PM

Place: Rexy's, Black Horse Pike (Rt 168), Audobon NJ (just off WW bridge)

Menu: Entree choice: Chicken Marasala, Stuffed Shells or Stuffed Flounder

also available at extra cost is Filet Mignon or Prime Rib

Includes: Soup or salad, rolls and butter, coffee/tea and ice cream

Price: \$18.75 for chicken, pasta or flounder dishes

\$21.25 for filet mignon or prime rib

Note: above prices include tax and gratuity

Drinks: Cash bar on your own

Confirmed Attendees as of 11/22:

N2SS & Florence

K2SB & Cass

N2VW & Maria

Let me know if you would like to join us. Happy Holidays, Tony **N2SS**

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Report on the FRC South Meeting at W3PP 27 October, 7 P.M.

The meeting was opened by Dallas **W3PP**, who welcomed everyone to the meeting by reading the "**FRC RAP**". A few Lawyer jokes followed from **W3PP** and Chick **NW3Y**. Everyone commented on happenings at their home stations. Ron, **W3OR** talked about the lightning strikes that he suffered this summer. They took out everything. Chuck, **K3FT** is getting ready to move into new digs. He is busy measuring the perimeter of the house and property and designing stealth antennas to avoid restriction critics. Chet, **N6ZO** entertained the group with the description of the AB-105 that almost would be up in his "pool under construction". Still not resolved, and I think this is really what spurred the lawyer jokes. **AB1P**, Jeanie talked about the new shack (**AA1K/AB1P/KB3FEE**) and Jon, **AA1K** updated the group on tower progress and the potential for another home style M/M in Delaware. Al, **KA3OBV** has just bought an FT-1000MP and will be putting up some HF antennas soon. He also plans to upgrade in early December. Glenn, **N3HUV** has just broken ground for an expansion to the house which will include an exclusive area for the new shack. Chick, **NW3Y** says he has been working too hard. He still needs to make needed repairs to his 3 el 40, as the pin has just about fallen out of the boom. Yoshi, **JG7AMD** is working in the northern Virginia area for a few weeks and is happy to join our effort. Ed, **N3KW** says he still has to get an 80m antenna to be ready for CW SS. Bob, **N3PT** just returned from 3 weeks in London. He says it's nice to travel as a tourist instead of a pilot on business. Bob retired from 35 years as a United Captain and says that retirement is great. Dallas, **W3PP** thanked all of those that worked so hard this summer to make the necessary antenna repairs and to install the new tower adornments.

Contest strategy was discussed and it was emphasized that although our UBN rates have fallen over that past two years, we still have room to improve. The 3Q penalty in CQWW makes it all the more important to #1 make sure you have the call correct, and #2 make sure that the station is working you. All that being said, we dove into a beautiful roaster chicken that Chick's wife had prepared (thanks Barb, it was great).

