

TCDXA
TWIN CITY DX ASSOCIATION



Minnesota

Newsletter of the
Twin City DX Association

www.tcdxa.org

Volume 13, Issue 4
December, 2016



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Gray Line Staff

**KØAD
K9WAG
WØJMP**

The GRAY LINE REPORT

DXing from Minnesota - Land of 10,000 Lakes

80 Meter, 3 Element Beam Becomes a Reality

By Paul Bittner, WØAIH



At 140 feet in the air, Paul , WØAIH scoots along the boom of his new 80 meter yagi to retrieve the tag line.
Photo from WØAIH Facebook page

I often considered a 3 element beam for 80 meters. I have enough tubing to make a full size yagi but worried about trying to do it myself. The elements could get too heavy to work with. Jerry Rosal-ius, WB9Z had a 3 element 80 meter beam that kept falling apart so I did not want to go that route. Last year, while I was attending the Friedrichshafen amateur radio convention in Germany, OptiBeam was pitching their antennas. The OptiBeam sounded like something I could

manage. I purchased one minus the boom to mast assembly. It came packed so well it could go to the moon and back with no problem. Scott Jasper, NE9U and I worked on element tips. Everything looked good so far.

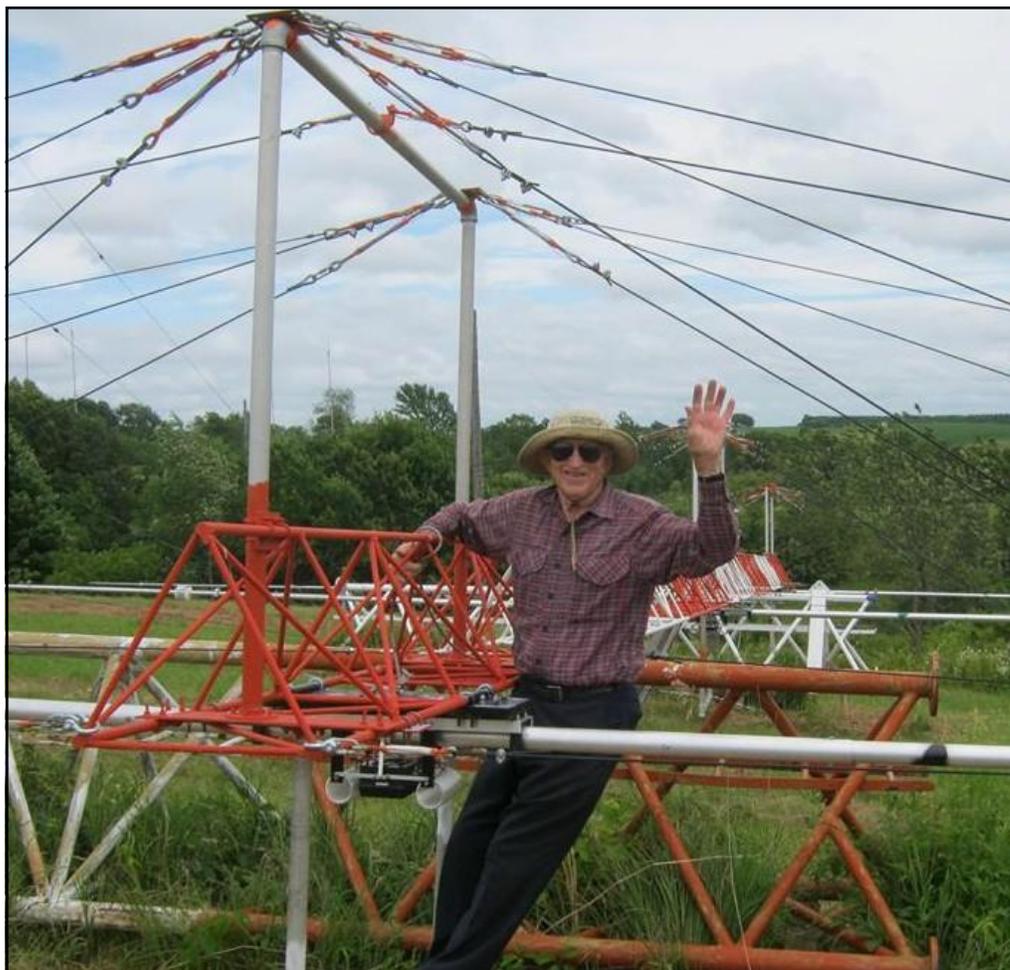
A Bigger Boom

The boom was square and a couple of Americans who bought the same beam complained about the very light weight boom. These same chaps had theirs fall apart because European aluminum is not 6061 T-6. Because of this, I gave up on the boom provided and decided to use PiRod tower sections for

the boom. I have many large U bolts and am always afraid tubular tower legs can get old fast. I had a lot of 18 inch PiRod tower with solid legs. I decided, therefore, to go that route. The total boom weight is about 2,600 pounds!

A commercial company manufactured a boom to mast system that would firmly grip the 6 1/2 inch mast, and have a "saddle" in which the boom can rest on its 30 inch pad. The saddle comes in at 490 pounds! You can see how weight added up. I wanted to add aluminum tube inside their elements (to make them stronger) but everything was metric which created a big problem. So to support

elements I used 4,000 pound Phillystran Kevlar guy rope of which I had several hundred feet. Upside down "U"s with turnbuckles were used to tighten the Phillystran which is vertical, horizontal and under the element support. Paul Husby, WØUC recommended that.



For added strength, actual tower sections with solid legs were used for the 80 meter yagi's boom. – Photo from WØAIH Facebook page.

Raising it Up

A crane that could reach 220 feet had no problem raising the antenna into place. Since there is so much torque with the monster beam, I added a star mount so it has 3 regular 1/2 inch EHS (Extra High Strength guy wire) with insulators every 27 feet and 6 more down 12 feet at the star mount.

Now we shall see how it radiates in comparison with the 4



square, the 3 element wire beam over the valley (SE) and the loop. I suspect every antenna will have different results depending on height and propagation. Time will tell. It is

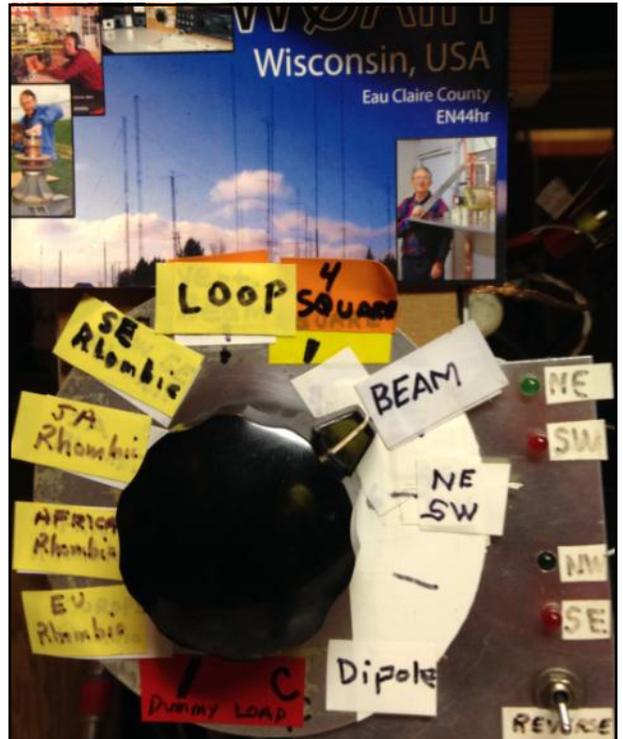
by far the largest piece of work I have ever undertaken and my wife calls it the 80 day beam. A LOT of time went into what at first



A big crowd of helpers and observers gathered at the "farm" on tower raising day. – Photo from WØAIH Facebook page



James Rider and Scott Bauer (pictured with WØAIH in the center) helped with the crane on tower raising day. Actual crane operator was Bill Weir (not pictured). – Photo from WØAIH Facebook page.



The antenna switch at the WØAIH 80 meter operating position now has a new selection called Beam!!

Photo by KØAD



seemed like a beam job that would not be that much work.

Len Kreyer, N9QIP did an amazing job of using a DRONE to take pictures on the day the beam was raised. There are a total of nine videos which can be viewed by going to YOUTUBE and typing in N9QIP. I have never seen myself working at 140 feet for such a project. *{Editor Note: One of the most amazing antenna videos I have ever seen is Paul crawling out on the 80 meter yagi's boom at 140 feet in the air! His mission was to retrieve the tag line that was used to guide the beam when it was raised to the tower. He then brought the rope back to the tower so it could be dropped to the ground without catching on any of the guys. This specific video is located at <https://www.youtube.com/watch?v=K1C5-lFzBQE> }*

Initial Results

Initial tests of the new 80 meter yagi were made during the 2016 CQ World Wide DX Contests. During these tests, the ability to rotate the beam was not yet available. It was fixed on Europe in both contests. During the SSB Contest in October, Matt Holden, KØBBC noted that stations from Europe were one to two S units louder on the beam than on the four square antenna. He did not notice any difference between the two antennas for US stations. Scott Jasper, NE9U and Al Dewey, KØAD noticed similar results during the CW contest in November. Al



Completed 3 element 80 meter beam at WØAIH- Photo by KØAD

noted that the beam was also quieter than the 4 square. He was able to run EU stations on 80 meters using the new yagi which is quite a feat from central Wisconsin! It will be interesting to see how the beam performs to other world areas once it is able to be rotated.



KTØR Towers Come Down

By Al, KØAD

In the cement base of my tower, I have engraved “KØAD, 2007”. It always reminds me that this was the year we lost my good friend Dave Ranney, KTØR. Dave worked with Paul Bittner, WØAIH to put up my tower in June of that year. Sadly, Dave passed away several months later. After Dave’s death, the guys that routinely contested at Dave’s continued to operate contests from Dave’s station with the enthusiastic support of Dave’s widow Adrienne. But after a couple years, we inventoried and sold most of his equipment when it became apparent that his boys Alex and Ben were not going to take up the hobby. The towers, however, were another issue. Dave had a total of five yagis distributed across two guyed towers in his back yard. He also had some wire antennas and a rotatable WARC antenna. So taking this all down was not a trivial matter. Years went by with the antennas remaining in the air with trees and weeds growing up around them. Recently, I was contacted by Adrienne saying that she felt it was finally time to take everything down.



KTØR’s big backyard tower before take down
(Photo by KØAD)

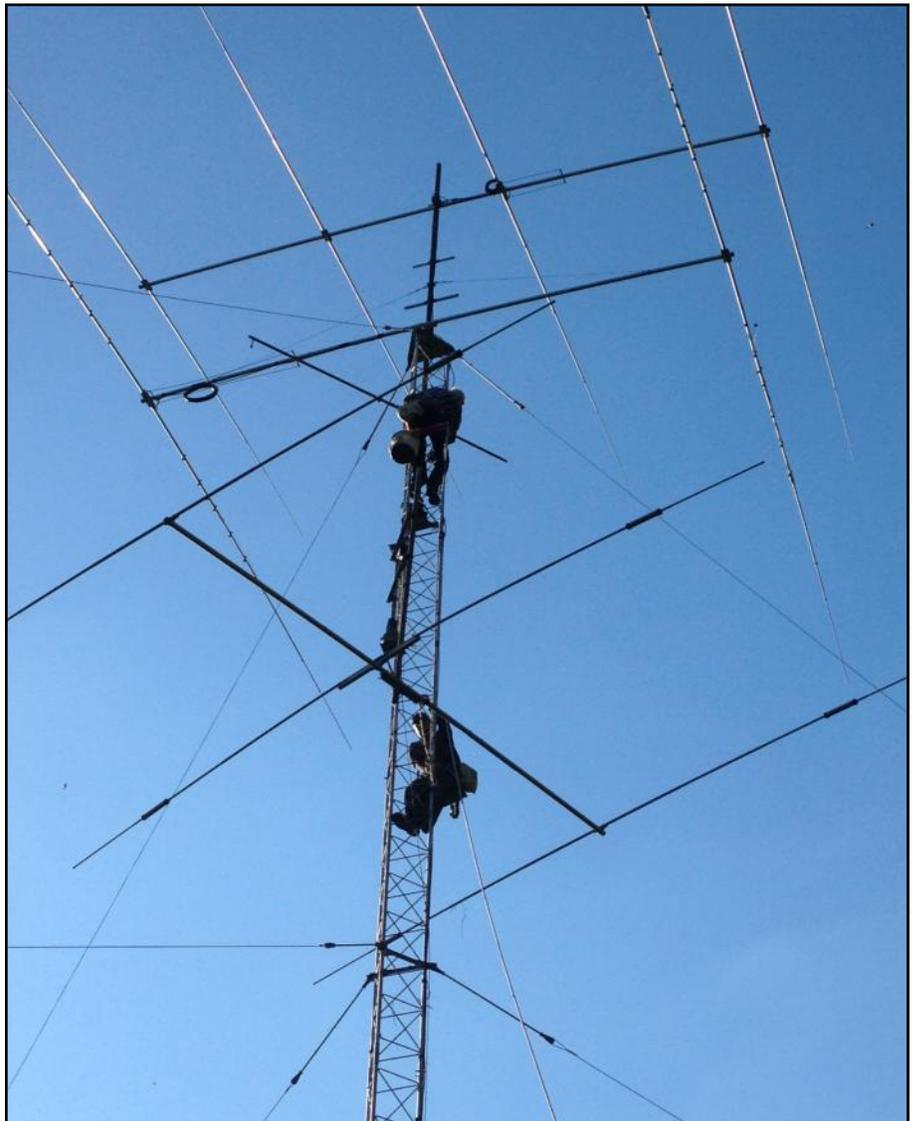
Although Paul Bittner is cutting way back on the tower work he does outside of the farm, he felt a special commitment to Dave. Paul had presided at Dave and Adrienne’s wedding as well as at Dave’s funeral. He said he was willing to do it only if he could get the help of his tower partner, Jason Hess, KC9MIJ. Jason agreed and the date was set



