

TCDXA
TWIN CITY DX ASSOCIATION



Minnesota

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Gray Line Staff

**KØAD
K9WAG
WØJMP**

The GRAY LINE REPORT

DXing from Minnesota - Land of 10,000 Lakes

Using Amateur Radio for STEM Education on the Eustace Earhart Discovery Expedition

By Tom Vinson, NYØV



A SteppIR Vertical, mounted horizontally, provided reliable communications on 20 meters with KH6GMP located almost 1600 miles from the ship's location near Howland Island

(Editor note: On June 2nd, 1937, Amelia Earhart, her navigator Fred Noonan and her custom built Lockheed Electra 10E disappeared in the South Pacific. Earhart was an aviation pioneer and was attempting to circumnavigate the globe. By this time, Earhart was a seasoned pilot and well known celebrity. She had set several flying records and was a visiting professor at Purdue University. This was her second attempt at the circumnavigation. This leg of the flight was from Papua New Guinea to a small speck in the Pacific called Howland Island. Earhart and Noonan were close to the island and had dropped down to low altitude to find it. There were several partial communications between

the Electra, Howland Island and a nearby ship but they never arrived. Thorough searches by the Navy and others revealed no clues.

What happened? It is one of the most tantalizing unsolved mysteries of the twentieth century. Theories abound. Was she was captured by the Japanese and executed for spying? Was she was captured by the Japanese and served as one of the voices for “Tokyo Rose” during WWII? Was she was whisked away to New Jersey where she lived the rest of her life under an assumed name? Did she make it to Gardner Island and live the rest of her life there as an un-rescued castaway?

The most plausible scenario is that she and Noonan ran out of fuel and crashed somewhere in the Pacific near Howland Island.

On February 18, 2017 a team from Nauticos with stratospheric explorer Alan Eustace and aviation pioneer Elgen Long departed Honolulu for the vicinity of Howland Island, 1,600 miles to the southwest, to complete the deep sea search for Amelia Earhart’s lost Lockheed Electra. On board the vessel, was Tom Vinton, NYØV, and two other amateur radio operators. Join them as they search for Amelia Earhart. Dan, WØJMP)

In February and March of this year I had the privilege of being a part of a team of engineers and scientists who participated in Nauticos Corporation’s deep water SONAR search for Amelia Earhart’s Lockheed L10-E Electra. Three of us are retirees of Rockwell Collins. Rod Blocksome, KØDAS, who is also the ARRL Midwest Division Director, Bryan McCoy, KAØYSQ and I were responsible for communications and STEM (Science, Technology, Engineering, and Math) education.



The onboard radio team for the STEM education product (l to r Rod (KØDAS), Tom (NYØV), Sallie Smith (NASA Goddard Educator), and Bryan (KAØYSQ))

Rockwell Collins has been an advocate and supporter of our efforts towards STEM education for over 18 years.

For this, our third expedition, Rockwell Collins provided a grant to SeaWord, Nauticos’ non-profit educational foundation for the de-

velopment of the expedition web portal. With the addition of an expedition portal we were able to upload videos and new educator curriculum for teachers and students.





Kathy (KM4TAY) with 5th grade students at Antietam Elementary School in Woodbridge, VA

then “how do we work the other end in the classroom?”

The Final Echo Link Connection to the Classroom

Our answer came from Kathy, KM4TAY. Kathy is a

One aspect of the STEM education that I really enjoyed was live question and answer sessions with students in classrooms back in the States. Since we were in a remote location near Howland Island (KH1), we had the opportunity to try something new. As anyone who’s been on the air lately is aware, HF band conditions have been less than ideal. This meant that we had to figure out how to make communications from over 5500 miles away and do it in a way to ensure a good, solid signal into the classrooms. Our solution was reaching out to Gary, KH6GMP on Kona for assistance. Gary has EchoLink and was able to switch audio from his HF transceiver into the EchoLink internet connection. Through a series of schedules we found that we could make contact on 20m with good S9 signals at about 1800z. A benefit of this arrangement was no interference since the band was basically dead except for our comms between KH1 and KH6! The question was

5th grade TAG (talented and gifted students) teacher at Antietam Elementary School in Woodbridge, VA. Kathy attended the ARRL teacher training course and was enthusiastic about using amateur radio and EchoLink to communicate with the expedition. She installed EchoLink on her cell phone. A connect handshake between Gary and Kathy established an audio connection from Virginia and Hawaii.

The communications circuit was for me to transmit on 20 meters over the 1600 miles up to Gary’s QTH. He then piped the audio into EchoLink through to Kathy’s cell phone in VA. When the students asked a question, it worked the same in reverse. This long haul circuit was not perfect. Sometimes it was necessary for students to repeat their questions. The pitch of their voices was high and could be a bit weak for my old ears! But, in the end, it worked. You can catch the video our professional videographer, Bill



Mills put together on the expedition portal:

(<http://expeditionportal.nauticos.com/nauticos-news-night-09-stem-students-and-radio-guys-1/>)

Our HF Setup Onboard Ship

The HF station on my end was an IC-7000 borrowed from TCDXA member Scott, KØMD and an Alpha 91B that I borrowed from Kimo, KH7U. That loan saved shipping a big amplifier over to Hawaii from Minnesota. Thanks to Kimo for his support! I always got surprised reactions when I told guys that I was running a SteppIR Big IR vertical...mounted horizontally. We did this because our ship, the Mermaid Vigilance had several HF verticals mounted on the “monkey deck” above the bridge and off to

the port side. Rod, KØDAS came up with the idea of minimizing co-location issues by mounting the vertical horizontally off the starboard side. This was roughly 70 feet off the saltwater. It was a bit tricky laying it out over the water as we were underway and rocking back and forth about 10 to 15 degrees. In the end it took all three of us to get the antenna tied off and bolted to the deck railing. After some troubleshooting, it worked great!

We used the INMARSAT SATCOM for a Skype STEM session with a 7th grade class at Cedar Rapids Prairie Middle School. This had to be audio only since the bandwidth on the link was not good enough for video. Troubleshooting the SATCOM antenna, we found that it was mounted too low and not shock mounted correctly. This meant that

the signal was blocked by other ship structures in one direction and the planar antenna was vibrating like crazy as the ship’s vibrations were transferred into the antenna structure. We tried to mitigate these issues but on a good day the best we could achieve was 70kbs.

Working the Space Shuttle and Other Nice DX

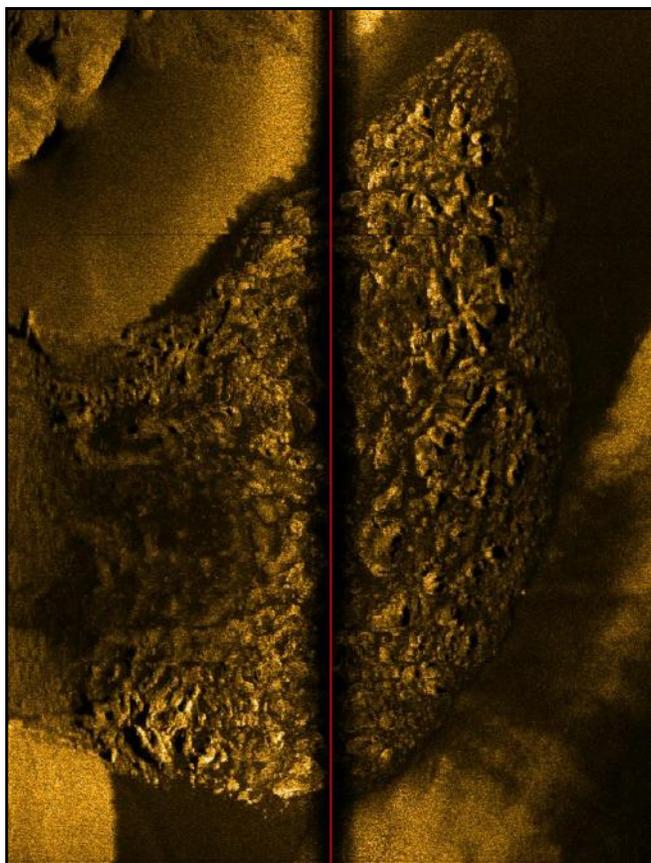


A successful QSO with the International Space Station on 2 meters was an interesting part of the trip



Another interesting part of the trip was working NA1SS on 2 meters. After six unsuccessful tries, we finally had NA1SS show up on the seventh. (They are very busy up there!) Our NASA Goddard educator, Sallie Smith, asked what message Commander Shane Kimbrough had for students. You can view that ISS QSO and Cmdr Kimbrough's response on the Nauticos.com website.

All three of us had a great time working the STEM aspects of the expedition. We are already thinking that, with sufficient funding, we could make the web portal more interactive. It would be exciting to have students from all over the country interact with the



1000 Meter Wide Landslide Discovered with SONAR

expedition team through the web portal.

I also worked a lot of DX while maritime mobile in the middle of nowhere. I ended up with 50 DXCC entities with some rarer ones like XX9, 9N7, JD1/M, and KH9...but that is another story.

Participating in the Expedition

One of the benefits of supporting these expeditions is that you get to work with team members who are at the top of their fields. Our operations team was comprised of representatives from Nauticos Corporation, Woods Hole Oceanographic Institution, Azul Mar LLC, an educator from NASA Goddard, a journalist, a videographer, a physician, and three of us hams. All three of us are retired from Rockwell Collins. We also had Elgen Long on board who is an accomplished pilot in his own right and author of the book "Amelia Earhart Mystery Solved."

Our sponsor for this expedition was Alan Eustace, best known for his 2014 record breaking skydive from 136,000 feet. He broke the sound barrier with his body as he reached 826mph on the free fall before his chute opened!