Members present were: **W3PP, NW3Y, N3HUV, AA1K, W3OR, N3KW**

Visitors present were: **AB1P, N6ZO, K3FT, N3PT, JG7AMD, KA3OBV**

2000 CQ SSB Claimed Scores

Station	QSOs	Zones	Cntrys	Class	Score
AA2WN	1,138	115	417	AA	1,666,756
AA3B	2,126	137	496	AA	3,865,098
J80WW	8,238	138	452	MM	12,126,270
	<i>Ops</i>	<i>NO2R W2EN WA2VUY</i>			
K2DM	2,217	124	400	A	3,303,820
K2NG	2,615	173	628	AA	5,940,216
K3ANS	2,660	170	592	MM	5,476,494
	<i>Ops</i>	<i>K3ANS K3YD KC3WX N3EYT N3VJA W0RSJ/3 W3ZL WF3H</i>			
K3CP				AA	556,563
K3II	2,978	154	570	MM	6,114,904
	<i>Ops</i>	<i>K3II K3CT K3TEJ</i>			
K3JG	1,492	121	420	AA	2,295,463
K3NM	3,715	155	576	MM	7,621,406
	<i>Ops</i>	<i>K3NM K3MQH W3CF</i>			
K3NW				A	1,700,000
K3NZ	790	132	456	AA	1,291,248
K3OO	1,050	133	412	MS	1,572,870
	<i>Ops</i>	<i>K3OO KB3CLQ</i>			
K3PP	1,605	149	532	AA	3,092,421
K3WW	2,779	171	613	AA	6,184,192
KB3MM				LA	509,700
KB3TS	1,111	121	407	AA	1,675,872
KD2P	62	22	47	LA	10,557
KQ2M	3,532	150	525	A	6,777,675
KQ2O	510	72	254	AA	477,000
KQ3F	2,013	139	478	AA	3,545,282
KQ3V	1,192	111	364	LA	1,594,575
N1RK	1,152	117	399	AA	1,671,840
N2BIM	152	53	121	AA	67,860
N2CY	8,420	100	347	AA	1,034,805
N2LT	2,500	147	460	A	4,354,011
N2MM				MS	4,200,000
	<i>Ops</i>	<i>N2MM K2UT</i>			
N2MR	1,120	106	360	A	1,463,240
N2NT	2,979	142	484	A	5,174,516
N2RM	5,078	180	657	MM	11,911,347
	<i>Ops</i>	<i>N2RM KA2AEV N2AA N2NC W2REH</i>			
N2SCJ	127	44	87	A	39,300
N2SS				MS	1,600,000
N2VM	84	26	59	A	19,465
N2WKS	919	135	382	AA	1,315,248
N3DL	1,480	150	532	A	2,880,086
N3KR	676	79	266	A	648,255
N3NA	809	125	403	AA	1,207,536
N3RJ	913	90	264	A	895,266
N3RS				MM	13,200,000
	<i>Ops</i>	<i>N3RS K3WU N2SR N3AD N3ED N3RD N3ZS</i>			
N3ZA	1,079	139	471	AA	1,831,220
N7UN	1,079	101	336	A	1,322,362

Station	QSOs	Zones	Cntrys	Class	Score
NA2U	1,458	109	377	LA	2,009,124
NE3F	2,047	143	507	MS	3,772,600
	<i>Ops</i>	NE3F K3ATO KS3F			
NN3Q	1,359	127	419	AA	2,131,504
NY3C	942	97	306	AA	1,068,756
NZ3O	1,437		562	MS	2,290,712
	<i>Ops</i>	NZ3O W3BG			
P40W	3,670	130	390	Q	5,604,650
	<i>Op</i>	W2GD			
V26B	16,811	184	713	MM	37,601,343
	<i>Ops</i>	DL8OBQ K3OX N2ED N2TK N3BNA N3OC N5CK N5NK NM5M W2UDT W2YR WT3Q WX0B			
V47KP	4,317	130	391	A	5,579,910
	<i>Op</i>	W2OX			
VP5T	9,861	137	455	MM	13,940,416
	<i>Ops</i>	N2VW WA2VYA WA3RHW			
W1GD	27	536	150	AA	3,965,766
W2CG	2,012	154	541	MM	3,956,635
	<i>Ops</i>	W2CG K2WJ W2NO			
W2RD	779	131	411	AA	1,183,728
W2TV	1,217	127	455	AA	1,986,948
W2UP	1,045	104	361	MS	1,393,605
	<i>Ops</i>	W2UP WA3KPP			
W2YC	1,253	140	472	AA	2,142,612
W3AP	961	104	311	AA	1,123,820
W3BGN	2,291	144	487	A	4,115,382
W3BYX	638	83	274	A	633,318
W3CC	825	120	416	AA	1,247,808
W3FV	1,601	145	495	AA	2,905,600
W3GK	991	104	326	AA	1,106,390
W3GM	1,254	132	461	AA	2,091,511
	<i>Op</i>	K3ND			
W3IZ	447	89	249	AA	414,050
W3MF	1,145	125	443	AA	1,821,576
W3OV	834	110	331	AA	1,034,145
W3PP	4,693	174	369	MM	10,356,807
	<i>Ops</i>	W3PP AA1K AB1P JG7AMD K3FT N3HUV N3KW N3PT N6ZO NW3Y			
W3RJ	1,238	87	261	A	1,255,236
W3TT	34	20	29	Q	3,528
	<i>Op</i>	N9GG			
W8FJ	485	89	267	AA	469,920
WA3KKP				AA	201,661
WB3CIW	1,091	88	313	AA	1,243,501
WF3M	371	61	171	LA	238,960
WK2G	681	84	248	Q	614,864
WT3P	903	95	341	AA	1,103,952
WT3W	1,491	126	435	A	2,381,445
	Total				255,226,522