for Saturday, October 1. I rounded up a ground crew consisting of Greg Fields, KØOB, Roger Roth, KØMPH, and Jim Fielder, KEØL. Everything was set.

On Saturday morning, Jason, KC9MIJ arrived around 9:30 AM with his friend and helper, Terry. Paul was supposedly just behind but, unfortunately, we received a phone call from Paul's dying cell phone that he just had a flat tire on I-94 east of St Paul. Greg and I headed out to find him, which we did. Paul managed to get his truck off I-94 onto Moundsvew Blvd. Paul Husby, WØUC arrived to tow Paul's trailer away. Paul did not have a spare tire for his truck so AAA was called. I stayed with Paul while Greg headed back to Dave's with most of the tools from Paul's truck.

AAA finally showed up and towed Paul's truck to a used tire place where we got the tire replaced. Paul and I then picked up the trailer at WØUC's. By the time we got back to Dave's, it was 2:30 PM. Jason and the ground crew had done what they could removing the wire and WARC antennas as well as all the coax from the towers. Now that Paul was there, he and Jason were able to use the winch and get things going. Two of the main yagis were removed from the big tower and brought down using the winch.

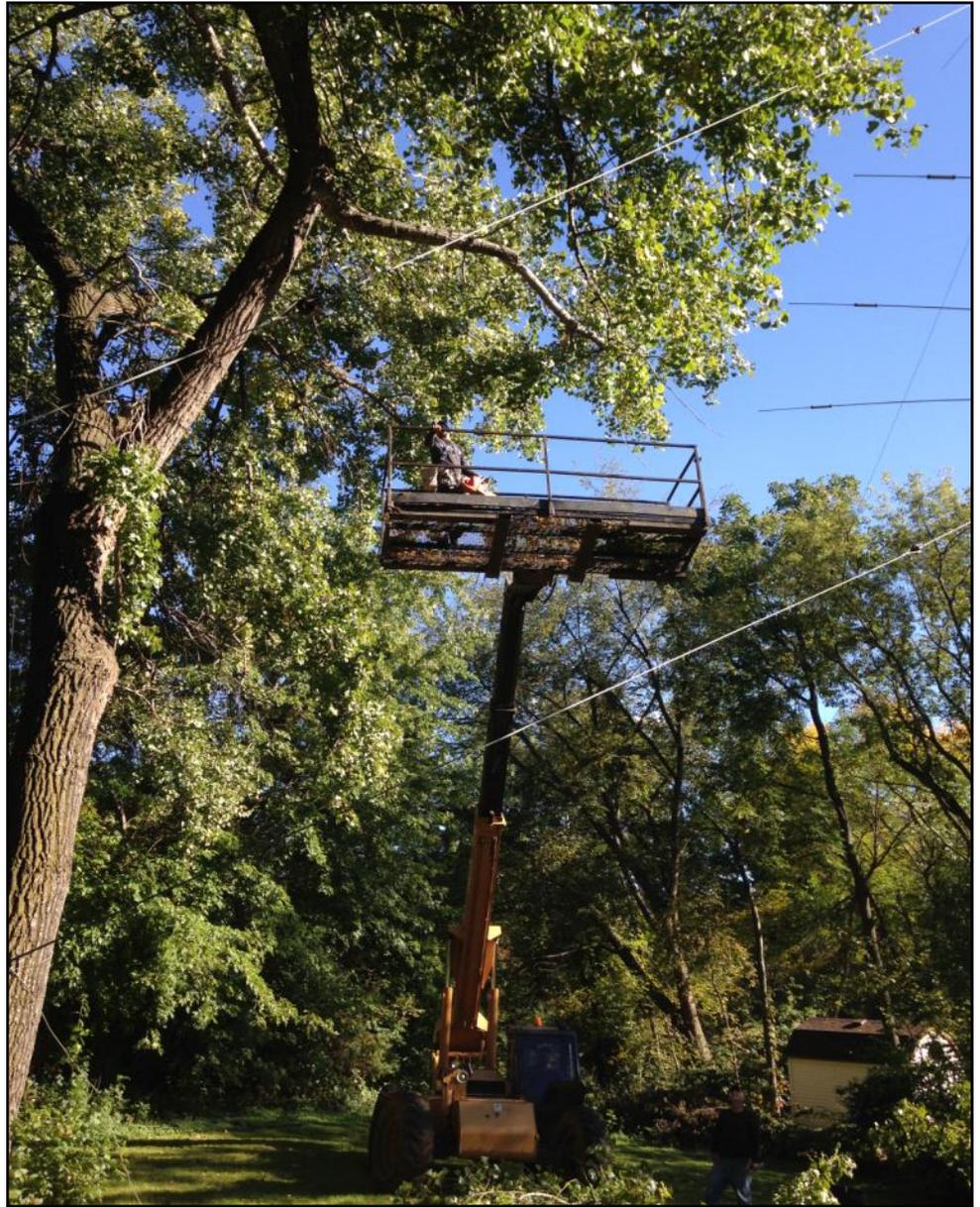


Paul, WØAIH and Jason, KC9MIJ working the tower (Photo by KØAD)

It was clear that we were not going to get everything done on Saturday so Jason returned to Wisconsin and Paul spent the night at my house. Jason returned on Sunday morning with another helper (Gordon). As we talked about how we would get the other yagis and big tower sections down, it became apparent that a major tree limb that had grown too close to the tower over the last few years was going to be a big problem and might even prevent us from getting the job



done. We were stumped and almost ready to throw in the towel until the tree could be dealt with. Then someone noticed a bucket truck on the lot next door where a house was being built. As luck would have it, the guy building the house was there. Paul and Jason went next door and asked if there was any way we could borrow the bucket truck to do some tree trimming. The guy was extremely friendly and agreed to bring the truck next door. Jason was hoisted up in the bucket and was able to cut down the overhanging limb. We were back in business. Paul and Jason then went up the tower and, with the help of the winch, did what they do best. After a couple hours, the remaining yagis had been removed as well as all the individual tower sections. Paul completed the job by cutting off the studs going into the cement base with his steel saw. It was about 3:00 PM Sunday and we debated whether we had time to do the smaller tower by the house. We decided to go for it. Greg positioned himself on the roof of the house and I stayed on the ground. Paul and Jason were then able to quickly remove the 10 and 15 meter yagis and hand them



Jason (KC9MIJ) does some tree trimming with borrowed bucket truck (Photo by KØAD)

to Greg and me. Rather than remove the tower sections one by one, we decided to take a short cut in the interest of time. We cleared a path in one direction and added some ropes to the tower. The steel saw was then applied to the base section a few inches off the ground and we let the tower fall. Once on the ground, the tower sections were quickly taken apart.



The last couple hours of the day were spent taking the towers apart and loading everything onto Paul's truck and trailer. With the truck and trailer loaded, I led Paul through Saint Paul in my car and then peeled off around the 3M building. With quite a full load, Paul arrived home several hours later.

I have many fond memories of Dave and the numerous contests we did from his basement. His yard looks strange now without the towers and yagis that defined it for over 20 years. Although it had to be done, it was an emotional day for Adrienne and the gang that spent many weekends there calling CQ Contest.

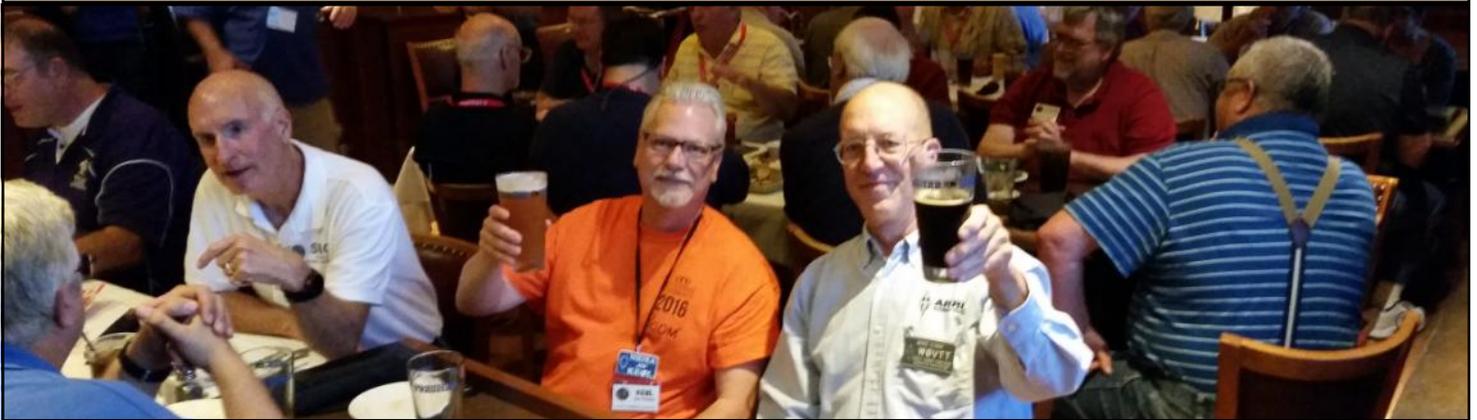


Today's view of KTØR's backyard with towers gone (Photo by KØAD)



W9DXCC 2016 Report

By Mike, WØVTT



Jim, KEØL & Mike, WØVTT toasting the demise of cycle 24
(Photo by KØPC)

We have our very own version of Visalia right here in the Midwest. W9DXCC was started by Bob Baird, W9NN in 1953 with the help of Roy McCarty, W9KA and Bob Carlson, W9PGW. The Northern Illinois DX Association took over the event in 1976 and has been running it for the past 40 years. This year's edition was held on 16 & 17 September at the Hyatt Regency in Schaumburg IL, a north-western suburb of Chicago. There were close to 250 hams in attendance over the weekend. An event this size is nice; it is big enough to attract major vendors and speakers from around the country, but still small enough to allow you to meet and chat with anyone else in attendance.

The festivities began on Friday morning with DX and Contest Universities. These presentations are aimed primarily at newer hams, and are a recent addition to the convention. I attended DX University the last two years, and was asked to be a speaker this year. I have been a ham for over 40

years, and an active DXer for almost 30 years. I learned a great deal from these “entry level” presentations. Next year, I think I'll try Contest University. There is no formal dinner on Friday, but large groups always form and descend on the nearby restaurants. Pat Cain, KØPC and I walked to a nearby brewpub and joined a large and noisy SMC (Society of Midwest Contesters) group. I highly recommend the Ram Brewery's Total Disorder Porter. KØPC favored their Founder's 71 Pale Ale. Good stuff. After dinner, many of us went to the hospitality suite in the hotel for more cold 807s, to brag about all the DX we worked, and lament the ones we missed. Some of us were up WAY past our bedtimes.