During this mission, in addition to supporting STEM education, we continued to update our HF Radio Signal and Statistical Probability Analyses. As areas were covered by the REMUS 6000 SONAR, we were able to remove those areas from the



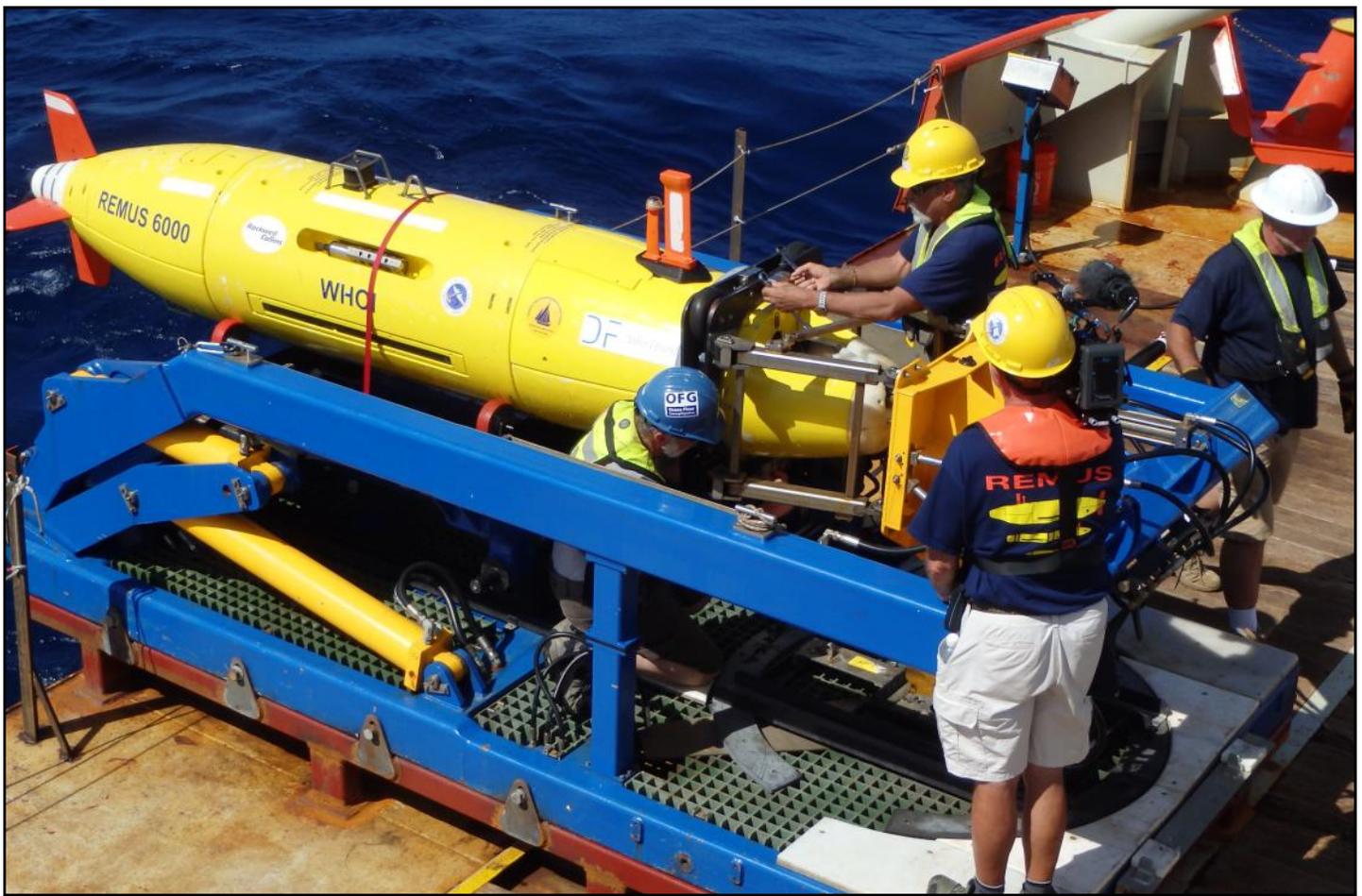
analyses to refine the “hottest” areas. Knowing where the Earhart’s plane is not, is also good data. Our objective in all of this was to finish covering the highest probability area of 2000 square miles that we had laid out prior to our first expedition in 2002...and of course, find the Lockheed L10-E!

Unfortunately we did not run across the Electra. We did finish the 2000 square miles that we considered the “80%” probability area and we discovered new geological features that no humans have ever seen previously. The geologists will have a field day with the new data! Just check out the SONAR image of a 1000 meter wide landslide that we dis-

covered along the way.

As for the team, it is back to our Decision Tree Analysis, Monte Carlo simulations, and other analyses to determine the next most likely area based on the decisions Earhart and her navigator Fred Noonan might have made during their last flight.

The Earhart disappearance is one of the last great mysteries of the 20th century. The plane is out there waiting to be found. But, the sea does not give up her secrets easily!



The REMUS 6000 Autonomous Underwater Vehicle (AUV) on the Launch and Recovery System



2017 Dayton Hamvention Same Friends, New Home TCDXA Members Generally Approve of New Dayton Hamvention Venue

(A number of TCDXAers travelled to Xenia , Ohio this year to check out the new location for the Dayton Hamvention. The following are random comments from some of those who attended.....Al, KØAD)



TCDXAer Gary, KØGX and Dale, WØIR in Flea Market, photo by W1CC

W1CC, Tom



Flea Market on Friday, photo by W1CC



Flea Market on Saturday, photo by W1CC

Generally, I liked the new venue. It had much better food and it didn't seem as crowded in the exhibit halls and tents. The forum rooms were much better with bathrooms in the rooms and better sound and video recording capabilities.



In fact, I have been to the site (<http://www.ustream.tv/search?q=HAMVENTION+2017&category=all&type=all&location=anywhere>) where many of the videos of the forums are being posted and they are good to watch...almost like being there. I liked the country fair ambiance of Dayton and I have to believe the local Xenia economy got a huge boost as a result of Hamvention. I saw lots of good equipment on sale in the flea market and it seems better than in past years.



Greg, KØGW in ARRL Booth,
photo by W1CC

The big negatives in my mind were the later starting time...9 a.m. instead of 8 a.m. or earlier, and of course the mud problem. I don't know how the Hamvention can fix the mud problem in the parking and flea market areas other than pray it doesn't rain. People I spoke with that have physical mobility problems just avoided these areas if they could. In fact it was tough walking for people like me who have no mobility issues!

AEØEE, Bill

Hamvention at Xenia began with some traffic snarls Friday morning. However, the bus drivers shuttling people from the remote lots knew all the back roads, so once we got to the remote lot it was a quick trip to the hamfest---just



VKØEK Team (including AEØEE)
Receives "DXpedition of the Year
Award" from SWODXA, photo by
KØMD

enough time to program a simplex frequency and tone into the 222 MHz FM handhelds Matt KØBBC, Dave WØZF, and I purchased last year for use at hamfests and in VHF rover packs. Fortunately the weather was drier than the forecast made it out to be, although a thunderstorm on Saturday made the flea market swampy. The exhibitor areas were quite nice, and I found it easier to navigate around the hamfest than it had been at Hara Arena. The food trucks made finding lunch or snacks convenient and easy. Overall I thought the organizers, support staff, and volunteers did a wonderful job, and I would definitely go again.

My favorite part of the weekend came Friday night, with the DX dinner. There was a great keynote speaker, Ruth Willet, KM4LAO, who talked about getting into ham radio a few years ago and her participation in the youth DXpedition to Saba. After the keynote were the awards, and the TCDXA-sponsored VKØEK expedition won the SWODXA's DXpedition of the Year award. I really enjoyed seeing many of the Heard Island team again and getting a chance to catch up with them.



ACØW, Bill

I thought DARA did a good job of relocating Hamvention. First, the many volunteers were fantastic, friendly, and helpful. Next the food vendors were plentiful with many excellent choices. The homemade ice cream vendor was a hit, especially Friday when it was hot and humid. It was fun watching them make the ice cream on the spot with one of those old John Deere single lung engines. The flea market space was huge with lots of space for growth. The forums spaces were large with plenty of seating with working air conditioning.



Popular Working Ice Cream Machine, photo by KØHB

With the new location they attracted a lot of new vendors filling up the space and requiring them to set up tents. In some places the aisles were a little tight and some vendors had to squeeze into small space. ARRL was one vendor that squeezed into a smaller space making it challenging to pay for purchases.

Traffic the first day was a little challenging. But if most people did like me, set the GPS and followed it, that would explain some of the congestion. For those of us that had been to Dayton several times we had our own special route to get to Hara which prevented a lot of the congestion. Saturday we took a different route and had no issues traffic issues. Next time I'll probably try some of other route, partially to get to learn and see more of the area.



Food Vendors Earned High Marks from Most Attendees, photos by KØHB

About the only negative was the mud that developed. I noticed the soil is a heavy clay type soil so moisture doesn't drain very well. Areas with motorized traffic caused a lot of pumping



which ended up making a mess. The aisles that had limited motorized traffic were pretty good to walk down. There are a couple of easy solutions to would help minimize the mud issues.

I had a great time and would do it again.



Retail Space, photo by KØHB

K4IU, Fred

We liked the new venue. Unfortunately the weather did not help DARA.