Scores are total scores. FRC share is based on % of FRC members at Multi Op efforts.

Review Revisited - Rotor-EZ by Dave Hawes, N3RD

Readers will remember the article by Charlie, **K3WW**, published in the August 2000 **FRC** Newsletter, describing his experiences with the new Ham-M/Tailtwister controller enhancement product called Rotor-EZ, from Idiom Press. In addition to the customary brake release delay and preset features, this new product offered a couple of interesting new twists that got my attention, since I personally have two Tailtwisters and Sig, **N3RS**, has four more.

Before going further, it is important to know that all of the Tailtwisters at **N3RS** are side mounted and therefore the rotator can, and normally does, encounter end of rotation by banging the side arm into the side of the tower. Although we have taken precautions to make sure that no coaxial cables are subject to damage by the side arm hitting the tower, this mechanical shock is not a good thing, and we normally “inch up on the tower” manually, so as to minimize the mechanical shock to the system. Therefore, the idea of the rotator having automatic positioning presented two conceptual problems:

- Possibility of the rotator banging into the tower at full speed, causing mechanical damage to the rotator, and
- Having the rotator “stall” when it hits the tower, and risk burning out the rotator motor.

One of the interesting features of the Rotor-EZ product is an “Electronic End Point.” This option normally excludes the last five degrees from either end of the automatic rotation range, with the intent to keep the rotator off of the end of rotation limit switches. We reasoned that the five degree setting might be programmable, and if it were, we could change it to exclude the last 45 degrees on either end of automatic rotation, thus eliminating the two previously stated concerns. (Since side mount rotators have 300 degrees of available rotation, excluding 45 degrees at each end provides fifteen degrees of buffer, that is, the antenna will stop automatically 15 degrees away from the tower. We can always manually bring the antenna around until the side arm hits the tower, but not automatically.)

An e-mail to Bob, **W9KNI/6** at Idiom Press (sales@idiompress.com) revealed that a custom program for the microprocessor was available to set the end of automatic rotation wherever we wanted. An order for six of the units was placed, and the kits arrived soon thereafter.

K3WW's previous article briefly mentioned that the instructions were clear and well written, and that he encountered no problems during the installation of his two kits. Since I built and installed six units, I can share a few findings for those who may be interested in following suit.

Installation Instructions – The instructions are indeed well written and very thorough. My only complaint was that the selected font was a bit on the small side (approximately 6 point). Idiom e-mailed me the instructions in MS Word format, and I printed the instructions in a larger font.

Installation Time – In the instructions, all that is said is that building a Rotor-EZ “requires basic electronics skills.” This statement is certainly true. To build the printed circuit board from its kit of about 50 parts took me about an hour for the last one of the six. First time builders should expect this part of the project to take about two hours. There is nothing difficult here, but the instructions at one point require that you find matching resistors from several supplied, and that is a bit of a nuisance, taking about 15 minutes with a digital ohmmeter.

Other than the drilling or punching of holes for the LEDs (total number of LEDs in the final installation is four, so if your unit already has three LEDs, you only need to add one, etc.), the balance of installation is wiring. The wiring of the last box I did took me about an hour to accomplish. First time builders will need about two hours.