The convention proper started on Saturday morning with a full day of presentations. This year's program had a nice balance between technical presentations and DXpedition travelogues. Highlights included Bob Schmieder, KK6EK talking about





W9DXCC attendees put their tickets in the bowls hoping for a big prize (Photo by KØPC)



Flex Radio's new Maestro interface for the Flex-6700 (Photo by KØPC)

VKØEK, K3LP on the recent VP8 operations, and Ralph Bellas K9ZO discussing how to deal with declining sunspot conditions.

The convention concluded with a formal banquet on Saturday evening in the hotel ballroom. (The rubber chicken was pretty good!)

This year's banquet speaker was Tom Gallagher, NY2RF,

the new ARRL CEO. Once again, the hospitality suite was crowded late into the evening.





Elecraft display of their new KX2 transceiver (Photo by KØPC)

Door prizes are a big deal at events like this, and the NIDXA prize gathering crew is really first rate. Major prizes included an Elecraft KX3 (won by TCDXA member Dennis Sokol, WØJX, Flex Maestro, Icom IC-7300, and Yaesu FT-3000). Other prizes included a Begali paddle, Bird wattmeter, RadioSport headset, subscriptions to DX related publications and gift certificates from DX Engineering, Expert Amps, and other vendors. Elecraft, Expert Amps, Flex, Icom, and Yaesu had their products on display throughout the weekend.

Presentations on DXpeditions and technical subjects are fun and educational, but for me, the best thing about events like this is having the ability to rub elbows with the big

names in our field, the folks who have “been there and done that”. Chatting face-to-face with a guy you battled to work for a new one through vicious pileups, or learning some inside “dirt” on a recent DXpedition, or secret rumors about an upcoming operation, are (with apologies to MasterCard) truly priceless. A few years ago, Nobel Prize laureate Joe Taylor, K1JT, was the banquet speaker. After the banquet, he went to the hospitality suite to hang out and hoist a few 807s. How many times do you get the opportunity to stand around drinking beer and chatting with a Nobel Prize winner?

The next W9DXCC is scheduled for 15 and 16 September, 2017 in Schaumburg, IL.





TOP LINE SUMMARY

**TCDXA OPERATING BUDGET FY 2017
(Sep 2016 - Aug 2017)
December 1, 2016**

INCOME		ACTUAL	BUDGET	<i>Actual 2016</i>
Surplus from FY 2016 (balance 8/31/2016)		5200.20		4165.60
Member Dues 2017 by Cash/Checks/ PayPal		2269.55	4800.00	4751.59
Door Prize Ticket Sales club share		120.00	500.00	756.00
Donatons (estates, wills, etc.)		0.00		
Refunds and Reversals		5.00		13.00
TOTAL INCOME		7594.75	5300.00	9686.19
EXPENSES			BUDGET	<i>Actual 2016</i>
Member Recruitment/Retention		0.00	(300.00)	0.00
Website ISP & Domain Name		0.00	(70.00)	(44.26)
Office Supplies, Miscellaneous expenses		(32.35)	(150.00)	(30.43)
Flowers <SK> and Hospital gifts		0.00	(200.00)	0.00
Holiday Party 2016		0.00	(400.00)	(257.52)
ARRL Spectrum Defense Fund		0.00	(100.00)	(100.00)
NCDXF Donation		0.00	(250.00)	(250.00)
MWA Plaque		0.00	(75.00)	(75.00)
DXpedition Contributions Total		(3505.00)	(6000.00)	(3801.23)
#1 Dxpediton - 3Y0Z Bouvet	(3,000.00)			
#2 Dxpediton - TL8AO Central African Rep	(250.00)			
#3 DXpedition - VP6EU Pitcairn Island	(255.00)			
#4 DXpedition	0.00			
#5 Dxpediton	0.00			
#6 Dxpediton	0.00			
#7 Dxpediton	0.00			
#8 Dxpediton	0.00			
#9 Dxpediton	0.00			
TOTAL EXPENSES		(3537.35)	(7545.00)	(4558.44)
NET		4057.40	-2245.00	
Checking balance		3185.38		
PayPal balance		872.02		
Cash / Checks on Hand		0.00		
NET BALANCE		4057.40		

When required, Wells Fargo & PayPal online statements can provide detail not shown in this report.



K9WAG Joins Gray Line Staff

By Al, KØAD

Keith Freeouf, K9WAG has recently joined the Gray Line editorial staff as a proof reader / editor. With the readership of the Gray Line extending well beyond the TCDXA boundaries, it is important to have a quality publication with few if any errors when it is published. Keith will help ensure that this happens. Keith is a TCDXA member currently living in Lincoln, NE but is building a cottage in Ely, MN which will become his permanent residence in the next few years. He was a neighbor of Dan Dantzer, WØJMP, in Nebraska with Dan acting as Keith's Elmer for many years. Keith holds an Extra Class License and is interested in home-brewing and modifying antennas, transmitter hunting, digital modes, and DX. Keith is also a trained storm spotter and damage assessment volunteer for Lincoln/Lancaster County Emergency Management. He is a board certified and licensed Veterinary Technician. He transitioned from clinical practice to serving on a college faculty for Veterinary Medicine. He is currently teaching Math and Science in Lincoln's program for expelled High School Students.

Jeff Martin, WØJM, has asked to step down from his role in The Gray Line staff. With Jeff still working full time, he has indicated that the time commitment required was becoming a problem. Jeff's contribution during the transition of the Gray Line staff was much appreciated.



Flynn ("The Radio Dog"...the K9 in K9WAG) with Keith on lake @ Ely, MN cottage

Join TCDXA

Our mission is to raise *Dollars for DX*, used to help fund qualified DXpeditions.

Our funds come from annual member contributions (dues) and other donations.

TCDXA is a non-profit organization, as described in Section 501 (c) (3) of the Internal Revenue Code. All contributions from U.S. residents are tax-deductible.

Becoming a member is easy. Go to <http://tcdxa.org/> and follow the instructions on the home page.

All contributions (including annual dues) may now be paid on our secure site, using PayPal or credit card.

TCDXA Welcomes our Newest Member!

Roger Wise, KIØF, Wabasha, MN



DXers Have a Choice!



The Daily DX - is a text DX bulletin that can be sent via email

to your home or office Monday through Friday, and includes DX news, IOTA news, QSN reports, QSL information, a DX Calendar, propagation forecast and much, much more. With a subscription to The Daily DX, you will also receive DX news flashes and other interesting DX tidbits. *Subscriptions are \$49.00 for one year or \$28.00 for 6 mos.*

The Weekly DX - is a product of The Daily DX that can be sent weekly to your home or office via email in the form of a PDF (portable document format). It includes DX news, IOTA news, QSN reports, QSL information, a DX Calendar, propagation forecast and graph-

Get two weeks of The Daily DX or a sample of

The Weekly DX free by sending a request to bernie@dailydx.com, or at <http://www.dailydx.com/trial.htm>.



Mike Gulbranson, WGØM



WGØM's neat and well equipped station located in his comfortable "man cave"

I grew up in Thief River Falls, MN, home of Arctic Cat and Digi-Key, a small town located in the northwest area of Minnesota. I graduated from Lincoln High School in 1966 and moved to Grand Forks, North Dakota where I attended the University Of North Dakota. At a relatively early age I developed an interest and curiosity in how things worked. I recall taking things apart to see how they worked and then did my best to reassemble them back to working order, which didn't always happen. I started with wind-up alarm clocks and then went on to the five-tube AM radio. I joined the local Cub Scout/ Boy Scout organization and there I began to get interested in more complex things. I recall asking Santa for an erector set for Christmas. And so it began. The next "toy" was some kind of electrical kit that had all kinds of gadgets. I recall it did feature "key" pads that I could use to connect in such a way to send Morse code between the two pads. My best friend, who lived right next door to me, and I devised a plan to locate these two pads on our adjacent houses specifically in our bedrooms. We connected the



wire in such a way that he and I could send and receive Morse code. That was the plan but for some reason it never happened. I believe there was some parental QRM that stopped this plan.

My first radio project was a crystal radio. I don't recall where it came from or how I came to have it. I do recall having the radio sitting on my bed stand close enough to the bed so the ear phone would reach my pillow. I kept the ear phone hidden under my pillow so as to prevent my parents from curtailing my listening experiences after bedtime. Thief River Falls was so small that we had only one radio station; KTRF AM 1230. I recall that operating hours were from 6:00 am to 12:00 pm.

A few years later and thanks to the Boy Scouts, I built my first single tube radio. I recall the radio had three dials on it; Main tuning, fine tuning and volume. I salvaged parts at local electrical and hardware stores. In time and with the help of many adults, I was able to get it to work. For an antenna, I ran a wire from my bedroom window out to the garage located at back of our yard. The radio "produced" sounds and noises I had never heard before. My curiosity was peaked and I was hooked. In 1960 I started seventh grade at LHS. Within the high school building itself was the vo-tech where classes in auto mechanics and electrical mechanics were taught. The high school had a radio club

located in the machine shop area which was close to the vo-tech electrical department.

Learning the Code and Finding an Elmer

I joined the radio club which met in the high school machine shop. I learned Morse code there. The school acquired a US Army 1964 KY-127/GG Morse Code Trainer. I spent many hours listening to that machine.



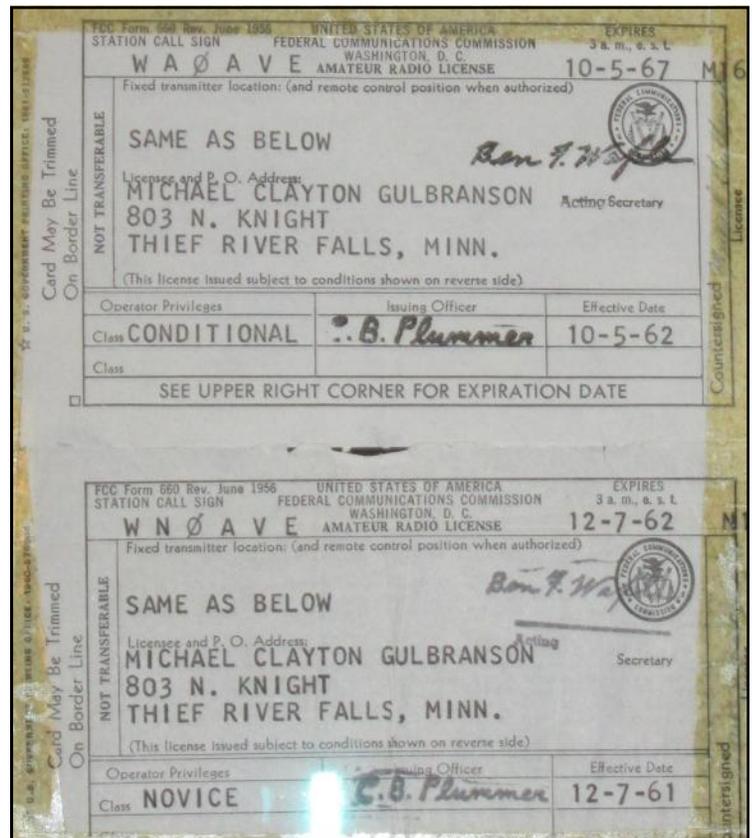
This gadget helped Mike learn the code

My mother was very instrumental in my learning Morse code as well. Armed with the Encyclopedia Britannica "M" book, she would spend hours quizzing me on the Morse



code equivalent of what the alphabet and numbers were. Love you, Mom. Lincoln High School had a very small club station. I never operated it other than to play with the receiver. I did, however, develop an interest in the vo-tech electrical department. The attraction began when I noticed a roof-mounted antenna located in the general vicinity of the Electrical department. This antenna dwarfed what the high school station had. I wandered into the vo-tech electrical department one day and met the instructor, Hank Bothman, WØBHL, who, shortly thereafter, became my “Elmer”. The vo-tech electrical department had a station that consisted of the Heathkit Apache transmitter and a matching Mohawk receiver. There was an impressive D-104 microphone connected to the transmitter. This station definitely caught my attention. Here was a fantastic station manned by a wonderful ham. My relationship with Hank took off. Hank was the uncle everyone wanted. Hank had polio and was confined to a wheelchair. That did not stop us. Hank took me under his wing. He invited me to his house where I met his wife and daughter. Soon thereafter I became a regular at his home on Saturdays. Hank had a station consisting of a Drake 2B receiver, a Hallicrafters H37 Transmitter and tip over tower that supported one end of his wire antennas. His station was set up in a room sized to accommodate his wheelchair. Often Hank would call on me to help him with antenna work. He told me what to do and I executed. It was the beginning of a wonderful relationship. I spent a lot of time “helping” him. In return, Hank helped me study the Novice license manual.