Pros:

- Lots of vendors
- Forums were air conditioned
- Huge area for flea market
- Food much better

Cons:

- Long line to enter fairgrounds on the first day, poor traffic control
- Exhibit buildings not air conditioned
- A hike from downtown

K9WAG, Keith

This was only my second Hamvention. My first was about a dozen years ago at the

notorious Hara "facility". Dayton Hamvention, Greene County Edition was a beautiful experience. The quality of the volunteers along with their organization and attitude was stellar. The cooperation from Law Enforcement made travel an absolute breeze. The convenience of transportation to and from the free parking areas was extraordinary. Large purchases were not a problem due to being dropped within mere feet of our vehicle. This should make vendors happy. It certainly did me, as I purchased a new Icom HF transceiver.



Dan, WØJMP with the new Elecraft legal limit solid-state amplifier, photo by K9WAG

The grounds were immaculate and forums ran right on schedule. Food was abundant, delicious and reasonably priced.

The very reasonable wait in line was time well spent in making new and what I anticipate will be lasting friendships. Contingencies were well anticipated as evidenced by the way a very strong but fast moving thunderstorm was dealt with. I also appreciated the abundance of restrooms and numerous places to rest, converse, meet friends and strategize. I have a background in events planning and must say DARA scored a homerun with this one! I was in no real hurry to go back to Dayton when it was at Hara. I'm already making plans to go back to Greene County next year!





KØAD and XYL Marianne Taking a Break, photo by W1CC



ICOM's New 7610 Was Popular, photo by KØAD

WØJMP, Dan

Keith, K9WAG and I attended the Hamvention this year at its new venue, the Greene County Fairgrounds. I have lost exact count but I think this was my 19th Hamvention.

The Hamvention had been held at Hara Arena since 1964. Moving a gathering of approximately 25,000 amateur radio operators is no small feat, especially if the people in charge are all volunteers. I expected some problems and issues.

I was pleasantly surprised by the venue, the organization and the lack of major

problems. The two biggest complaints that I heard were 1; mud and 2; traffic. I think these issues were minor and will be resolved next year. Frankly, we did not encounter any traffic problems but we arrived early and left before the final bell. I was very impressed with law enforcement personnel at every intersection manually controlling traffic signals or directing traffic.

As a person who enjoys good food, I was overwhelmed by the high quality and variety of food trucks. Sadly, we could not try them all. The forum rooms were well lit, air-conditioned and comfortable. I am sure many attendees waxed nostalgic for mold and mildew of the Hara site.

Toilets were plentiful and clean. There were only a few short lines that I encountered at the indoor toilets. The outdoor chemical toilets had virtually no lines.

My biggest problem was just being a bit disorganized in my attack. At Hara, after many years, I just knew where major (and some minor) vendors were located. While the program was well laid out and clear on locations, it just took a little extra time.

Kudos to DARA; job well done!



KØAD, KØMD, and WØAIH at Contest Dinner on Saturday, photo by K4IU



KØAD, AI

Like thousands of others, I set my GPS for the address of the Green County fairgrounds in Xenia. As my wife (Marianne) and I were driving from Dayton to Xenia, we noticed a Bob Evans restaurant in Beavercreek so we stopped for breakfast. As we were leaving we noticed that the parking lot next door was a remote parking site for the Hamvention. So we took a nice school bus ride through the back roads and arrived on the outskirts of the event. A tractor then pulled us in a wooden wagon to the entrance which was kind of fun. I had trouble getting oriented at first but eventually found my way around. I thought the non-air-conditioned retail buildings were a little hot of Friday but much better on Saturday when it was cooler outside. The lighting in the retail tent was a bit of a problem but I think that is easily cured. I waited about 20 minutes in the food line outside (not too bad). The lines were much longer around noon. KEØL noticed me waiting and graciously agreed to hold my bags and save a spot on the bleachers for me for lunch. It was nice catching up with Jim. The air conditioned forum rooms were much better than at Hara. Unfortunately, I didn't make it to the flea market until Saturday right after the rain storm. The problem with the mud is well documented by others. I'm not sure how they can fix that. Overall, I liked the new venue once I found my way around and think it is definitely an upgrade over Hara Arena.

Don't Cry for Hara Arena

One of the things I really look forward at Dayton each year is listening to the Spurious Emissions Band (NØAX, KX9X, W4PA, and K4RO) at the Crown Plaza on Friday night. They take familiar tunes and adapt the words



KØMD Dodging the Rain, photo by K4IU



Transportation from Remote Drop Off to Entrance, photo by KØHB

to amateur radio – often quite humorously. They added nine new songs this year but, far and away, the hit of the evening was “Don't Cry for Hara Arena” sung by Becky, W1BXY. For those who happen to be nostalgic about Hara Arena, Becky might just change your mind. It can be heard on YouTube at:

<https://www.youtube.com/watch?v=8OKd9pV5W7U&index=7&list=PLuLuPYrDoXRPFv3LMG3PgJ9hMPuC-AJNlwT>.





Purdue Radio Club in Flea Market, photo by W1CC



The Parking Lot, photo by KØHB



Pulling WØIR's Motor Home from the Mud, photo by KØGX

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

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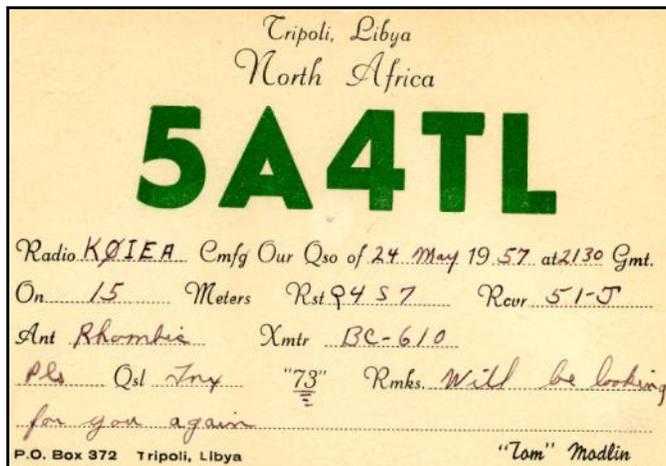
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My Favorite QSL

(Editor note: For this issue of *The Gray Line*, we decided to try something new. We asked members to show and tell their favorite QSL. The results are shown here and, I for one, found them interesting. If there is enough interest and positive feedback, we may do this again in a future issue. Dan, WØJMP)

Dave, KØIEA



I received my novice license 17 December 1956 and my general 9 May 1957.

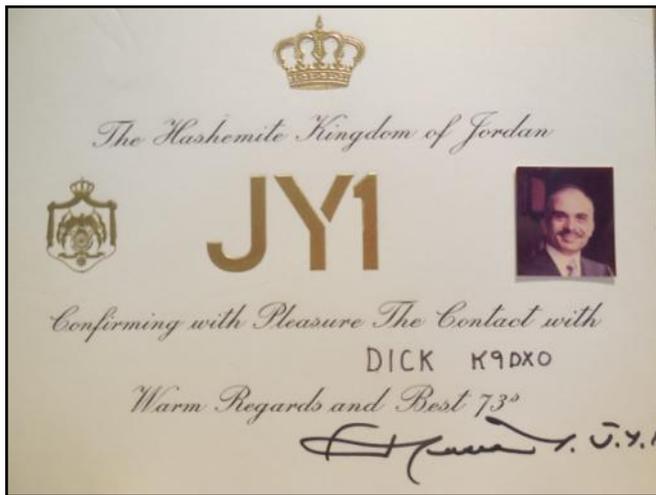
On 24 May 1957 I made the contact with 5A4TL using my DX-35 on 15 meters AM Phone. The power was 35 watts (controlled carrier....poor man's AM) to a folded dipole, 20 feet off the ground.

This was my very FIRST DX QSO and first QSO outside the USA. That's when the DX bug bit for me.

Tim, NØTB

I grew up reading about how King Hussein was a ham and never heard him on the air until just months before he become a SK. Funny how I can remember every word of that QSO.





Dick, W9JA

Here are a couple of my favorite cards. The first is JY1 King Hussein of Jordan (worked 09/22/71) and his wife princess Muna JY2 (worked 02/24/71). Both were with my first call K9DXO. My current call is W9JA.

Bob, WØBV

My QSO with VKØWH was the contact that put me on DXCC Honor Roll. I became aware that he had a habit of appearing on 7.010 MHz late at night. I camped out on the couch next to the radio one night, and he woke me up calling CQ at 3:45am CST, right on 7.010. As is said, sometimes to work the rare ones, you need to "lay in the weeds."



Dan, WØJMP

Not a first of any kind. Not a milestone. Not rare DX. But still my favorite. It is a little hard to read but here is what it says;

“Danny, WAØJMP, I just wanted to write you a quick note. When I looked you up in the callbook, I noticed that you are an Extra. I really appreciate your willingness to slow down to 5WPM for me, I passed my code test last month and you are only my 4th CW contact. The first two were enjoyable, both new at code so they sent slow. The last one wouldn't slow enough for me to copy reliably. I never even got his callsign right. So I really appreciated your patience. I try to practice every night, I have already passed the General theory and hope to pass the 13 WPM soon.

It was nice chatting with you....

*73, Gary, N1WGD
A friend in Radio”*

April 18, 1996

Danny WAØJMP,

I just wanted to write you a quick note. When I looked you up in the callbook I noticed that you are an Extra. I really appreciate your willingness to slow down to 5wpm for me. I passed my code test last month and you are only my 4th CW contact. The first two were enjoyable, both new at code so they sent slow. The last one wouldn't slow down enough for me to copy reliably. I never even got the callsign right. So I really appreciated your patience. I try to practice every night, I already passed General Theory + I hope to pass the 13wpm soon.

It was nice chatting with you. Don't know if you have RI yet but here's my QX. I will be awaiting yours.

73,
Greg N1WGD
A Friend in Radio

Mark, WAØMHJ

DXCC # 3 for me after USA and Canada. There was no going back after getting this card. DX was the thrill.