Calibration – Calibration of the unit is by means of three potentiometers on the printed circuit board which mounts on the rear of the meter. Unfortunately, the screwdriver adjustment slot on the pots faces down towards the table. Idiom admits that they goofed a little in the orientation, but all is not lost. The back end of the pot has a small slot which allows adjustment with a jeweler's screwdriver. This allows calibration of the unit in the normal position. Just make sure that you put tape on the shaft of the screwdriver to prevent shorting anything out.

Practical Experience – We used Rotor-EZ at **N3RS** during CQ WW SSB on two of the Tailtwisters. Performance was excellent. The remaining two controllers have been modified, and will be used in CQ CW.

We wholeheartedly agreed with **K3WW**'s previous recommendation. If you have a Tailtwister, basic electronics skills, and a C-note, this project is for you. It's a perfect winter weekend project, and will add some fun to your operating, while at the same time protecting your rotating equipment.

Contact the manufacturers at Idiom Press, Box 1025, Geyserville, CA, 95441 (707-431-1286) or visit their web site at www.idiompres.com.

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Antenna Construction **New Antenna Conductor Material** **for Efficient Very-Small Antennas**

One of the all-time favorite topics of discussion among Hams is antennas. Most of us probably think that towers, beam antennas, wire antennas, etc., are rather attractive. Unfortunately, it seems that many of our neighbors don't share in this opinion. In fact, some of them think that antennas are down-right ugly and detract from their property values. Also, unfortunately, it is a fact that antennas are required for both the transmission and reception of radio signals. Given these conflicting pressures, it is only natural that there is a lot of research being done on how to make antennas smaller, yet not make them inefficient. We can see this in the proliferation of such miniature antenna products as the Isotron, the Super-C, the Crossed-Field Array, the Contrawound Toroidal Helical Antenna, etc. There have been a lot of wild claims made recently about such miniature antennas, however, when put to the test, many of them perform about as well as dummy loads.

Recognizing the great need for a truly high performance miniature antenna, I set out to invent one for myself. Being an engineer, I approached this problem logically and mathematically. There is no physical law that forces small antennas to become inefficient. A veryshort dipole antenna has a gain just slightly less than that of a conventional half-wave dipole. This is not due to inefficiency, but to a slightly different radiation pattern. In practice, the reason that very short dipole antennas become inefficient is that the radiation resistance becomes very small with respect to the resistance of the metal (Copper, Aluminum, etc.) that the antenna is constructed of. Consideration of this led me to the conclusion that there are at least two ways to go:

1. Increase the radiation resistance of a small antenna, or
2. Decrease the resistance of the metals from which the small antenna is constructed.

I could see no way to attack the first alternative, therefore I decided to investigate ways to decrease the resistance of the metals. Suddenly, the light came on: the reason that the metals used for antennas have significant resistance is that radio frequency currents flow on and near the surface of the metal. In other words, radio frequency currents utilize only a small fraction of the available cross-sectional area of the metallic conductor, and as a result, flow through considerable resistance. It would be nice if somehow, we could attract the current toward the center of the conductor, and utilize as much of the conductor's cross sectional area as possible for the radio frequency current flow. How can we fix this? It is well known that the current that flows in metallic conductors consists of electrons, and that electrons are negatively charged. Negative charges are attracted by positive charges. If there were positive charges in the center of the antenna conductor, then some of the electrons that normally flow on or near the surface would be encouraged to travel nearer the center. I had my lab assistant construct a special conductor for use in high frequency radio antenna construction. This conductor was made in a way similar to how ordinary electric fence wire is made. The difference was that the inner portion of the wire was made from a highly p-doped semiconductor material (similar to what is used for the bases of NPN transistors), rather than the Steel material used in electric fence wire. This then was coated with a Copper layer. The ratio of the semiconductor radius to the thickness of the Copper layer was about 1:1.