In 1961 I took the novice test, passed it and on December 7, 1961 was issued the call WNØAVE. My first rig consisted of the Hallicrafters S-38E receiver and Knight T60 transmitter. The transmitter came to me in kit form from Allied Radio. I spent hours putting it together only to realize that something during the assembly process was not done correctly. I needed help so I called a fellow ham who was a member of the school radio club Ron Stordall (ex- KØUXQ, ex-N5IN, and now AE5E). He helped me find the error and the rest is history.



Mike's first license

The novice license was good for a year which meant it was time to study for the next test. In 1962, I took and passed the “Conditional” test. The Conditional had the same privileges as the General. I recall a volunteer examiner named Fred, who lived



in Holt MN, administered the test. On October 5, 1962 my call changed to **WAØAVE**.

Building my Station, Working DX, and Getting Married

In 1966 I graduated from Lincoln High School and moved to Grand Forks ND to continue my education. During my years there, I grew my station from what I listed above to include a Hallicrafters T-32B transmitter, a Loudenboomer amp, and a Hallicrafters SX -101A Receiver. My antennas were dipoles on 80 and 40. I had a three band cubical quad located on the top of a 40-foot tower.

I joined the local club (WAØJXT) and became active in many activities including Field Day. Back then it took three members to man a station; the operator, the logger and the dupe checker. All of this was done using paper and pencil.

I am not sure when I got interested in DX only to say it was a gradual process. I recall being so impressed with being able to talk to people who lived “far away”. Many times after a QSO, I would run to our Encyclopedia Britannica to look up the QTH to see how far away it was. Every day, I would wait for the mail to see if any QSL cards might arrive from stations just worked. Little by little, the desire to work far away stations grew. I joined local clubs and built relationships where conversations often turned to “did you work so and so located on a faraway spot”?

As with many hams, girls interfered with playing radio. From 1970 to 1979, my hamming activity took a back seat. On July 7, 1979 I met my soon-to-be wife while on vacation in Mexico. She could not speak English and I could not speak Spanish. That didn't stop us. After knowing her for

only 2 weeks I asked her to marry me and she said yes. That was 36 years ago.

A few years after our marriage and purchase of our first home my interest in ham radio returned. In 1982 I purchased a Kenwood TS-711 a (2-meter rig). This purchase proved to be my gateway back into ham radio. I began to get involved with the locals on 2 meters. I became acquainted with the TCFMC club, became a member and was soon involved with various club activities including Field Day. My wife observed my interest. Shortly thereafter she surprised me by offering to purchase the Kenwood TS-830S and a 3 element beam TA-33jr antenna from Radio City. In no time I had the beam and tripod installed on roof of our house. The extra bedroom quickly became my Shack. I was back in business! On our vacations I took the most current FCC license manual. My goal was to achieve “Extra” status. During quiet moments, she would find me studying for either the Advanced or Extra upgrade. Finally, April 12, 1988 I received my Extra Class license with the call WGØM. DONE.

My First DXpedition

In the summer of 2000 my wife and I set our sights on our next to vacation destination; Aruba. Somehow the concept of operating from there came into our conversation. Neither my wife nor I had any idea what it would take to do this. It was a case of we didn't know what we didn't know. Somehow I shared our idea with Al, KØAD. Al offered to let me use his Kenwood TS-450 transceiver and built a computer to rig cable interface and program for my laptop necessary to do IARU and DX operating. I purchased an Alpha Delta 10-40 meter multi band antenna and two 50 foot runs of RG-59 coax. I searched ARRL website for help on getting a license to

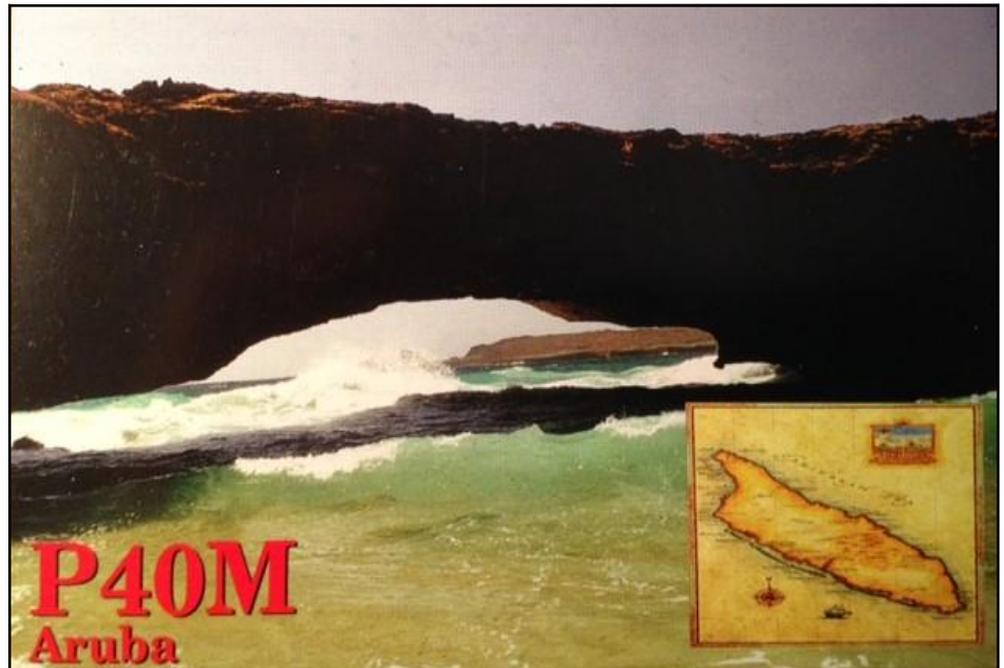


operate as P4Ø. I found out that Emily Thiel, P43E, would be my contact in the licensing process. We became best of friends in short order. She helped me through the whole process. I secured the license as P4ØM and P4/WG0M. She informed me that, before I could start operating at my P4 QTH, I would need to have the station and my documentation inspected and approved by an FCC equivalent authority.

We arrived in Oranjestad, Aruba Saturday mid-afternoon, July 7, 2000, zipped through customs and were on our way to the hotel. We checked in, got our room and in no time I was on my way up to the hotel roof (5 stories up) to hang my multi-band antenna. Shortly after we arrived at the hotel the local FCC inspector showed up, reviewed my documentation and equipment and informed me I could start operating.

It was now time to play in the IARU contest. I spent as much time as my XYL would allow, The contest ended early Sunday morning which meant my IARU contest operation was about to end and the DXpedition was about to start. We played tourists during the day and I played radio for nearly four hours each evening. Located about 500 feet from our hotel was a small "Dive Shop" building that had flashing blue neon lights (in the shape of dolphins) mounted to the outside walls that caused me serious interference. What

to do? I couldn't hear anything but the dolphins screaming on in my radio. On the second night there I decided to try some diplomacy. With some \$20's I headed to the dive shop hoping to "buy" some operating time. I was successful. The owner agreed to turn off the lights when he closed for the evening. The rest of the week I spent 4-5 hours each evening operating. I logged about 1000 Q's. Upon returning home the first order of business was to order QSL cards. While on the island, I watched for photo opportunities that could work out as QSL cards. We found the "natural bridge" located on the north side of the island that really provided what I was looking for. I ordered the cards and the rest was history. I was pleasantly surprised to receive envelopes from hams requesting a card that contained green stamps. Another NEW experience.



QSL from Mike's first DXpedition



My next DXpedition happened in 2004. And it was less successful as the Aruba DXpedition. My wife, daughter and I went to my wife's home town in Mexico, not far from Monterrey. Thanks to my wife's ability to negotiate in Spanish, I was given a license with the call XE2/WGØM. For this trip I purchased a Kenwood TS-50. Following Al's lead on the P4 trip, I was able to assemble a working portable station. We were off to Mexico. We arrived at my wife's family home where I set up the station. The house was a single story which meant my antenna was about 15 feet above the ground. In no time I was calling CQ. We were there for two weeks and in that time I operated every day. I amassed a total of 23 Q's for the duration there. I blame the low Q rate on the mountains that surrounded my QTH there. That was it for my DXpedition activities.....back to vacationing with family. My most memorable DX experience was my first DXpedition; the trip to Aruba. This was my first time operating out of the country. The more important part of this was how it all came together prior to the trip, the week in Aruba and how my family put up with this. My daughter was nine years old then and often spent time watching me operate from our hotel room. My daughter has been involved in countless ham radio activities including: local field day operations, helping me with wire antenna projects, and sorting QSL cards.

My Current Station and Activity

My main rig is the Kenwood TS-950SDX with Kenwood SM-230 Station Monitor and Kenwood TL 922A Amplifier. My second rig is the Kenwood TS-870S w/ Kenwood SM-230 Station Monitor and Kenwood TL-922A Amplifier. I have a Kenwood TS-711A for 2 meters and TS-811A for 440. My mobile rig is the Kenwood TS-50. I have a Kenwood T-78A HT.

Shelved for now I have another Kenwood station consisting of a TS-830S transceiver, matching VFO-240 and AT-250, External Speaker, and a TL-922A amplifier. I have a Hy-Gain Explorer 14 mounted on top of a self-supporting 50 foot Rohn tower. My wire antennas are made up of dipoles (inverted V's) on 80, 40, 30 and 17 meters. For 160 I have an inverted L. I have two computers,



Mike's tower and Explorer 14 at his home in Minnetonka



one dedicated to radio control and logging software. The other is dedicated to VE7CC and DXSummit monitoring as well as email management. Both run Windows 10.

My wife and I built our current Minnetonka home in 1990. I worked with the contractor and architect to ensure the house was designed for ham radio use. During the construction process I was involved with installing a 12-meter dipole in the attic and running the coax to the basement before access was “denied”. That antenna is still there but I no longer use it.

While building the house, I also installed a PVC pipe that carried the coax, ground and rotor cables to the shack. Also, the shack was laid out to accommodate the desk my wife bought me many years ago. That meant I had to locate the fireplace accordingly. Our basement is finished with all amenities save a shower and a bed. My wife often complains that I spend too much time there and, yes, the shack is very accommodating. My station is located in my “Man Cave” which is located in the basement. We are a family of three. Our daughter graduated and has moved on taking the dog with her. Yes, we are empty nesters. I have a brother living in Young America and a sister living in Dallas. My wife was born in Mexico. She has two sisters, each with one daughter, all living in Hopkins. No one in my family has much interest in my hobby. Some days, I believe most of my family would like this hobby to go away. They don’t see the draw to it. My wife and I like to travel. Now that retirement is the daily word, my wife and I talk about faraway places we would like to see. This year we traveled to Dubai, Spain, and Portugal. Last year it was South America. Now my wife is

talking about a “Safari” in Africa. Time will tell. I spend a lot of time doing volunteer work both at my church and the Minnetonka ICA Food shelf. I feel blessed for the opportunity to give back to the community through various activities.

I find the DX Award chasing somewhat challenging. It takes a lot of time and effort to stay current. I like LoTW as it does the work for me. I go through cycles where I dive in to the DX Award process and then back away. My motivation often comes from others that share with me their award status. Then I recall I am retired and often complain of not enough to do.....hmmmm.

The Future

I just completed a station upgrade (not the radios) that I started last year. The motivation was provided by Bill Gates (Windows 10 upgrade) and Writelog V12, and XMMT.ocx upgrade. The software upgrade meant the old SO2R stuff had to be replaced. The old SO2R box was upgraded to the microHAM MK2R+.