G 2 W Q

E
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N
D

ARCHIE BROWN
10 GLEBELANDS ROAD · PRESTWICH · MANCHESTER

RADIO...**WNØMHJ**.....

CONFIRMING OUR QSO:
.....23-MAR-1969..........1610.....GMT
.....21..... McsRST 569.....
Rx: HRO TRVR TX: 150 WATTSANT 3el.....

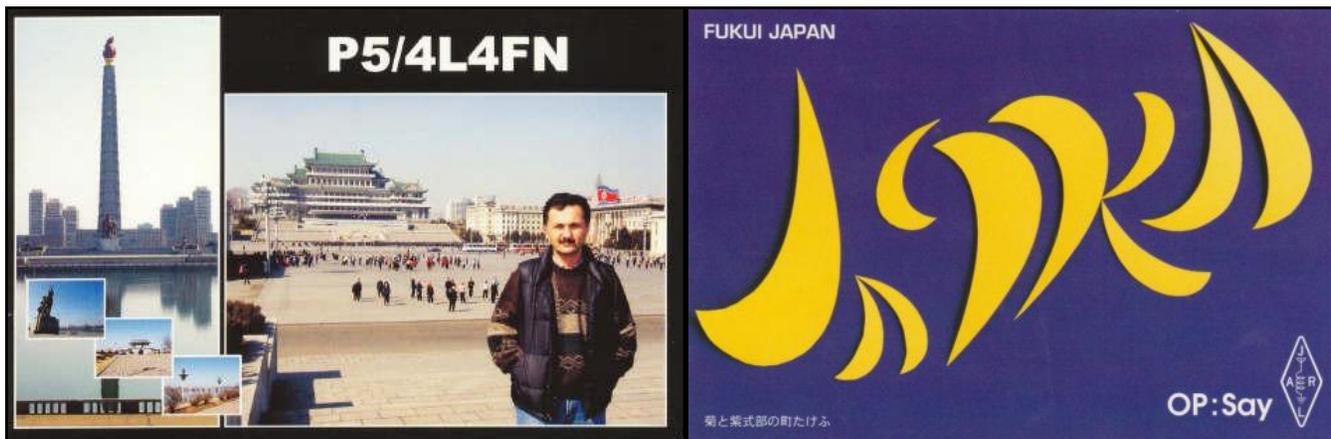
Enjoyed the chat Mark. All solid. 73 Archie



Rick, KØXB/6

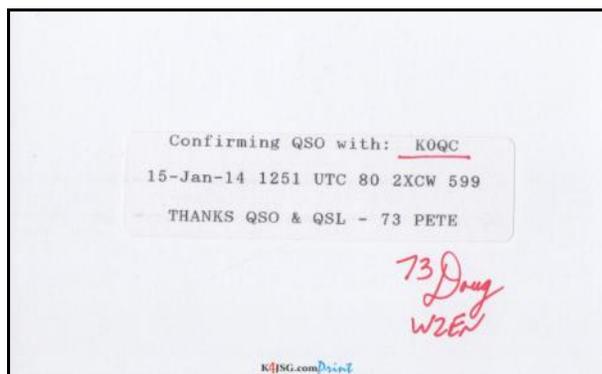
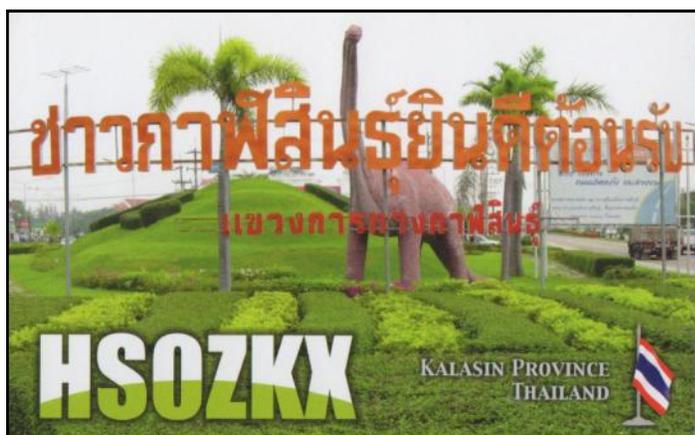
Here are two of my favorites:

The first goes without saying. North Korea on RTTY. It's certainly my most rare. The second is one I just got from the bureau a few days ago. It's from JA9KA, and it is the most striking and unique card I have seen in a long time. I love the graphics.



Donn, KØQC

The 80M HS0ZKX QSL completed my 5BWAZ. I never thought I would be able to accomplish the task living on a city lot. If I recall, W0BV had heard my QSO that morning and sent his congratulations on the low band chat room. My last three zones needed were 17,21 and 26. I worked them in order. After many years chasing zone 17, probably the easiest of the remaining, I managed to work four Zone 17 stations in December of 2009: UA9FMZ on 12/09/2009 0206Z; RX9FM on 12/12/2009 0229Z; RA9FTM on 12/12/2009 1254Z; UA9MA on 12/29/2009 0319Z. That December was phenomenal low band conditions. I even managed a couple of Zone 17 on 160



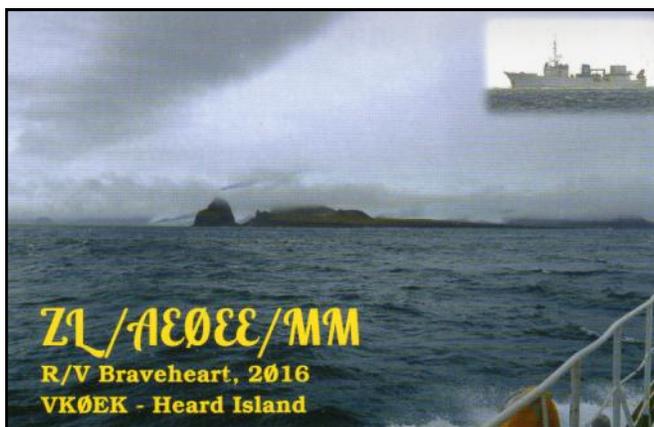
Michael, WØVTT

My first deleted country. I worked KZ5FR as a new ham in 1977 but didn't bother QSLing. When the DX bug bit 10 years later, I did no small amount of research (in the pre-internet days), found him as K4IU and finally got a card in 1993. Fred was one of the first hams I met in MN, on a house hunting trip to Rochester in 2013.

CANAL ZONE					
KZ5FR					
QSO VERIFIED WITH	DATE(GMT DATE)	MHZ BAND	TIME GMT	(RST)	2-WAY
WB3AOE	24 Feb 1977	28 - 21 - 14 7 - 3.5 - 160m or	1524	59	SSB CW
RIG: TS-520 L-4B	ANT: 204BA YAGI INV "V"	QSL VIA K8NN THANKS PLEASE		73, KZ5FR	Fred Regennitter
<i>Had to QSL after all these years Fred</i>					

Roger, KØMPH

When Bill Mitchell, AEØEE, was heading home across the Indian Ocean from Heard Island (VKØEK) on the Braveheart he called CQ. I happened upon his signal, gave him a call and he came back to me. After chasing VKØEK in the pile-ups, it was a huge relief to not have any competition from other stations. And Bill wanted to chat. No 599 and on to the next one. And the QSO was on 40 meters with verticals and 100 watts on both ends. Halfway around the world. Amazing. And I will bet you there are only a dozen (or two) all time QSOs from grid square NE31. Now that is RARE. I still get goose bumps from thinking about our QSO. Thanks Bill

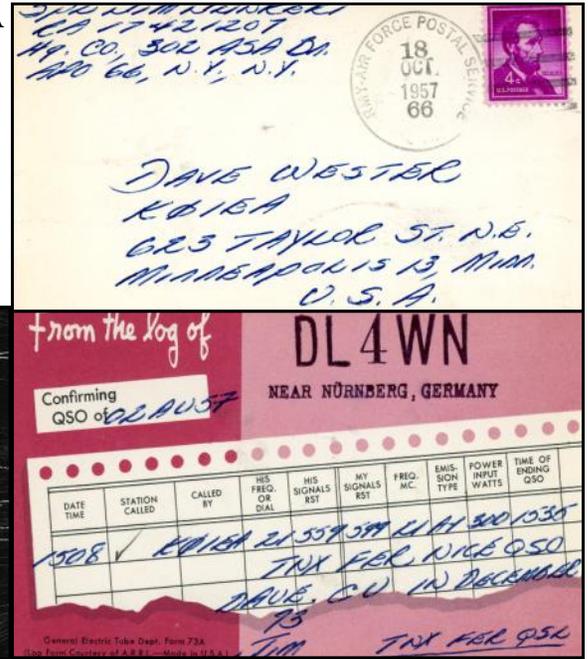
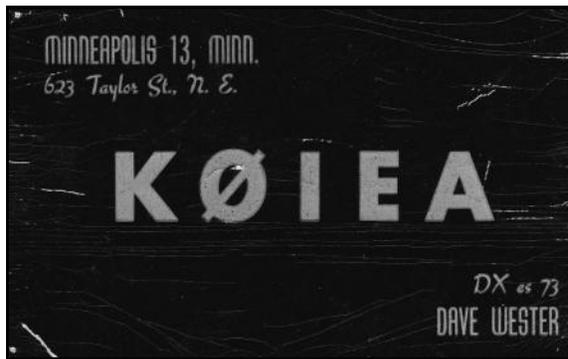


ZL/AEØEE/MM			
Bill Mitchell 1925 Emerson Ave S Minneapolis, MN 55403 USA		SQCC 11076T	
VIA			
TO RADIO KØMPH			
YEAR	DATE MONTH	DAY	TIME UTC
2016	04	14	0251
MODE	MHz	R	SIGNAL S T
2 Way CW	7.053	5	9 9
My Grid: NE31		PSI TNX QSL 73 de Bill AEØEE	



Jim, KØJUH

This coming August 2017 will mark the 60 year anniversary of my meeting KØIEA for the first time. What made our meeting unique was that Dave was in Minnesota and I was in Germany. Back in 1957, I was stationed at Herzo Base, headquarters for ASA / MSA in Europe. MY MOS was Morse Intercept and Direction Finding. Those were the cold war years, and radio “cloak and dagger” was big business. While there, I became licensed as DL4WN, which gave me access to the well-equipped Mars station on base. During one of my days off, I stopped by the Mars station and called CQ on 15 meter CW. Guess who answered? The QSO with KØIEA took place on August 2, 1957 at 15:07 GMT on 15 meter CW. During the QSO, I learned he lived in NE Minneapolis, a half block away from my in-laws, and a few miles away from my folks. I looked Dave up when I got home, and we’ve been chasing DX together ever since.