By now, you probably have grasped the basic concept: the RF current that flows in the central portion of the special conductor is composed of positive charges, which is the mechanism by which current flows in any p-doped semiconductor material. At the same time, the RF current that flows in the outer Copper layer is composed of the usual negatively charged electrons. Since the positively charges flowing in the center attract the negatively charged electrons that are simultaneously flowing in the outer layer, this attraction causes the electron flow to spread more deeply into the Copper, and the resistance of the conductor at radio frequencies is dramatically reduced.

I wanted to give this material the ultimate test. Therefore, I built a center-fed dipole from it, and cut the length of the dipole to 1 foot. I then mounted this dipole on top of the mast that already existed on the roof of my house. It was about 35 feet off the ground. I tried transmitting with it on 160 Meters, but the SWR was outrageously high! However, my trusty antenna tuner soon took care of that minor problem, and I was successfully delivering 100 Watts of RF power to a nearly invisible 1 foot long dipole antenna on 160 Meters! I waited until it got dark, and then I held the key down. I sent my XYL outside to look at the little dipole. It did not start glowing red or melting! Therefore, I decided to jump in the pile-up for the Clipperton Island DXpedition. They came back to me on the very first call with a 599! Wow! That's the real proof-of-the-pudding, eh? I am uncertain whether to market the material, or the antenna. Please send me your opinion as soon as possible.

73, Cornelius Crank, Ham, Meritorius
Article submitted by Robert Stedman **K9PPW**



HAPPY HOLIDAYS

FROM THE NEWSLETTER STAFF



Notes From Your Editor

Where did this year go?! Seems like just weeks ago that I was taking pictures at the Rexy's Holiday Meeting B and here it is that time again.



Merry Christmas

HOLIDAY MEETING B REXY'S

The tradition continues! This year's holiday Meeting B is scheduled for December 28th at 7PM. If you would like to attend, I need your name, guest's name if you are bringing one, and dinner choices. I will collect monies the night of the dinner. As in past years our President has designated this as an official FRC meeting. Here are the details:

- Place: Rexy's, Black Horse Pike, Audobon NJ (on Rt 168 just off the WW Bridge)
- Menu: Choice of Chicken Marsala, Stuffed Shells, Stuffed Flounder, Filet Mignon or Prime Rib
- Incl: Soup or salad, rolls and butter, coffee/tea and ice cream
- Price: \$18.75 for Chicken, Pasta or Flounder
\$21.25 for Filet or Prime Rib
- Drinks: Cash bar on your own

If you would like to attend please let me know.



DXAC NEWS

There is a rumor circulating in some DX circles that the DXAC has been asked to evaluate new country status for the planned Sealand operation. Sealand is man-made platform within UK territorial waters and where the owner has declared Sealand's independence. Let me confirm that we have not been asked to consider it and under today's rules it would never get that far.

FROM THE DXCC DESK

From Wayne, N7NG, manager of the Membership Services Dept at ARRL: "I have notified Charly, K4VUD that the documentation for XW1UD is not acceptable for DXCC credit. Our official PTT contact in Laos has seen copies of the documentation (sent via post), and told us that it is not valid. The paperwork was not issued by the proper authorities, and it seems that it is more a permission to import, or bring equipment into the country. There are still only two good operations, XW2A for a specific period of time (I believe it is no longer good), and XW8KPL. XW8INH is not good either. The gentleman who issued that license to himself no longer works for the news agency, KPL."

CURRENT OFFICIAL ARRL DXCC STATISTICS	
Active Count.....	334
Deleted Count	58
Last Addition.....	FK/C
Last Deletion	STØ



Happy Chanukah



For tracking purposes the top IOTA numbers currently are as follows: (note there are 5 new ones added this month: 1 North America, 4 Oceania).