With respect to ham radio, my future goals revolve around CW. I wish to improve my CW operating skills to a point where I am on par with those who play (conversation) at the 32-35 wpm speed. I look at this endeavor as a way to stimulate the brain matter to keep Alzheimer’s at bay.

Al, KØAD, introduced me to CWOPS and now I am a regular participant on Wednesdays’ 1-hour tests. I prefer the morning time-slot.

How much longer will I play? Who knows? I believe the station is now in a “run” mode capable of 10 more years. I hope the operator is capable and ready to participate for the same duration. What I don’t know is how my wife will tolerate this plan. She is retiring around year 2020.



JT65 and JT9 for DXers?

By Dan Dantzler, WØJMP

“I tried a JT QSO but fell asleep before the contact was finished.”

“JT65 and JT9? Aren’t they sleep aids?”

“Watching grass grow is more exciting than operating with JT.”

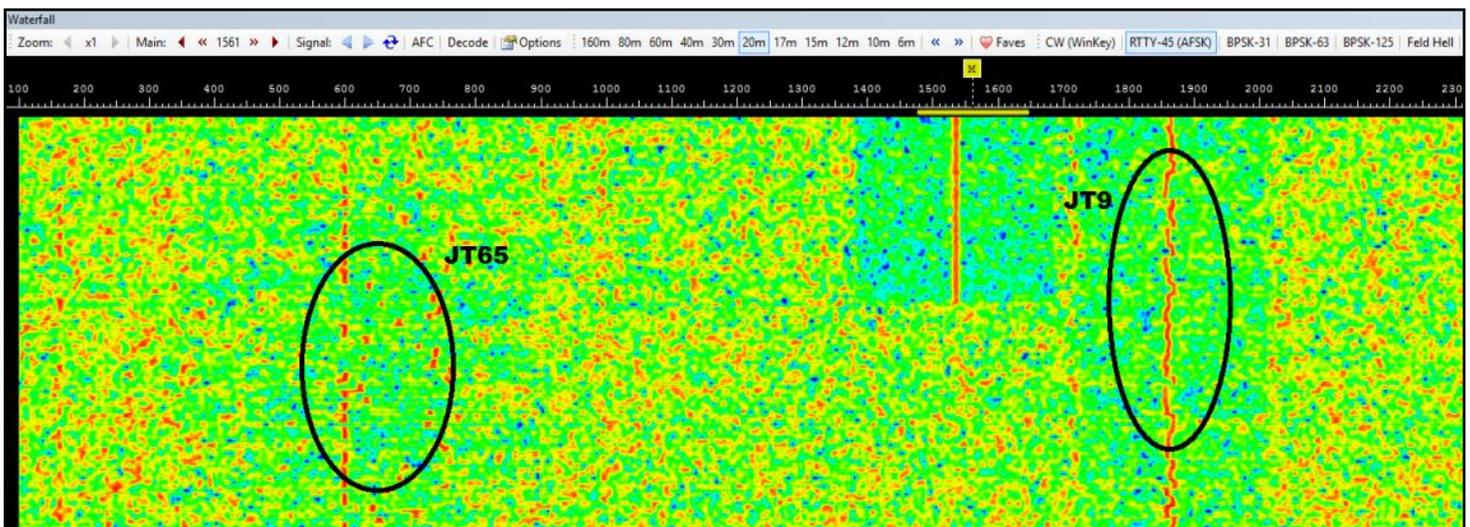
We have all heard these types of comments about JT65 and JT9. But do they have a place in the DXers toolbox?

What are JT modes?

JT65 and JT9 are sound card protocols developed by Joe Taylor, K1JT. Sound card protocols use a computer sound card to encode and decode specific radio signals. They were originally developed for EME (moon bounce) operations. One might say the half million mile round trip to the moon and back is the ultimate DX. Signal losses for EME are extremely high, on the order of 250 dB. To make up for the losses, hams have used high power and big antennas. High power has a legal limit and large antennas have a physical constraint. Cost is a significant factor in both.

Joe Taylor, K1JT is a pretty smart guy. (<http://www.mlahanas.de/Physics/Bios/JosephHootonTaylor.html>) He is a recently retired Professor of Physics and Dean of Faculty from Princeton University. He was the co-winner of the 1993 Nobel Prize in physics for the discovery of the binary pulsar. (https://www.nobelprize.org/nobel_prizes/physics/laureates/1993/press.html)

What exactly is JT65? JT is named for Joe Taylor (K1JT) and it uses 65 tones. It is a robust digital technique for communicating via radio. A standard message is encoded via your computer sound card into a modulated USB signal using 65 tones. On the receiving end, it uses your sound card to decode those messages. It also uses FEC (forward error correction) to increase the probability of a properly decoded signal. With JT65, you either copy a correct message or nothing at all. Occasionally there are erroneous messages but they are very uncommon.



Waterfall showing JT65 and JT9



How do you operate with JT65 and JT9? They are nothing like any other communications methods that I have used in my fifty-plus years in amateur radio. At first, they seem very strange. There is no “chat” or rag chews. It is very structured. The exchange goes something like this:
CQ WØJMP EN34 (I call CQ with my grid square)

WØJMP K1JT FN20 (He answers my CQ and gives his grid square)

K1JT WØJMP -14 (I give him his signal report of -14. The computer automatically determines the signal report. A bit more accurate than the common 5NN TU”).

WØJMP K1JT R-11 (He acknowledges receipt of his report with the R and gives me my signal report of -11)

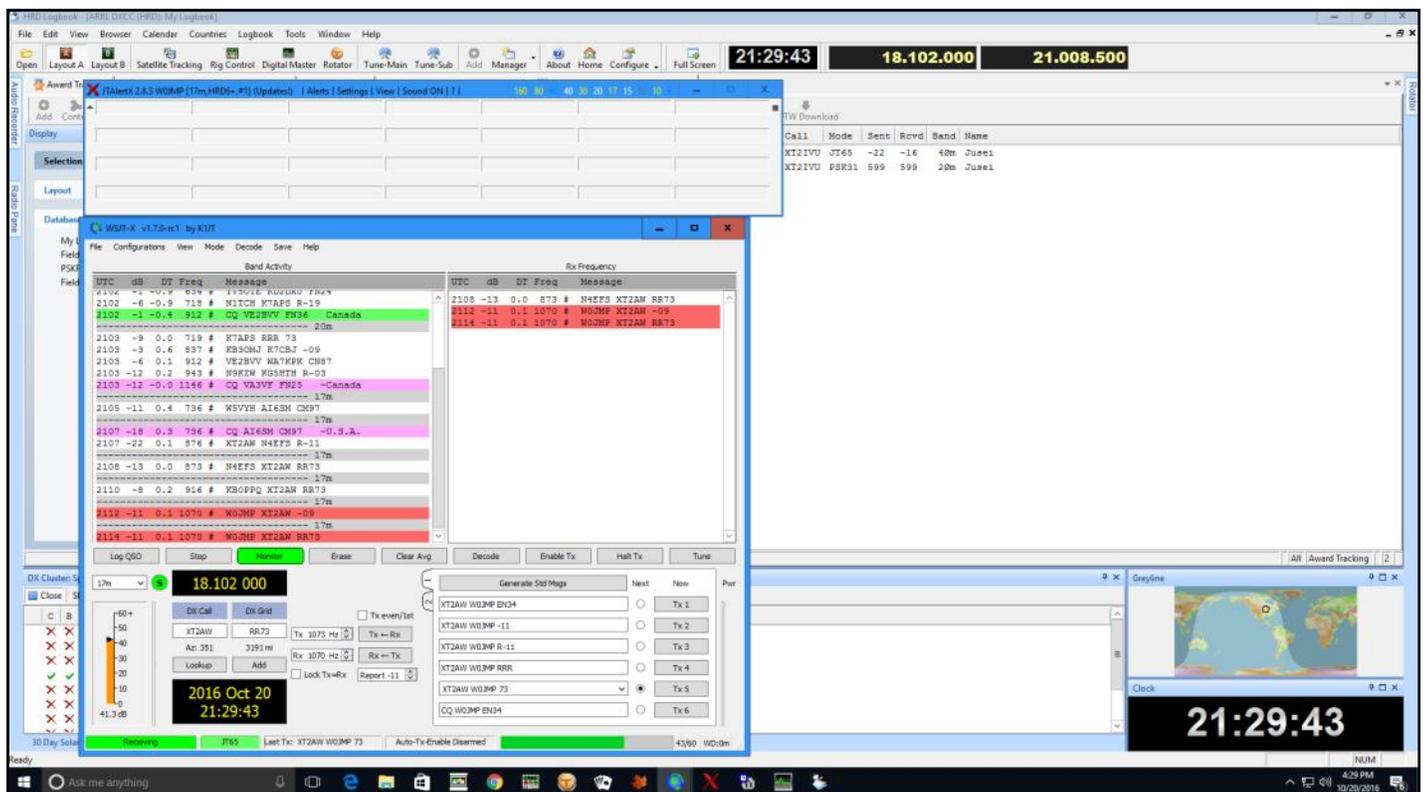
K1JT WØJMP RRR (I acknowledge receipt of my report.)

WØJMP K1JT 73 (Sign off)

K1JT WØJMP 73 (Sign off)

Each of these exchanges starts at the top of the minute. One station transmits on even minutes and the other on odd minutes. Each transmission lasts about 47 seconds with 13 seconds available for your computer sound card to decode the message and you to decide what you are going to do next. The signal reports are generated by your computer, not by an arbitrary judgment call. Your station must have an accurate time standard to make it work. Your computer clock must be accurate within about a second. Several free software packages are available to keep your clock accurate. I use Dimension 4 but there are others just as good.

So, if you count it up, this entire exchange from CQ to final sign off takes 7 minutes! There are a few shortcuts to get it down to about 4 or 5 minutes but it is still a very slow way to communicate. I doubt if any DXpeditions would be satis-



How it looks on WSJT-X screen; 17 meter QSO with Burkina Faso



satisfied with 15 Q's per hour.

If it is that slow, what good is it? It is VERY powerful. How does it compare to other modes? If we use CW as a base (0 dB), SSB is about 17dB worse than CW. RTTY is about 4 dB below CW. But how do the digital modes measure up? PSK31 is about 7 dB "better" than CW and JT65 beats CW by an astounding 25 dB according to this article in QST;

www.qsl.net/k4fk/presentations/Mode-sensitivity-2013-Dec-QST-Siwiak-Pontius-1.pdf

JT9 is about 2 dB better than JT65.

That means that a 5 watt signal using JT65 is roughly equivalent to a 1300 watt signal using CW. Very powerful indeed! Some writers give it less of an advantage but regardless, it is very powerful.

What do I need to try JT65 and JT9?

You need:

- A SSB transceiver

- A computer with a sound card running Windows (XP or later), Linux, or OS X

- Interface between computer and transceiver Software

Nearly any modern transceiver will work. If you are currently set up for other digital sound card modes such as PSK, you already have all the hardware you need. All JT modes use upper side band, even on the lower HF and MF bands.

Your computer should operate at 1.5 GHz or faster CPU and have 200 MB of available memory and have a monitor of at least 1024 by 780 resolution. The interface between your transceiver and computer may use a serial port or equivalent USB device for T/R switching, or CAT control, or VOX, as required for your radio-to-computer connections. Or you may have a newer radio with direct USB control.

What software do I need? In addition to the software to keep your clock accurate, you need the software to run the JT modes themselves. There are a few out there but I prefer to use the software from Joe Taylor himself. It is available

or no charge from his web site.

<https://physics.princeton.edu/pulsar/k1jt/>

WSJT-X 1.6 is the latest released version but 1.7 is in Beta release and has an improved decoder. It is quite stable and new updates are released almost weekly.

An additional useful utility is WSJT-X Alert by HamApps. It rides on top of WSJT-X and searches your log to see if the stations on your screen have been worked before on the same mode and band.

<http://hamapps.com/>

For a beginning DXer with a minimal station, using JT modes is probably the easiest way to earn a first DXCC. There are many stations using these modes in North America, South America, Europe and Japan. Outside of South Africa, there are fewer stations in Africa and most of the Asian stations are in Japan, but there are more and more JT operators every day. Getting DXCC with low power and marginal antennas is very doable and probably easier than with other modes.