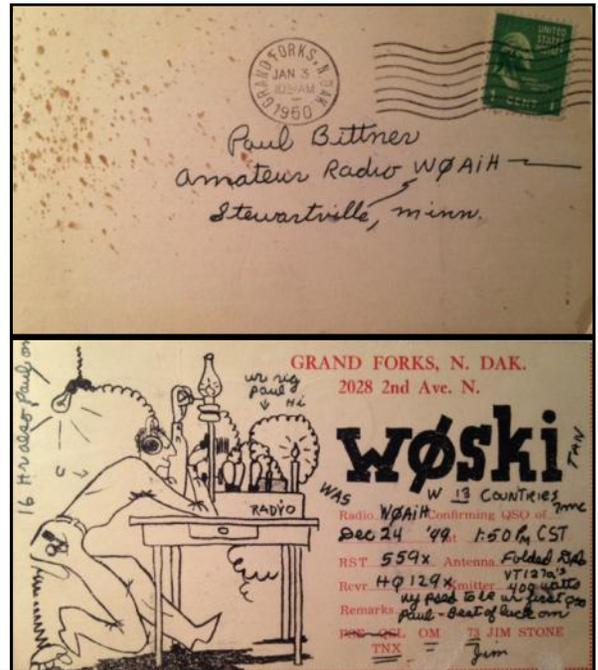
Al, KØAD

My Dad (WBØGQZ) was a radio pioneer back in the 1920s and 30s. Although he inspired me to get my ham license in 1961 at the age of 15, he never got his own license until I graduated from college and moved away. He acquired a Hallicrafter’s FPM300 and used it for years to work me on 40 CW and 160 SSB almost weekly as I moved from Wisconsin (as K9DHN) to Massachusetts (as W1GBG) and finally to Minnesota (as WØPFV and finally KØAD). I think I was one of the only stations he ever worked on the ham bands but I still proudly display his card on my wall.



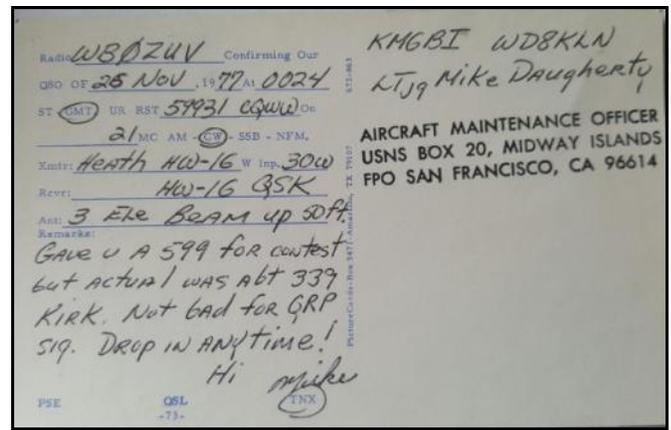
Paul, WØAIH

My very first QSO and QSL card was from WØSKI in Grand Forks, ND in 1949. The postage on the QSL was 1 cent. I was using a 6L6 and 7.070 crystal. I ran the tube cherry red for high power! I have my first three receivers – A Hallicrafters S-38, a National NC-57, and an HQ-129. When 2019 comes, I'll fire up my COM 765 but will use all three of my original receivers to see which one I like best. I still have my first log book! The red/white color on the more recent OH8X card gave me the idea of how to paint the boom on my 80 meter yagi.



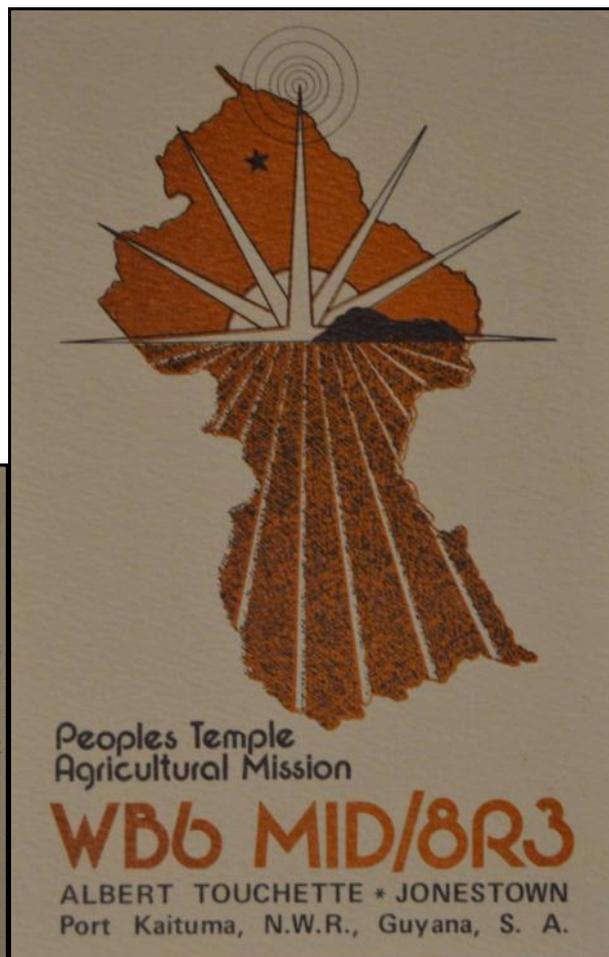
Kirk, NØKK

One of my first “DX” QSOs and QSLs received. Using HW8 at about 2 watts and wire a few feet off the ground. I was hooked on DXing. I was 16 years old.



Bob, NØOK

When I saw your e-mail about looking for memorable QSL cards I started looking through my first DXCC cards. Well, the one I decided to choose is kind of weird. I remember I was so happy to get an ATNO. It was actually a ragchew type QSO and wished them well in their work. I sent for a QSL card and received this 2 days before the tragedy of Jonestown. So, this is a memorable card for me of a very sad time in history.



WB6 MID/8R3 / Peoples Temple Agricultural Mission
 Albert Touchette • Jonestown
 Port Kaituma N.W.R. Guyana S.A.

Working to assist the Guyanese government to feed, clothe, and house its people, and further the human service goals that have characterized Peoples Temple for many years.

Radio WABPDA confirming our QSO on 9/13 19 78
 GMY 0602UR SSB CW AM RST 576 MHZ 21
 XMTR: YAESU RCVR: 101EE MOSLEY CL 36
 Antenna:

Remarks: Thanks for the QSL and for your encouragement here at our Free Medical Clinic & Mission. We thank you as an amateur radio operator for your contact and expression of reassurance which has contributed to our success.
24 for SRC's Don + all

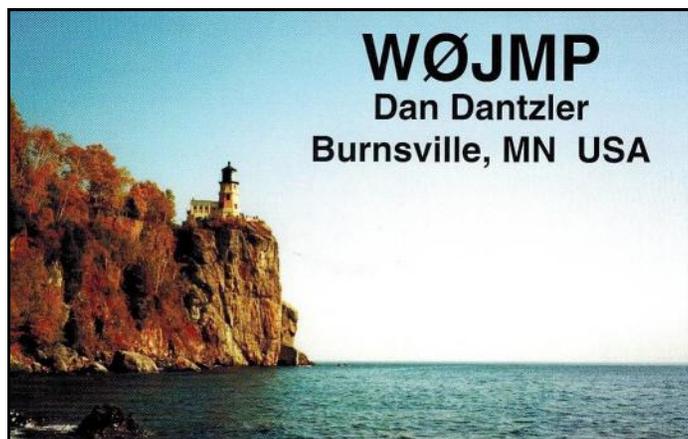
Peoples Temple Agricultural Mission
WB6 MID/8R3
 ALBERT TOUCHETTE • JONESTOWN
 Port Kaituma, N.W.R., Guyana, S. A.

Keith, K9WAG (then KCØECS/AG)

It's not always the most distant nor most rare that is the most meaningful.

This was my first HF QSL as a "newly minted" General Class license holder. Fittingly that contact was with my close friend and Elmer, Dan Dantzer, WØJMP. Part of the impetus for my upgrade to General was the gift of a W5YI, Gordon West study guide Dan had Gordo autograph for me at Dayton. The rest is history.

Hobbies shared with friends are the best!