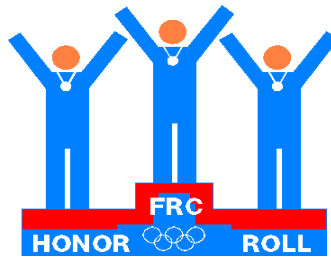
- Africa..... AF-089
- Antarctica AN-018
- Asia..... AS-152
- Europe EU-187
- North America NA-219
- Oceania..... OC-239
- South America SA-088
- Total IOTA's 992

"S"pecial "S"alute

Have you made your contribution? Contribute to get your "S" "S". ©

73, Tony N2SS

You can reach me as follows:
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n2ss@bellatlantic.net
agargano@agilevision.com



DECEMBER

conducted by N2SS

2000

WARC BANDS

<u>30 Meters</u>	<u>17 Meters</u>	<u>12 Meters</u>
N2TK.. 318	K2FL...331	K2FL...319
K2FL..... 315	N2TK..... 328	N2TK..... 316
K3UA..... 309	K2JLA..... 326	K3UA..... 298
N2LT..... 296	W3CF..... 323	N2LT..... 297
W8FJ..... 273	N2LT..... 319	K2JLA..... 281
K2RW..... 253	K3UA..... 315	W3BGN... 278
W3BGN... 249	W3BGN... 296	W3SOH... 247
W2YC..... 246	K2RW..... 285	N2SS..... 245
K2PS..... 239	N2SS..... 275	K2RW..... 236
K3ANS..... 237	W8FJ..... 268	W2YC..... 228
K2JLA..... 235	K2PS..... 260	K2PS..... 222
WA2VYA. 233	W2YC..... 257	KS3F..... 214
N2SS..... 220	W3SOH... 256	WA2VYA. 213
K3II..... 216	WA2VYA. 251	W2UDT... 198
W3SOH... 207	K3ANS... 237	W8FJ..... 196
W2UDT... 176	K3II..... 226	W3CF..... 192
KS3F..... 160	W2UDT... 220	WT3W..... 188
AA2WN... 157	N1RK..... 212	K3II..... 183
W3OV..... 150	WT3W..... 210	N1RK..... 180
W2OX..... 124	KS3F..... 203	K3ANS... 175
K2WK..... 115	W3OV..... 200	KQ3F..... 158
K2JF..... 111	KQ3F..... 198	W2YR..... 152
W2YR..... 104	W2BE..... 196	K2JF..... 136
NA2U..... 94	W2OX..... 184	W3OV..... 135
WT3W..... 92	K2JF..... 168	NA2U..... 119
KQ3F..... 83	W2YR..... 163	W2OX..... 107
AB2E..... 82	NA2U..... 151	K2WB..... 67
KU3X..... 62	K3AR..... 116	K3AR..... 61
N2VW..... 40	K3ND..... 102	W2BE..... 53
W3CF..... 27	AA2WN... 99	K2WK..... 42
K2WJ..... 26	K2WK..... 96	N2VW..... 19
K2WB..... 22	N2VW..... 52	AA2WN... 18
W2BE..... 20	AB2E..... 51	K2WJ..... 17
N2MT..... 15	K2WB..... 51	AB2E..... 8
K3GYS..... 8	K2WJ..... 37	N2MT..... 6
N1RK..... 2	N2MT..... 26	K3GYS..... 5
.....	K3GYS..... 19

Still looking for that undisputed
KING OF WARC

Rules for FRC Honor Roll Listings.

Provide your total IOTAs or countries (including deleted) worked. Countries do not count until ARRL takes official action and announces a recognition date.



160 Meters



W3BGN284	NO2R..... 100
AA1K..... 273	K2PS..... 96
K2BU..... 256	W2YR..... 80
WT3Q..... 241	N3ZA..... 77
K3UA..... 240	AB2E..... 76
K3ANS..... 229	NA2U..... 73
N2TK..... 227	N2VW..... 71
N2LT..... 224	KU3X..... 71
K3NW..... 216	K2QMF..... 69
K3SX..... 203	W3CF..... 69
K2WK..... 198	N2SS..... 67
W8FJ..... 164	K3NL..... 59
K3NZ..... 161	K2RW..... 53
W3OV..... 160	K2JLA..... 35
W2OX..... 152	N1RK..... 34
K3JJG..... 150	K3AR..... 33
K3II..... 143	KQ3F..... 25
WA2VYA... 136	K2WB..... 23
K2FL..... 133	AA2WN... 24
K3ND..... 132	K2JF..... 20
K3NM..... 126	W2BE..... 17
KS3F..... 123	N2MT..... 14
WT3W..... 122	W3SOH... 10
W2YC..... 119	K2WJ..... 2

W3BGN continues as the undisputed
Top of Top Band.