For the intermediate DXer, JT modes offer an excellent way to fill in band slots and is especially effective for new band/states for WAS awards. What about advanced DXers? Well, frankly if you only need a couple uninhabited rocks in the hinterlands to finish your 9-band DXCC or make it to the top of the honor roll, JT modes will not be the tool you need to work them. However, it is a useful way to see what YOUR station is receiving and when. For example, I often leave my rig and computer on overnight on 80 meters in the winter. In the morning, I see what MY station heard overnight by scrolling back through the display. I may see stations from Asia rolling in just before sunrise most mornings. That confirms that I need to get out of bed and move to the shack at that time of the morning to improve my odds of bagging those contacts. Even if I am not using JT modes for the eventual con-



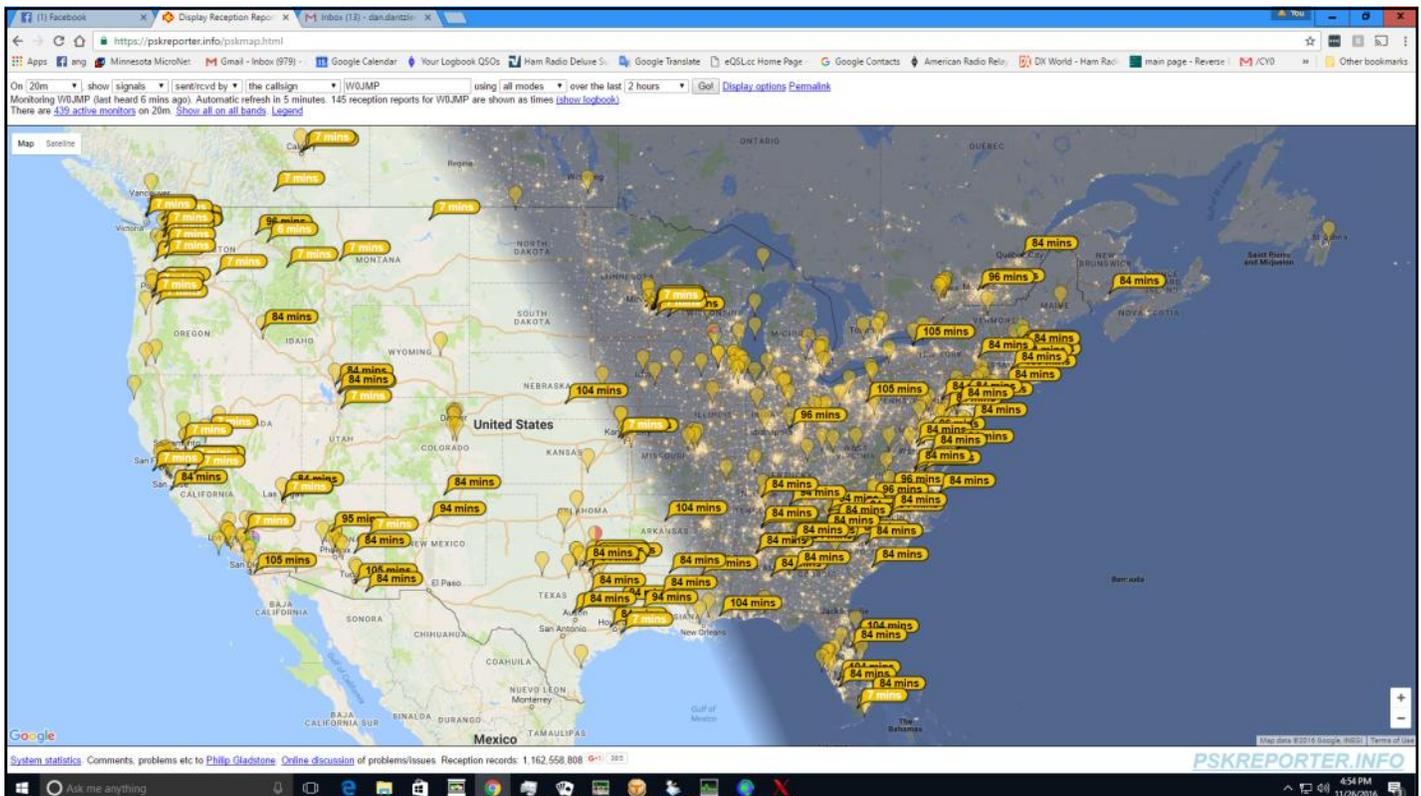
tacts, they tell me that propagation is available to that part of the world at that time of the day.

JT modes are also useful to see where and when signals from my station are being heard. PSK reporter is a useful automatic propagation reporting tool. If you call CQ on a JT mode, you will see within a few minutes where in the world your signal is being heard. This is also helpful not only for tracking openings but also for evaluating changes in your station such as comparing different antennas.

What about VHF and above? JT modes are now the most common modes used for EME. Even a modest station can make a QSO off the moon using JT. Random E and F skip QSOs on six meters are very common. Some of the new modes just released as part of the WSJT-

X package are tailored (no pun intended) for improved meteor scatter QSOs.

JT modes are not for everyone. As I said in the beginning of this article, they are unlike any other mode that I have used. But if you have a computer with a sound card, you might give them a try. You will not need to spend much time or money to get on the air. You may find them to be a useful tool, you may enjoy them or you may just move on. That is the nature of much of amateur radio. Today, about 80% of my QSO's are on digital modes, mostly JT65 and JT9. If you would like help setting up or want to see a live demonstration, give me a call. I would be happy to show you my station and make a few contacts.



Screen grab from PSK reporter showing where MY has been received



Asia Pacific DX Convention - November 11-13, 2016

By: Glenn Johnson, WØGJ



Paul WØAIH, Kan JA1BK, Glenn WØGJ, Zorro JH1AJT

This November I attended my sixth Asia Pacific DX convention with my XYL Vivien, KL7YL. It was her third APDXCC. We were joined by our good friends Paul, WØAIH and Mary, WBØPMX Bittner. Neither of them had been to Japan before. Paul and I had been planning this trip since early 2016. We made our plane reservations so we could travel together to and from Japan. A non-stop flight took us from Minneapolis to Tokyo and then to Osaka. A couple of weeks before departure, the Tokyo connection was changed from Narita airport (NE Tokyo) to Haneda airport (S Tokyo). Fine. No problem. We arrived in Osaka about 8 pm local time, but after a very long flight, we were so tired, we just wanted to go to bed. We stayed at the Osaka International House Hotel, headquarters for the APDXC meeting. The International House Hotel has its own well equipped ham station and numerous antennas on the roof!

The next morning, Friday, November 11, about 60 foreign visitors toured the ICOM factory and headquarters. Not only did we see some of the most advanced electronics production lines in the world, but also the unveiling of the new ICOM-7610, ICOM's latest SDR radio. In the evening we attended a reception at the International House Hotel, hosted by Mr. Inoue,



JA3FA, and CEO of ICOM. It was a chance to meet and chat with many Japanese hams, including TCDXA member, Elvin JA3CZY.



Glenn, KØGJ; Elvin, JA3CZY and Paul, WØAIH

Saturday, visits to the World Heritage Museum and Asahi Brewery were followed by a formal banquet. Attendees were from every continent. Also present were four Hall of Fame inductees: Paul Bittner WØAIH is a member of the Contest Hall of Fame. Kan Mizoguchi JA1BK, Glenn Johnson WØGJ, and Zorro Miyazawa JH1AJT are members of the DX Hall of Fame.

Sunday there were formal presentations of technology (mostly Software Defined Radios), antennas, DXpeditions, contest stations, and how some countries were developing ham radio regulations and operators. Paul presented his lifelong ham radio journey and finished with describing his new 3-element 80M beam. Glenn briefly presented the K1N Navassa and K5P Palmyra DXpedi-

tions and gave a preview of the upcoming 3YØZ Bouvet DXpedition.

Monday, Paul, Mary, Glenn, and Vivien toured the Osaka Castle and then took the

bullet train to Tokyo. We planned to stay with Zorro, JH1AJT for a couple of days, but he was called away to Myanmar. A few days later the XZ1A operation was on the air!

Tuesday, we did some interesting tourist things and visited one of the largest ham radio stores in Tokyo. The highlight was ascending (not climbing) the second highest structure in the world, the 2080-foot tall Tokyo Skytree tower. I swear we could see Paul's 80M beam from there!

Christmas decorations were everywhere.



Tokyo Skytree – 2080' tall!





Tokyo Skytree glass floor – looking down from the 1850' level



NOT your ordinary window cleaners. This window is 1850' above the ground!





Glenn WØGJ, Vivien KL7YL, Mary WBØPXM and Paul WØAIH



Tokyo ham radio store for Paul WØAIH

Wednesday, we arrived at the Haneda airport in Tokyo to return home. I showed Paul how to get our boarding passes, but Paul's attempts did not work. Paul and Mary were at the wrong airport! Their earlier rescheduling had them returning to Minneapolis from Narita airport, a good hour away by car. Glenn and Vivien's flight was over-

booked and there was no room for Paul and Mary! Fortunately, after a quick good-bye, Paul and Mary sped off to Narita, with some time to spare. We all made it home, tired, but thankful for a most successful trip.

The Asia Pacific DX Convention is held every other year and is hosted by Mac

JA3USA. It is a very nice meeting with plenty of time to chat with friends, make new friends, see Japanese culture, eat Japanese cuisine, and, of course, do some ham radio things, including touring the ICOM factories! Paul says that on a scale of 1-10, this meeting was a 21!!!! Mark your calendar and pack your bags for November 2018!





The MWA Contest Corner

Ten Tips for Increasing Your RTTY Contest Score

by Al Dewey, KØAD

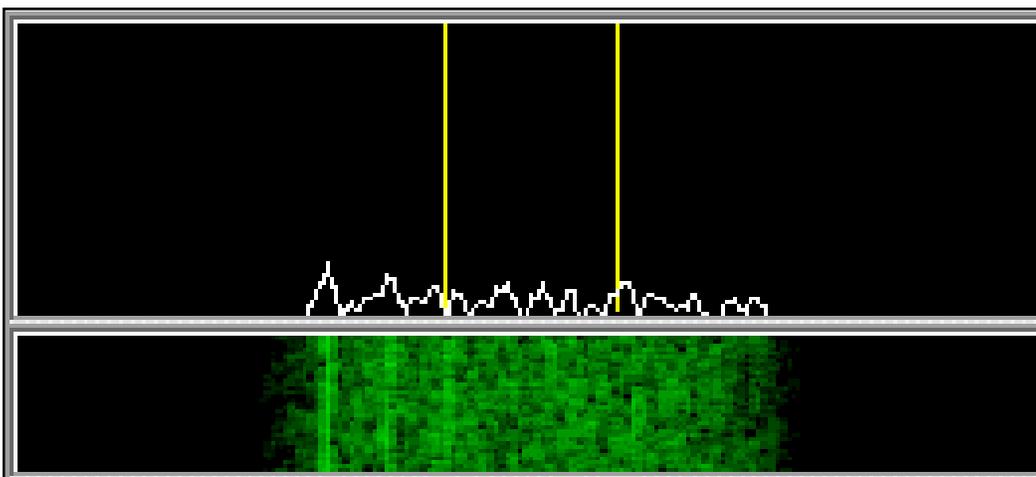


Recently, I gave a presentation at the Minnesota Wireless Association meeting on tips for improving your RTTY Contest scores. I thought I would devote this month's column to those tips for members who were not able to attend the meeting. The ideas listed below are based on my experience in RTTY contesting over the last 10 years or so. Although there are RTTY enthusiasts in the area with more experience than me, these ideas have helped me make the Top Ten in the ARRL RTTY

Roundup Low Power category most years as well as to bring home two Dakota Division plaques for that event. Some of the ideas are also based on tips I have gleaned from Ed Muns, WØYK. Ed is the RTTY Columnist for the National Contest Journal as well as a frequent presenter at Contest University and the RTTY Forum at the Dayton Hamvention. Because I am an N1MM+ user, most of my examples will use N1MM+ format. All of these tips can be applied to other contest loggers such as WriteLog. So here they are in no particular order.