WØJMP
 Dan Dantzer
 12645 Sable Dr.
 Burnsville, MN 55337
 Dakota Co. EN34

Confirming QSO with
KCØECS/AG Day 26 Month 3 Year 04

UTC 0236 MHZ 7 RST 5.9 Mode SSB B-Way

PSK QSL FAX QSL TRN QSL

Keith - Glad we made a first HF contact best 73 Dan



The View From The Other End Of The Pileup

By Tony Wanschura, KMØO

Relatively few of us ever get to experience operating from the "rare" end of a DX pileup. Running big pileups from a rare location is an exhilarating experience and one of the things I like most about contesting, but pileup behavior seems to deteriorate more with each passing contest season. Split frequency pileups, where the DX station listens for calls up in frequency a few kilohertz, are easy to deal with. Bad operating practices are most destructive when the DX station takes all callers on his own frequency, as is done in most contests, where working "split" is frowned upon. After working the CQWW CW Contest from Laos last year, I thought about some guidelines that I wish callers would follow in a perfect world, to make life a little easier for the guy on the other end, and to make things run more smoothly for everyone involved. Most readers of this article are upper mid-westerners, "black-holers", who are truly among the best operators around (you have to be), and a lot of what is discussed below might be "no-brainer" material for you. You'd be understandably surprised at how many pileup participants behave as if they'd never heard any of this. Here's my perfect-world contest pileup conduct wish list:

1. **DON'T CALL ME IF YOU CAN'T HEAR ME.** If you can't copy the DX station well enough to complete a QSO, don't call. In XW, I was called blindly every time I was spotted (spotting networks can be a curse; more on that later). I know because repeated replies to those callers got no response. Please don't waste my time (or yours).
2. **PLEASE OFFSET YOUR TRANSMIT FREQUENCY** from the spotted frequency before you call. Ninety-nine percent of callers don't bother, and that is not an exaggeration. You'd have no doubt of this if you could hear one of these pileups from the DX end. Offset by 50-200Hz up or down from zero beat to separate yourself from the herd. N1MM+ Logger (and maybe other logging programs) will do this automatically, but in my opinion it's better to just tune your radio up or down in frequency a bit, or use the XIT. It's worth the effort. I'll even go so far as to recommend **NEVER** calling a DX station zero beat who is running a pileup, because zero-beat callers just make it more difficult for everyone to identify and copy the DX signal. Sending faster or slower will also make your signal stand out from the oth-



ers. In my opinion, spotting network use should not be allowed in contests. As currently used, they just present too many difficulties for the DX station.

3. I know it's difficult, but **TRY TO NOT SEND YOUR CALLSIGN MORE THAN A COUPLE OF TIMES.** More than that just delays the DX responding to anyone, makes it difficult for others to hear him, and breaks the necessary rhythm of the pileup. Give the DX some breathing space. And **LISTEN WHEN I SEND YOUR CALLSIGN.** It is your responsibility to listen to your call when the DX station sends it and correct him if he has it wrong. Many times, I had to ask a station to correct a call sign that I suspected I had wrong, but the caller had not listened carefully enough to pick up on that fact.

4. **IF YOU HEAR ME SEND YOUR CALL CORRECTLY WHEN I RESPOND TO YOU, PLEASE DO NOT REPEAT IT.** That wastes time, and sending it again just makes me think that I copied it wrong the first time. If you are really not sure I have your call correct, and you just need verification, sending it once with the exchange is usually enough. If I'm not sure then, I'll ask for a repeat.

5. **DON'T SEND THE EXCHANGE MORE THAN ONCE.** In a contest like CQWW, I already know what it is. An exception in CQWW (for example) might be if your CQ zone does not match your prefix.

6. **IF YOU ARE USING A CODE READER, PLEASE UNDERSTAND THAT THEY DON'T WORK WELL IN QRM CONDITIONS, LIKE CONTEST PILEUPS.** As a general rule, I'll respond to a caller at least twice, but if your code reader doesn't see me then, and you don't reply at that point, I have to move on. Please, unless you have a hearing disability, just do what many have done before you, and learn the code. Code readers are a growing source of QRM and delays in pileups. Seriously. It may not be apparent from here in North America, but DX friends I've spoken with agree.

7. **IF I DON'T SEND YOUR CALLSIGN, DON'T CALL OVER THE GUY THAT I'M REPLY TO.** This gets you nowhere, and just slows things down. Once I respond to a station, no amount of calling out of turn or intentional QRM is going to dissuade me from completing the contact. Call me stubborn, but I like getting post-contest emails from stations thanking me for pulling them through.

8. **DON'T TAIL-END, UNLESS YOU ARE REALLY GOOD AT IT,** and even then I prefer that you don't. Realize that it encourages others, probably less talented, to attempt the same. But if you do, know that I never come back to even a good tail-ender right away, because it breaks my rhythm and can encourage bad behavior. But if you did a great job or you're someone I know (any zero will do!), I'll almost always respond a couple of contacts later. So listen.



At XWØYO, I was honestly taken aback by the size and ferocity of the contest pileups, especially in the final hours. XW4XR routinely activates Laos for a week or more at a time, maybe four or five times a year. He's very active and a good CW op, but the demand for XW is still large, especially on the low bands. In CQWW CW, pileups were large enough and unruly enough to require some unusual measures.

The sheer size of the pileup is as not as much of a problem as is the fact that with very few exceptions, spotting network users' transmitters all land on the same frequency. It becomes impossible to make out ANY callsigns at all. Often, I had no choice but to just QSY and start over, or QRX for a few minutes, then grab a few more contacts, signing my call as little as possible, hoping to steal a few moments before being respotted. But sooner or later I would be spotted, so I had to get creative. I needed to find a way to respond to someone, anyone, quickly, to maintain a regular rhythm and control in the pileup and keep the QRM level under control.

Unable to pick out individual callsigns or even prefixes much of the time, I found I could move things along by throwing out random prefixes or suffixes. If I were running EU stations, for example, there's a good chance there would be a DJ, an OK or an LY, among others, calling. So I'd repeat

“DJ” a couple of times, and sure enough, I would get a response. Or I'd go back to a made-up suffix, and work everything close to it. Sometimes it was "WØ?". This got enough callers to QRX long enough for me to pick someone out of the pile and keep things moving. I could not have dealt with the huge zero-beat pileups without resorting to this. Interestingly, this also had the unplanned-for consequence of enabling me to pick out some very weak stations, callers I would never had heard otherwise; I'm talking about the 100-watts to a vertical guys. I'm sure I worked several stations who never REALLY expected to make it into my log. I hope I wasn't responsible for causing any coronaries!

So, after all this, would I go back? I haven't decided. As I've said, pileup practices are worsening with each passing year. If you're rare DX, spotting networks and associated bad behavior are turning the contesting experience into a very unpleasant one. I think most rare DX operators would be happy to see spotting networks disappear during contests.

All readers might not agree with that or with other points made in this article, but I hope everyone will consider putting at least some of what I've talked about into practice. The op on the other end of the pileup will thank you!



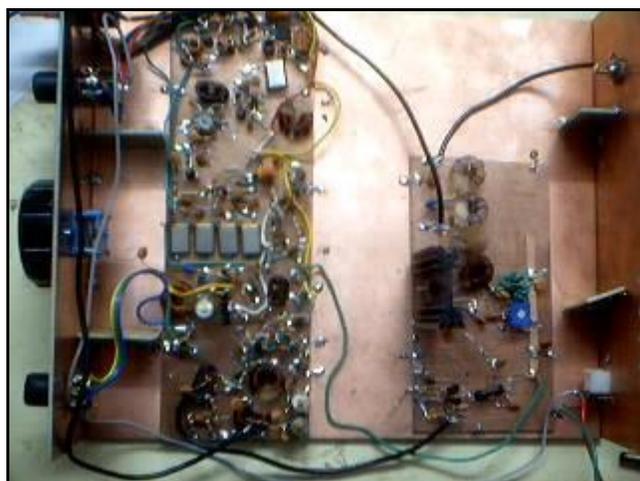
The Bitx HF Transceiver; Part 1

by Keith Freeouf, K9WAG and Dan Dantzler, WØJMP

The Grey Line Report is, as you all know, the newsletter of the Twin Cities DX Association. While some chase DX operating QRP, most DXers are primarily QRO. This article will focus on an unusual, inexpensive, easily assembled QRP transceiver.

When was the last time you used a radio you built? Many, if not most of us, built our own radios in our early days in radio. A significant number of us built kits from the likes of Heath, Knight, Hallicrafters and Eico, names fondly remembered but long gone. Even today many hams including me, operate with home built kits from Elecraft. The Bitx however is unique. It is a way to enjoy operating a rig that we assembled with a very small financial outlay. It also provides an open source platform that can be customized to the operator's needs or desires.

In 2003, a ham in India designed an easy to build HF transceiver that could be home built from inexpensive and easily obtained parts. That ham, Ashhar Farhan, VU2ESE is a gifted RF design engineer. Ashhar Farhan told your authors that he has two first names and no surname. He prefers to be called Farhan. (<http://www.phonestack.com/farhan/bitx.html>) His design used simple bidirectional amplifiers to reduce cost. The term Bitx is shorthand for "bi-direction transceiver". (Note: American hams have taken to pronouncing it BIT-ex while Indian hams pronounce it BI-tex.) Farhan used the same basic amplifier block over and over in both the transmit and the receive chains.



Farhan's original Bitx

Hams in India were impeded by the lack of funds to buy or build a decent HF transceiver. Farhan's original design could be built "dead bug" style with readily available TV components for less than 300 Indian Rupees, or less than \$5.00 US. Farhan successfully drove out cost and complexity wherever he could. He even designed the toroids to be wound on faucet washers eliminating the cost of ferrite toroid cores. The design started with the S7C receiver created by Wes Hayward, W7ZOI, and published in the ARRL book "Experimental Methods in RF Design" (an ARRL publication).

Farhan, ever modest, gives Wes a great deal of

credit for the design. It is a clean analog HF SSB transceiver typically built for a single band. Farhan made his design publicly available to help anyone on a limited budget get on HF. The open source design was accessible to anyone who wanted to improve or modify it and Farhan stayed involved as the designer. The hackable design has evolved with the help of designers the world over.