RTTY Digital

W2UP.....330	W3CF..... 100
K3UA..... 321	WA2VYA... 50
N2LT..... 318	N1RK..... 43
W3KV..... 312	N2MR..... 25
W3SB..... 243	KQ3F..... 22
K2PS..... 238	K2WB..... 21
K2WK..... 223	K2JF..... 18
K2RW..... 169	K2WJ..... 12
AA2WN... 149	W8FJ..... 12
WT3W..... 125	K2WB..... 10
W2YR..... 120	N2VW..... 7



1.5K Club

K2FL..... 1695	KQ3F..... 1314
W3BGN 1668	W2BE..... 1273
K3UA..... 1664	NA2U..... 1272
N2TK..... 1663	W2OX..... 1272
N2LT..... 1632	WT3W..... 1261
W2UP..... 1612	AA2WN... 1254
K3ANS..... 1588	N3ZA..... 1240
K2WK..... 1558	N2VW..... 1227
W8FJ..... 1530	N1RK..... 1204
K2BU..... 1506	WT3Q..... 1162
K2RW..... 1501	K2WJ..... 1135
K3ND..... 1460	W3CF..... 1077
K2PS..... 1457	W2YR..... 1072
N2SS..... 1438	W2UDT... 1016
K2JLA..... 1404	K3NM..... 994
W2YC..... 1394	K3AR..... 978
KS3F..... 1360	AB2E..... 917
K2JF..... 1350	N2MT..... 719
WA2VYA... 1329	K2WB..... 591
W3SOH..... 1327



MOBILE DX

W2YC..... 236	K3GYS..... 87
N2SS..... 215	AA2WN... 61
AA1K..... 171	KU3X..... 54
K2JF..... 150	W2YR..... 12
N2MR..... 145	AD3Z..... 5
WT3Q..... 107

W2YC is safely ensconced **MOBILE #1**



Islands On The Air

K2FL..... 871	N2VW..... 246
K2JLA..... 778	K2WJ..... 220
W3SOH..... 705	KS3F..... 215
N2SS..... 624	W3CF..... 200
W8FJ..... 470	WT3W..... 170
W2YC..... 428	AB2E..... 168
N1RK..... 418	K3GYS..... 92
W2UDT... 368	K2WB..... 84

The Frankford Radio Club

Club Officers

President, **W2OX**, Alex Aimette 215-721-1453
Vice Pres, **K3NM**, Joe Brue 570-992-6890
Secretary, **K3NZ**, Norm Zoltack 610-799-4044
Treasurer, **K2TW**, Tom Wall 908-782-9512

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Editor, **KQ3F**, Joe Stepansky 717-657-9792
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Printing, **K3NZ**, Norm Zoltack 610-799-4044

Repeater

2 meters, 147.27/147.87
Output PL tone, 114.8

Home Page

www.frc-contest.org

Meetings

Meetings are held on the 2nd Tuesday of each month (Sep through May) at 8 PM at the Philadelphia College of Pharmacy and Science, 43rd and Kingsessing Street, Philadelphia. Summer meetings are held at member homes (one Saturday/ Sunday per month).

Packet Cluster Contest/DX System

144.910 N2MT
144.930 W3FRC
145.650 K2TD
144.950 KD3CN
145.530 K3WW
145.530 AA1K
145.530 K2SG
145.570 WT3Q
145.570 K2TW
145.590 N2NT
144.950 K3GYS
145.710 W3EA
145.730 N2BIM
147.495 W3MM
441.050 W3MM
445.525 K3GYS
445.525 W3EA
445.850 KD3CN
..TBA N3ED

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