Tip #1 - Use the Right Filtering

Your success in an RTTY Contest will depend, to a great deal, on how well you can copy other RTTY stations. This is especially true if the signals are weak and there is a lot of QRM. One common mistake I have made is to run the audio level to the band scope too high. WØYK recommends that the band noise when no RTTY signal is present should move the band scope no more than five percent of range. I normally run mine a bit higher, but not much. I used to run mine much higher to



Audio Level for band noise should register no more than 5% on the RTTY Band Scope (Figure by WØYK)

the point of overloading at times. The audio level can easily be adjusted from the Windows playback devices controls.

Another misconception is that one should also use the narrowest filtering possible in an RTTY contest. This is not always the best idea. Some of the more recent RTTY decoders (such as 2Tone) actually do a better job



with filtering that is not quite as narrow. On the other hand, if contest QRM is heavy, narrow filtering can help. WØYK recommends using a 500 HZ filter for RTTY most of the time but cutting back to 250 Hz if QRM is especially heavy. I have found this to be a good plan.

Tip #2 – Use Multiple Decoders

I was not contesting on RTTY back in the days of external terminal units. When I got started about 10 years ago, I used my PC to do the decoding. The most common RTTY decoder for PCs back then was MMTTY. Even today, MMTTY is probably the most popular decoder used on RTTY. It is possible to configure MMTTY for different decoding profiles (such as fluttered signal, multi-path, etc.) Sometimes one of these profiles will copy a particular weak or fluttering signal better than the other. In other cases, a different profile might do better. In the N1MM+ Logger, you are allowed to set up four additional receive windows (besides the main one you are using). For each additional receive window, you must have a separate instance of the decoding program. So, if you are using multiple profiles supported by MMTTY, you must load individual instances of MMTTY in separate folders on your PC.

In recent years, an alternate decoder many have been using is 2Tone by G3YYD. While most signals are printed by both MMTTY and 2Tone just fine, 2Tone has been found to print better under tough conditions like fading and QRM. I have found that the best combination for me is to use MMTTY with the FIR profile as my main decoder and 2Tone as a second

decoder in a second receive window. My eyes are almost always on the main MMTTY window. However, if I hear an RTTY signal but it is not printing clearly, I can often peek at the 2Tone window and get the missing contest information I need. N1MM+ lets you set this up on the screen in a very efficient way minimizing the required screen real estate.

Finally, don't overlook the RTTY print function that may exist in your radio. With my ICOM IC-7600, I find that some signals will print on the rig's screen that were not decoded properly with either the MMTTY or 2Tone decoder.

Tip #3 – Use AFC Correctly

Although this is not an RTTY contesting tip, per se, it is important to remember to use the Automatic Frequency Control (AFC) setting correctly during a contest. It is best to always have AFC ON when you are CQing and OFF when you are searching and pouncing.



The RTTY Decoder built into your radio will often be better than software decoders such as MMTTY and 2Tone



N1MM+ Logger has a setting that automatically turns AFC on when you start to call CQ. I always make sure this is set.

Tip #4 – Single Operator / Two Radio (SO2R)

The contesters who operate with two radios during a contest will tell you that SO2R operation is perhaps more effective in RTTY contesting than in any other mode. That is because the mental step of “decoding” which is required on CQ and even SSB is done for you automatically with RTTY. This frees up your brain to better keep track of what is going on with both radios. Actually setting up an SO2R infrastructure is beyond the scope of this article. I might just say that it is easier than you think. All that is required is a second radio, a control panel (like TOP TEN or *microHam*), some bandpass filters, and a second antenna. For years, I used a vertical in the background for the second radio. If you happen to have a Tri-Band yagi, a triplexer will allow you to operate two of the high bands (i.e. 10, 15, and 20) at the same time.

There are two common methods to operate SO2R. The first is to call CQ on one radio and search for new stations on the second radio. The other is to “Dual CQ”. This simply means calling CQ on alternate radios until you get one or more responses. Once you get that hang of it, it is pretty simple on RTTY to intersperse multiple QSOs between the two radios. One minor drawback of SO2R on RTTY is that it takes a lot of screen real estate. I usually have to use a slightly smaller font to get everything to fit on the screens for both radios. Some use a second monitor to give them the additional screen room needed.

When I first started doing SO2R with RTTY, I noticed that sometimes both transmitters were on the air at once. You definitely do not want this because, technically, it puts you in the Multi-Operator category. This can be pre-

vented in N1MM+ by making sure you have SO2R lockout configured correctly. This parameter is found under **CONFIG / SO2R / TX Lockout (Digital)**. I set this parameter to “First One Wins” meaning that, once a transmission is started on one transmitter, it will run to completion before the next transmitter is able to transmit. Sometimes, it means a delayed transmission on the second transmitter but that is better than having two transmitters on the air at one time.

Tip #5 – Use the Call Stack

Contest loggers such as N1MM+ now have a call stack for RTTY contesting. This is basically a list of calls that are decoded as they come in. The stack can be configured so that the last call or the oldest call is on top of the stack. When used with the GRAB macro, it eliminates the need to click on the calling station in the digital window. Clicking a Grab soft function key or a hard function key on the keyboard can automatically grab the top call from the stack and send the contest exchange. This can save a lot of time over the duration of the contest. Another thing the call stack allows you to do is easily work the next guy in line after completing the current QSO. A soft or hard function key can be set up to QSL the current QSO, grab the next call from the call stack, and make the next QSO. This is typically used with a NOW macro. Although using the call stack this way can save some time, the second calling station will not always stick around while you are making the first QSO. I have found that it happens about half the time. If, however, you are operating an RTTY contest from a more desirable DX location (e.g. the Caribbean, etc.) it is more likely that a station will stick around to work you after one or even multiple QSOs.



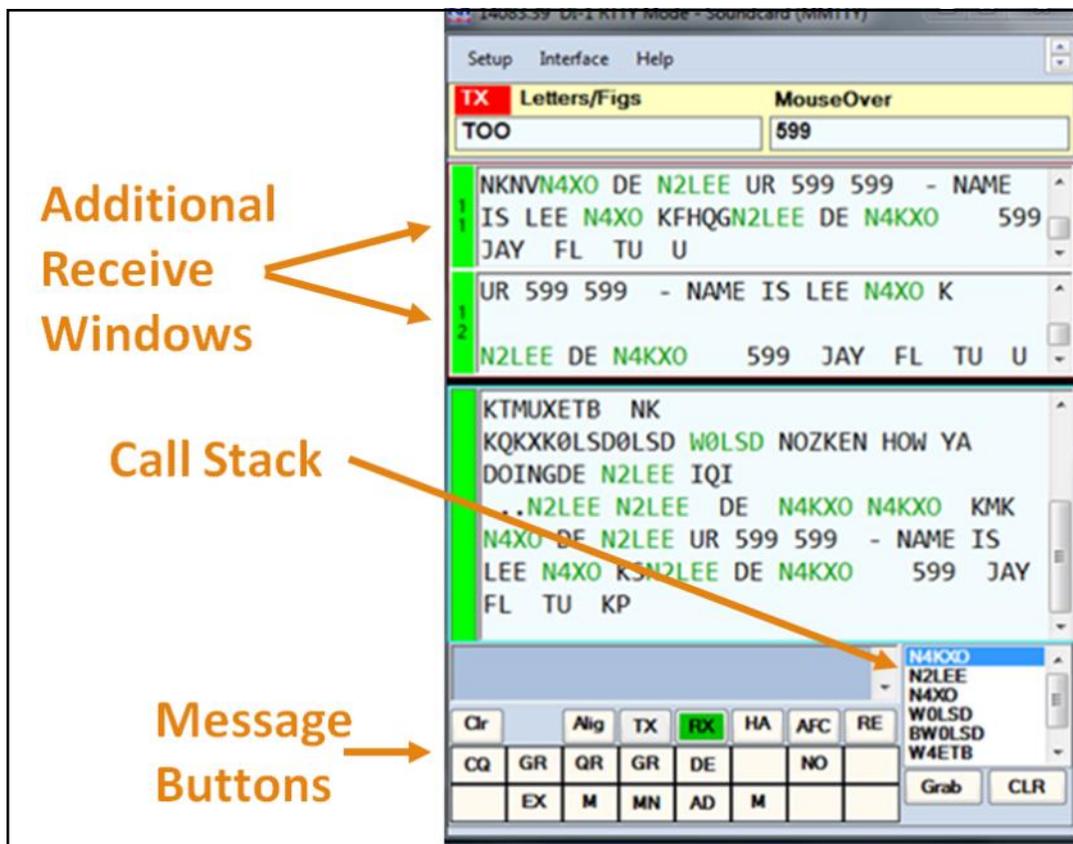
Tip #6 – Use Efficient Messages

It is surprising how much time is wasted in RTTY contests by simply being too verbose in message exchanges. Here are some tips for setting up efficient messages for an RTTY contest:

1. Start each message with a CR/LF. In N1MM+, this is a %R macro. The exception is messages where you send your call sign in S&P mode.
2. End each message with a space. This is very important because it ensures characters generated by random noise will not be appended to your call.
3. Make sure to return to *receive* after each message. In N1MM+, this is a %E.
4. Use 599 not 5NN.
5. In general, include your information just

ONCE especially standard things like 599 and your zone. Some prefer to send unique information such as QSO number (and possibly your section) twice.

6. When calling someone in S&P mode, send your call just once without a CR/LF. Sending DE is usually not necessary. If there are a lot of callers, maybe hit the function key twice.
7. When calling CQ, include “CQ” at the both the beginning and end of your message.
8. Include messages asking for missed information (i.e. NR? SEC? etc.)
9. After sending your information, it is usually NOT necessary to send the other guy’s call when returning control back to them.



10. DO send the other guy’s call when you acknowledge his info and send QRZ (e.g. AA5AU TU DE KØAD QRZ).

11. When operating SO2R, set up a message to direct the guy to the right frequency on your other radio.

Tip #7 – Determine Your Comfort with Using Either the Mouse or Keyboard during an RTTY Contest

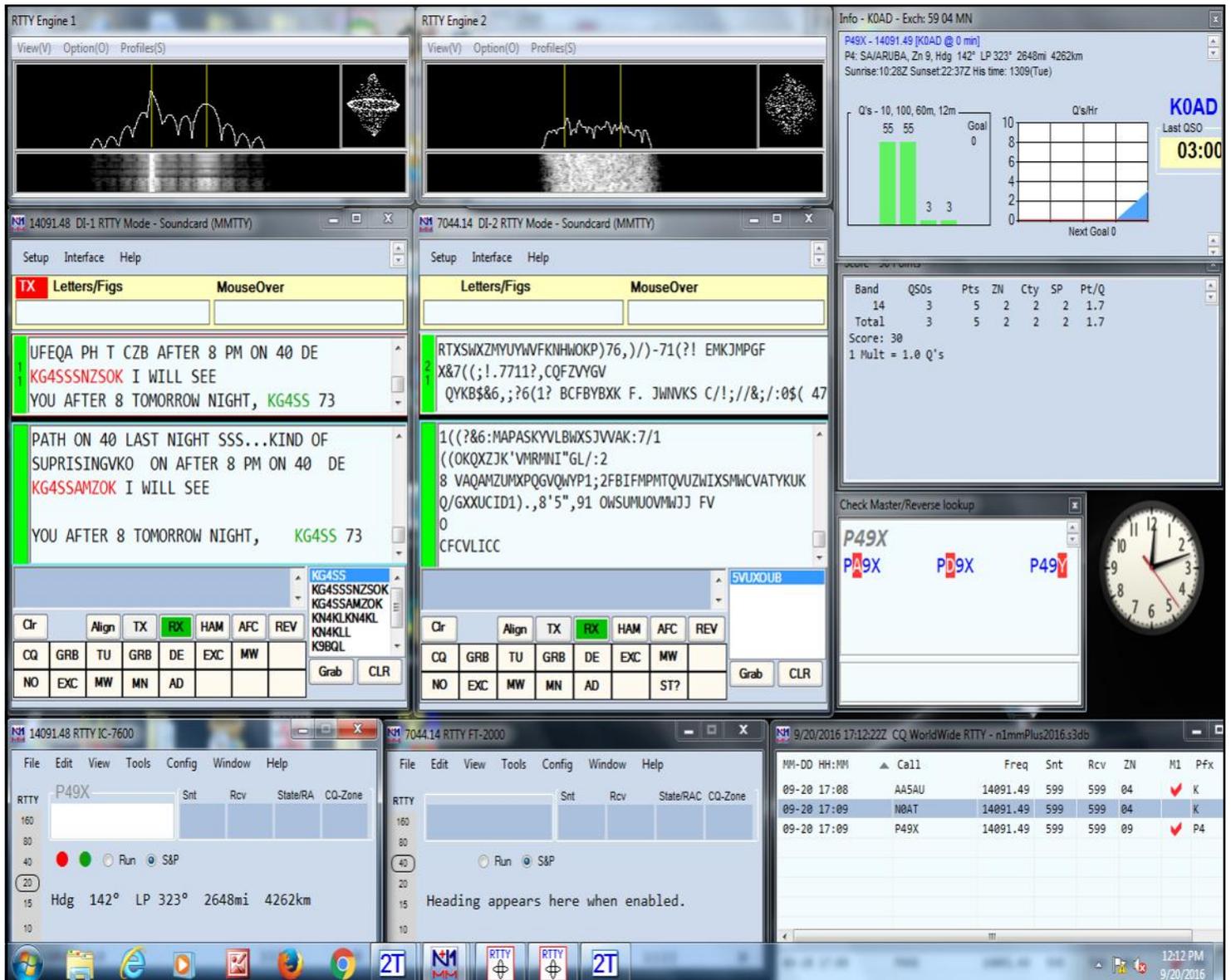
Whether you use the Function Keys on your PC, or targets on your screen using your mouse, it is totally a