By 2013, Farhan reluctantly took the next step. It was never his intention or desire to become a radio kit manufacturer. As a businessman, he had done well. Now, he also wanted to do good. Besides opening a cultural center, and starting an organic food company, he made the Bitx transceiver available as an assembled PC board kit for 40 meter SSB only. He formed a small company employing a collective of Indian women who had few options to make a living. Many of these women had been previously employed in a now defunct television manufacturing industry. (<http://www.hfsigs.com/>) These women hand wind toroids and hand assemble and test the PC boards. The original design was made available in the US for a mere \$45 including shipping from India. Since the beginning of 2017, a DDS (Direct Digital Synthesizer) VFO using the Arduino Nano has become the standard and the price modestly increased to 59 USD still including shipping from India to the US. The Arduino is an inexpensive open-source electronics platform based on easy to use hardware and software. It is similar to the Raspberry Pi. So for fifty-nine bucks, one can buy an assembled and tested 40 meter SSB analog transceiver board, a DDS Arduino Assembled VFO (called a Raduino) and all of the connectors, controls and wires to make it all work. The transceiver will put out about 5 watts with 12 VDC. The output can be increased to around 20 watts with higher DC voltage to the final amplifier. You must provide your own speaker (or headphones) knobs and enclosure. Several hams around the world have developed files to make cabinets on a 3D printer. If you have not yet bought your 3D printer, there are many hams who will print an enclosure for a small fee.

Others, have built the rigs in cigar boxes, old computer switch cabinets, and even in the plastic box in which the kit is shipped. We have also seen some built in old CB radio and



Bitx40 Kit as it Arrives from India

scanner cabinets.

The Bitx40v3 is the current design available from Farhan. It is a single band, lower side band only transceiver. Thanks to the open source design, there are hundreds of hacks. The rig can be converted to other bands, adapted for CW, digital modes and USB and much, much more as evidenced by the daily post in various Bitx groups and forums. Since the synthesizer and the display are controlled by an Arduino, many of “hacks” are as simple as downloading new software into the Arduino. Software routines for the Arduino are called “sketches” and most are freely shared. Additional hacks include an S-meter, AGC and other circuit enhancements. Farhan has hinted at a multiband kit, the μ Bitx (tamed Micro-Bitx), in the near future.





Several nice Bitx cases made by users and seen on the internet.



K9WAG's Bitx started life as a data transfer switch (top) and ended as a very classy "Keithkit", photos by K9WAG

Top: Bitx at WØJMP QTH
Bottom: K9WAG, VU2ESE and WØJMP

The authors made arrangements to meet Farhan at the Dayton Hamvention. He invited us to attend the FDIM Banquet (FDIM is "Four Days in May" QRP convention held annually in conjunction with the Dayton Hamvention.) Of course, all the banquet tickets were sold out and it took a bit of finagling to get in. We found four guys in the line that had two extra tickets. After a discussion, the

banquet committee heads decided that the swap was OK and issued us nametags. We purchased the tickets and were in. Prior to the banquet, we were not aware that Farhan was the guest speaker. The FDIM group rarely has a guest speaker at their banquet. Once we "crashed" the banquet, we were very pleased that Farhan proved to be an insightful and entertaining speaker. Following his presentation, Farhan was inducted



into the QRP hall of fame...this was a surprise to him and all in attendance.

Both of the authors are building Bitx 40 meter transceivers. Keith was the first one to buy a kit and, after a short discussion, Dan decided he HAD to have one also.

Part 2 Coming in the September Issue

In the next issue of The Grey Line Report, the authors will talk about the actual assembly process and getting the rigs on the air. Both units are near completion as this is written and we will have some real-world experience by the next issue. We will hopefully have some QSO's, some hacks and maybe some portable operation under our belt by September.

For further reading:

“Modifications, Hacks and Fun with the BITX40 boards” Farhan is listed as a contributor:

<http://bitxhacks.blogspot.com/>

Ryan Flowers, W7RLF has an excellent in-depth blog of building and hacking the Bitx40 at:

<http://miscdotgeek.com/category/bitx40/>

Peter Parker, VK3YE has a number of excellent videos posted regarding the Bitx at:

<https://www.youtube.com/user/vk3ye>

Ashhar Farhan's Bitx home page and where you can buy your very own Bitx, go to:

www.hfsigs.com/

For an in-depth interview with Farhan explaining the development of the Bitx as well as some great biographical information about him see:

<http://www.qsotoday.com/transcripts/vu2ese>

Ashhar Farhan and Bill Meara received the necessary votes from the eligible body. Folks will recognize Ashhar as the Indian inventor and popularizer of the BitX SSB home-brew series which has enabled hams from all over the world to assemble voice transceivers from available local parts. One remarkable feature was the use of faucet washers as the core for the toroid coils the rigs needed--typical of the ingenuity involved in the work. Currently, Farhan is developing a multi band rig based on the inexpensive and readily available Arduino and DDS chips, so that home brewers can build a competent transceiver for the whole HF spectrum. Farhan was our dinner speaker at the FDIM banquet, where he reviewed the development of the BitX, and we surprised him with the news that he'd been elected to HOF.

Announcement from the QRP
Radio Club International Hall of
Fame Induction



Treasurer's Report

from Pat Cain, KØPC, treasurer

TOP LINE SUMMARY

TCDXA OPERATING BUDGET FY 2017 (Sep 2016 - Aug 2017)

June 1, 2017



INCOME		ACTUAL	BUDGET	Actual 2016
Surplus from FY 2016 (balance 8/31/2016)		5200.20		4165.60
Member Dues 2017 by Cash/Checks/PayPal		4674.36	4800.00	4751.59
Door Prize Ticket Sales club share		538.00	500.00	756.00
Donatons (estates, wills, etc.)		0.00		
Refunds and Reversals		5.79		13.00
TOTAL INCOME		10418.35	5300.00	9686.19
EXPENSES			BUDGET	Actual 2016
Member Recruitment/Retention		0.00	(300.00)	0.00
Website ISP & Domain Name		(65.88)	(70.00)	(44.26)
Office Supplies, Miscellaneous expenses		(87.96)	(150.00)	(30.43)
Flowers <SK> and Hospital gifts		0.00	(200.00)	0.00
Holiday Party 2016		(433.15)	(400.00)	(257.52)
ARRL Spectrum Defense Fund		0.00	(100.00)	(100.00)
NCDXF Donation		0.00	(250.00)	(250.00)
MWA Plaque		(75.00)	(75.00)	(75.00)
DXpedition Contributions Total		(4505.68)	(6000.00)	(3801.23)
#1 Dxpediton - 3YØZ Bouvet		(3,000.00)		
#2 Dxpediton - TL8AO Central African Rep		(250.00)		
#3 DXpedition - VP6EU Pitcairn Island		(255.00)		
#4 Dxpediton - XX9D Macau		(750.68)		
#5 Dxpediton - XWØYO Laos		(250.00)		
#6 Dxpediton		0.00		
#7 Dxpediton		0.00		
#8 Dxpediton		0.00		
#9 Dxpediton		0.00		
TOTAL EXPENSES		(5167.67)	(7545.00)	(4558.44)
NET		5250.68	-2245.00	



Backscatter: Miscellaneous, Assorted and Sundry Items of Note

Follow- Up to KØRC “Computers and Ham Radio, a Personnel Jour- ney”

By Bob Chudek, KØRC

In the March 2017 edition of the **Gray Line Report** my article appeared regarding a personal journey of upgrading shack computers over the years. I mentioned the USB technology has superseded the COM and LPT ports we all grew up with. I eluded to the upcoming USB 3.1 standard that will be appearing on computers soon.

In addition to the higher transfer speeds, USB 3.1 introduces "yet another dissimilar connector" that will need to be dealt with. I found this short video that presents a nice overview comparing USB 2.0, USB 3.0, and USB 3.1. It will help demystify the variety of micro-miniature connectors too.

Here's the link:

<https://www.youtube.com/watch?v=d42xoN40W7g>

The video shows the difference in copying a 3-Gb file over the different USB interfaces.

“ and a (Humorous) “Rebuttal”

By Gary Hosler WØAW

I am generally a passive kind of guy, but your article really got under my skin. First you hint at the fact that my DOS system

(with the high performance 256K RAM expansion board) is perhaps obsolete. Next thing will be that my 300 baud acoustic modem has to be upgraded. If I upgrade that, then I will no longer have any use for my rotary dial phone! Good Lord man, where does the madness stop? I thought I was on the leading bleeding edge of technology when I finally relented to upgrade to Windows XP. Last night I get a message from Firefox that they will no longer support XP. In the past I could simply increase the filament voltage on my computer buss to get a little more performance, then it took a fancy motherboard where you could overclock the CPU. What the Hell is with that? If you can overclock it, why was the manufacture holding back on us in the first place? This is beginning to smell like a conspiracy to spend my money.

DXCC reinstatement of Midway and Kure islands

On 31 March the ARRL announced that Midway and Kure Islands had been placed on the list of DXCC deleted entities.

"The stated reason for this action," the ARRL reported on 11 May, "was because of changes in the administration resulting from changes in Papahānaumokuākea Marine National Monument", which includes Midway and Kure.

"After further review it has been found that the deletion of these two entities is not supported by the changes that were made to the relevant administrations. Therefore, the deletions from the DXCC list should not have occurred and the two entities, Midway Island KH4 and Kure Island KH7K, will return to the DXCC list as separate entities".



New Members

The TCDXA welcomes the following new members:

Brian McInerney, NØBM, Woodbury MN
Richard Dworsky, KEØIFT, St Louis Park MN

Silent Key

It is with deep regret we announce the passing of a TCDXA member, Floyd Gerald, N5FG, of Wiggins MS. Floyd passed on May 25th, 2017. Floyd was a very active DXer and managed the prestigious WAZ Award for CQ Magazine for many years.