A typical Digital Window in N1MM Plus includes 2 additional receive windows, the call stack, and a set of soft message buttons.



question of your comfort with either. Using the many macro capabilities in both N1MM+ and WriteLog, it is possible to set up function keys to do most tasks associated with running an RTTY contest. I actually use a combination of both. When casually operating with one radio, I find it is easier to just use the function keys. In contests where the exchange is usually pre-filled for you, it is possible to do most everything from the function keys. For example, F1 would call CQ, F2 would grab the call at the top of the

call stack and send the exchange, and F3 would send QRZ for the next QSO. It is even possible to simplify things further by programming the Insert key to do these things in sequence. In contests where it is necessary to click on the exchange in the RTTY receive window, I find it easier to use the mouse for everything. I also use the mouse when operating SO2R. It is just easier for me to keep track of everything going on with both radios that way. There is no “right” answer here. Do what you are comfortable with.



A typical screen layout for SO2R Operation for RTTY Contesting Layout with N1MM+



Tip #8 – Use Updated Call History and Super Check Partial Files

RTTY decoding software contained in contest logging programs often compares what it decodes to a list of known contest calls so it can highlight the calls in the text. For this reason, it is helpful if you always have the latest Super Check Partial. N1MM+ has a selection under the TOOLS menu which will automatically download the last Super Check Partial. In the past, there were separate files for CW, SSB, and RTTY have all been merged into a single file. There are separate files for DX and W/VE but if you use the main Master.DTA file, it will contain everything.

Both N1MM+ and Writelog have the ability to load History (or Exchange) files which contain QSO information from previous contests. By using up to date History Files in an RTTY contest, information such as name, section, etc will be prefilled in the entry window when you grab a call. This saves you the mouse movements necessary to click on this information in the RTTY receive window. One should think of this as a “typing aid”. It simple saves you the mouse or keyboard movements to enter this information for a contest QSO. Of course, the fact that information is in the Call History file does not guarantee it is current. It is very IMPORTANT that you verify what was received matches what was pre-filled in the entry window. Both N1MM+ and Writelog have a process for maintaining these exchange pre-fill files. When I am going to operate a contest, I simply build a new Call History file with the information from the last contest I operated of that type. It might

not be complete but it is reasonably up to date.

Tip #9 – Test Everything before the Contest Begins

This is good advice for any type of contest but I think it is even more important for an RTTY event. Especially if you are trying out some new macros, make sure you try them out before the contest starts. I almost always find something that needs changing. Another important thing to check, especially with two radios, is that PTT and FSK is working correctly with both radios. Sometimes I have started a contest and wonder why nobody is coming back to me only to find that my FSK is not “diddling” or is reversed. Also, make sure you do not have any RF issues. You may need some last minute toroids installed.

Sometimes it is difficult to find RTTY activity outside of a contest to test things. However, most major RTTY contests have a one hour practice sections the night before a major RTTY contest is scheduled. Also, the NCCC runs 30 minute RTTY Sprints every Thursday evening at 0145Z. There is not a lot of activity but there is enough to test things out before the weekend.

Tip #10 – Keep Your Butt in the Chair!

This also applies to any type of contest – CW, SSB, or Digital. The more time you spend on the air making contacts, the higher your score is going to be. It’s that simple.

These are my top ten tips for RTTY Contesting. I hope they will help you increase your RTTY Contest scores. See you in the pile-ups.



TCDXA Donation Report

*By Matt Holden, KØBBC
TCDXA Donation Director*

Fiscal year 2017 is off to a slow start. We have a goal of donating \$6000 to DXpeditions in FY17. We have only a few announced DXpeditions to which to donate. We got off to a good start approving a \$3000 donation to the 3YØZ Bouvet DXpedition. This is the #2 most wanted DX entity should be on the air in early 2018. Since then, we have approved \$250 donations for TL8AO Central Africa Republic and VP6EU Pitcairn Island. There are no other major DXpeditions on the calendar in 2017. If you hear of any announcements, please let me know as we would like to donate to worthy missions. We have about \$2500 more to give away in fiscal year 2017. 73 GUD DX.

Message from the President

Mike Sigelman, KØBUD

It has been a pleasure to plan and guide the activities of the TCDXA for the past three years serving as your President. I have worked with some outstanding people and brought new frontiers to the Club. We have enjoyed almost three dozen top amateur radio speakers from throughout the US. We experienced the introduction of some of the top equipment available to the radio amateur. The level of presentations, demonstrations, and commentary has been unsurpassed! It has been a great three years for the TCDXA!

There is no doubt in my mind that we have one of the top Amateur Radio Clubs in the country! We have shared our hobby with hundreds throughout the area and presented innovations, news and the excitement of DX. Many have traveled hundreds of miles to enjoy our club's offerings and help us advance the science of amateur radio.

I want to thank Tom Weigel, ABØJ; Gary Rickheim, WØARW; Pat Cain, KØPC; David Sussman, KØSL; Al Dewey, KØAD; Jeff Martin, W0JM; Tom Lutz, WØZR; Jim Junkert, KØJUH; Dan Dantzler, WØJMP; Matt Holden, KØBBC and others including our Board of Directors who have helped make the TCDXA one of the top radio clubs in the country. There is little doubt that the quality leadership we are so fortunate to have in TCDXA is up to the challenge to continue that legacy.

It has been my privilege to be the TCDXA President. I have become more familiar with our members and discovered new challenges, some of which we are about to launch.

We are a great Club. Thanks to everyone for making it that way! This is wonderful hobby but the participation of you all makes it great. Many thanks to you all. Go TCDXA!

-Mike Sigelman, KØBUD
President, TCDXA





TWIN CITY DX ASSOCIATION (TCDXA)

CLUB FACT SHEET

Who We Are:

The Twin City DX Association (TCDXA) is a 501(c) (3) non-profit amateur radio organization, whose members have an interest in DXing and in supporting the club mission: **Dollars for DX**. Bylaws and Articles of Incorporation govern the club's operation.

Club Mission:

The club mission supports major DXpeditions with financial donations. The source of operating income for this activity is an annual contribution (dues) of \$25 from each member.

DX Donation Policy:

The policy supports major DXpeditions that meet our requirements for financial sponsorship. All requests must be approved by the Board of Directors. Final approval is by vote of the full membership. Over 70 DXpeditions have been sponsored since 1997. Details are available on the website at: <http://www.tcdxa.org/sponsoredDXpeditions.html#MenuBar1>.

Club History:

The club was formed in the early 1970s by a small group of DXers from the Twin City area. Over the years, the club has changed; most notably by opening its doors to anyone interested in DXing - from the casual to the very serious operator. Our membership now resides in numerous states and several countries.

Requirements for Membership

We welcome all hams who have an interest in DXing and hold a valid FCC Amateur Radio License. It doesn't matter whether you're a newcomer, or an oldtimer to DXing; everyone is welcome!

Meetings:

The club meets on the third Monday of each month (except July & August) at PUB 42 Restaurant in New Hope, MN. Members gather early in the bar for Happy Hour, and move into a private room at 5:00pm for dinner and a short business agenda, followed by a program. If you enjoy a night out on the town with friends, you'll enjoy this get together. Meeting attendance is NOT a requirement for membership.

Club Officers:

Four officers, plus one additional member make up the Board of Directors; currently: President Michael Sigelman, KØBUD; Vice President Craig Anderson, W9CLA; Secretary-Treasurer Pat Cain, KØPC; DXpedition Funding Manager Matt Holden, KØBBC and Director Rich Goodin, WØDD.

Website:

We maintain a website at www.TCDXA.org that provides information about a variety of subjects related to the club and DXing. The site is maintained by our webmaster Pat Cain, KØPC.

Newsletter:

The **GrayLine Report** is the club newsletter, which is published on a quarterly basis. We're proud of the fact that 99% of the content is "homegrown" – written by our members. Past issues are on the website at: <http://www.tcdxa.org/newsletter.html>.

How to Become a Member:

An application for membership can be completed and submitted online, or printed and mailed in. (See <http://www.tcdxa.org/Application.html>) Contributions may be made by check or via the PayPal link on the homepage at www.TCDXA.org.

Visit us at a Meeting:

You are most welcome to attend a meeting, and look us over, before joining. Meetings are held at the PUB 42 Restaurant at 7600 Avenue North in New Hope (<http://pub42.com/>). Join us for happy hour at 4:00pm with dinner at 5:30pm, followed by the meeting at 6:30pm.



VKØIR	K5D	AHØ/NØAT	3W2DK	K4M	XU7MWA
ZL9CI	VK9DWX	5X8C	FT4TA	TX3A	S21EA
A52A	FT5GA	K9W	VK9MT	KMØO/9M6	J2ØRR
T33C	3D2ØCR	XRØZR	VK9DLX	YS4U	J2ØMM
3B9C	E4X	T3ØD	VU4KV	YI9PSE	BS7H
TX9	CYØ/NØTG	3W3O	EP6T	ZL8X	N8S
CP6CW	VP8ORK	3W2DK	VP8STI	4W6A	3B7SP
3YØX	VU4PB	FT4TA	VP8SGI	T32C	3B7C
K7C	STØR	VK9MT	TX3X	HKØNA	5JØA
5A7A	3D2C	VK9DLX	VP6DX	7O6T	K5P
VU4AN	3CØE	VU4KV	TX5C	NH8S	FT4JA
VU7RG	TT8TT	EP6T	9XØR	PTØS	PZ5W
VK9DWX	9M4SLL	3GØZC	9U4U	FT5ZM	ZL9A

TCDXA DX DONATION POLICY

The mission of TCDXA is to support DXing and major DXpeditions by providing funding. Annual contributions (dues) from members are the major source of funding.

A funding request from the organizers of a planned DXpedition should be directed to the DX Donation Manager, Matt, KØBBC, k0bbc@arrl.net. He and the TCDXA Board of Directors will judge how well the DXpedition plans meet key considerations (see below).

If the Board of Directors deems the DXpedition to be worthy of support, a recommended funding amount is presented to the membership for their vote. If approved, the TCDXA Treasurer will process the funding..

Key Considerations for a DXpedition Funding Request

- | | |
|---|---|
| <ul style="list-style-type: none"> DXpedition destination Ranking on <i>Most Wanted Survey</i> Most wanted ranking by TCDXA Members Logistics and transportation costs Number of operators and their credentials Number of stations on the air Bands, modes and duration of operation Equipment: antennas, radios, amps, etc. Stateside and/or foreign QSL manager | <ul style="list-style-type: none"> Website with logos of club sponsors QSLs with logos of club sponsors Online logs and pilot stations Up front cost to each operator Support by NCDXF & other clubs LoTW log submissions Previous operations by same group Valid license and DXCC approval Donation address: USA and/or foreign |
|---|---|

To join TCDXA, go to <http://tcdxa.org/>.