Bob Severson, WØTLX

One of our club members, Bob Severson, who now lives in Ames Iowa, suffered a major heart attack while playing tennis in a senior's tennis league on May 15th. Bob was in intensive care until May 26th but is now recovering nicely after his close call.

TCDXA Club Call sign: WØTDX

Reminder, the TCDXA has a club call. The call is available to members for use during contests, special events and Field Day. To schedule dates for its use, contact our trusty trustee, Larry Menzel, WØPR w0pr@arrl.net. QSL via users home call.

Field Day

This year, Field Day will be June 24th-25th. What are you plans for field day? In



the next issue of The Grey Line Report, we will cover some of the activities of TCDXAers on field day. Please take notes, take pictures and send them to one of your editors for inclusion in the next issue.

From the ARRL website:

Field Day is ham radio's open house. Every June, more than 40,000 hams throughout North America set up temporary transmitting stations in public places to demonstrate ham radio's science, skill and service to our communities and our nation. It combines public service, emergency preparedness, community outreach, and technical skills all in a single event. Field Day has been an annual event since 1933, and remains the most popular event in ham radio.



Mike Sigelman KØBUD



KØBUD in his Golden Valley shack

{Editor Note: In 1982, I was visiting my parents in Munster, Indiana. Someone had loaned me a 2 meter hand held radio and explained to me how repeaters worked. One afternoon, I was sitting in my parent's driveway seeing if I could hit any of the Chicago repeaters when, out of the blue, I get a call from someone signing the call KØBUD/mobile. He explained that he was moving from Lafayette, Indiana to Minneapolis, Minnesota to take a new job. We talked for quite a while until he was eventually out of range. Later that year, I was attending the Amateur Fair hamfest and heard this guy over the PA system making announcements. The voice sounded familiar so I went to the stage area and, sure enough, it was Mike. I introduced myself. Mike remembered our QSO around Chicago and we became friends. Over the years since then, it has become apparent to me that nobody has done more to promote our hobby of amateur radio in the Twin Cities than Mike. When I approached Mike recently to ask if he might be willing to do a profile for the Gray Line Report, he somewhat reluctantly agreed. When the deadline approached, Mike seemed to have trouble getting started so I asked if he would be willing to do his profile in an interview format. He readily agreed. So, over pizza at Latuff's in Plymouth, Mike told me his story. Mike has done more than most for Amateur Radio and I am honored to call him a friend. Al, KØAD}

Al: What is your earliest memory of being exposed to Amateur Radio?





Mike with his two grandsons, Milo and Ari

Mike: It was while I was growing up in Fergus Falls, Minnesota during the early 1950s. One day I was riding with my dad in a car and noticed a

strange looking license plate. For some reason, there was a slash through the zero. I asked my dad about it and he said it might be some kind of special license plate for ham radio operators. This really intrigued me and I started trying to find out all I could about amateur radio. About the same time, Byron Bray (WØCZO) started a class at our high school in Fergus Falls on radio basics and Morse code. I signed up for the class and took it with my friend Dick Baker. Dick and I studied together and I eventually passed my Novice test and was assigned the call KNØBUD. Dick did the same and received the call KNØBUF. I knew from the very first that I was hooked on this hobby. I absolutely loved ham radio. At first, I listened a lot but finally got up the nerve to get on the air. I remember my very first QSO with a guy in North Dakota. I was very excited! I got on the air a lot on those days. I operated CW, of course, and even got my code speed up to the mid twenties.

Al: What kind of equipment did you have in those early days?

Mike: One day, before I even got my Novice ticket, my mom wanted me to take a check to the furniture store for her. I hopped on my bike and rode there. As I was walking through the store, someone had on display a Hallicrafters S20R for sale. The asking price was \$25. I convinced my parents to let me buy it. I returned to the furniture store the

next day with a \$25 check in hand and the receiver became mine. I had a heck of a time getting it home on my bike but I finally got it home and started listening right away. As for a transmitter, I had really limited funds at the time and ended up with a Heathkit AT-1. I used it along with my S20R using a knife switch for antenna switching. My friend KNØBUF had a little more money than I did and was able to purchase a Viking Ranger for his first transmitter

Al: How long did you live in Fergus Falls?

Mike: Until 1957. That year, my mom and I moved to an apartment around Lake and France in Minneapolis. I was 18 years old at the time. I was able to put up an antenna at the apartment and get on the air – even working some DX. From about 1958 to 1961, I attended the University of Minnesota. As many do, I became fairly inactive in ham radio during this time but managed to keep a DX100 on the air. While at the U, I met Judy and we dated all through college. Around 1962, I moved to California with Judy to take a job in broadcasting. I was extremely active in the “Wheels and Whips Radio Club” in the Los Angeles area. As the name implies, we were a club promoting mobile operation. I was using an HW-12 transceiver and worked a lot of DX. Most of our mobile operation was on 75 meters. While in California, Judy worked for Pacific Bell. She was beginning to appreciate my love for amateur radio. It was about that time I took the big amateur radio leap and bought a National NCX-5. After two years, we both moved back to Minneapolis.

Al: Tell me about your time in the Twin Cities in the mid 1960’s.

Mike: Judy and I got married in 1962 and set up in an apartment in St. Paul. Judy had a job as a social worker at the time. I was working as a salesman at KDWB radio. I became active in the Minneapolis Radio club and got to know a lot of guys including Erv Grossman, KØIVO who has become a lifelong friend. Erv let me



go over to his house to operate. Living in St. Paul, I also became active in the St. Paul Radio club. I met Bernie Epstein (WØNXZ-SK) who also became a lifelong friend. I was very active on the air during this time almost exclusively on SSB. I owned and sold a lot of radios during this time. One that has a real place in my heart was the Heathkit DX-100. Soon our first son Sam was born and we started thinking about a house. I took a job in Pittsburgh and we moved there in 1967.

Al: Were you active ham radio wise in Pittsburgh?

Mike: I sure was. We bought a home and I put up my first tower I hauled from Minneapolis. I was very active in the Steel City Radio Club and still am in contact with them today. The Steel City club was unique in that they owned their own building that could be used for meetings and a club station. This was a big deal and made the club very strong



Mike and XYL Judy after receiving

and successful. In 1981, we moved to West Lafayette, Indiana where I bought a Class A FM radio station. We remained there until we moved back to Minneapolis in 1982. I did well with the station but the upside was limited. My kids and Judy loved the town as did I. However, it was time to move up so after

three years, I took a job with Morgan Stanley where I was quite successful. I eventually moved on one last time to finish out my career until retirement.

Al: Do you consider yourself a DXer?

Mike: I've worked a lot of DX over the years but am not much of an awards chaser so I have no idea what my country count is.

Al: What has been your role in the ARRL in recent years?



Mike operating at Twin City FM Club Field Day with Steve, KNØF

Mike: I've fully support the league and have helped out where I could over the years. At one time, I was asked to run for Dakota Division Director but decided against it.

Al: I know you were very active in the Twin City FM

Club over the years. Tell me about that.

Mike: Having moved around the country a lot, I had a chance to see what other clubs were doing. During my time with TCFMC, I helped build a club station, reactivate Field Day, implement the Swap Shop, set up a 440 repeater, and a number of other things. I realized that some of these things cost money so I proposed a new major Hamfest (i.e. Hamfest Minnesota and Computer Expo) to raise money for the club.

Al: At its peak, what was the attendance at Hamfest Minnesota?

Mike: We started small at Richfield High School. As we grew we moved to the Hennepin County VoTech school in Brooklyn Center, and finally to the Saint Paul Civic Center. At our peak, attendance at Hamfest Minnesota ran about 4400.



Al: Hamfests seem to be dying. What, if anything can be done about that?

Mike: Hams seem to have less disposable income these days. We need people in the hobby to step up and serve. In general there is a lack of enthusiasm. I have some concerns about the future of amateur radio in general. We are not doomed but leadership is needed.

Al: What makes up your station today?

Mike: The two main radios in my station today are a Yaesu FT5000 and a Kenwood FT 1000 MPMK. I use the Yaesu the most. I have Yaesu and Kenwood amplifiers. I love to buy, use, and then sell rigs. I have several dual band radios that I use on 2 meters and 440. My tower includes an Explorer 14 for HF as well as a small 6 meter beam. Wires are used on 40 and 80. As most people know, I operate exclusively SSB and FM (i.e. no CW). I've done some contesting over the years and enjoyed it but have cut back on that recently. I will be back! I have a number of schedules on HF that I enjoy including a group of locals and non-locals who meet on 14.263 MHz on Sunday mornings. During the week, I am a mainstay on what many call the "Morning Show" on the club's 440 repeater during drive times.

Al: Tell me about your family.

Mike: As mentioned earlier, my wife Judy and I were married in 1962. Judy has a Technician license and her call sign is NØOEL. Occasionally, she will get on one of the local repeaters and talk to some of the



Mike running a recent TCDXA meeting (Photo by WØJMP)

local hams she knows. My oldest son Sammy is married and has two boys – Milo and Ari. Sam's family are big sports fans. Milo and Ari can talk to you about sports just like adults! Sammy also has a technician license with the call sign KAØTIM. Sammy is also an attorney. Our second son Danny works in the music and entertainment industry. He recently co-authored a book on the local music industry which has sold well and they are looking at a second printing! The book is called "Hey Day" Its available at most local book stores and on the Internet. My youngest son John is also an attorney and is doing well as a consulting attorney for a large national firm. (Two attorneys: not bad!)

Al: Do you have any other hobbies, Mike?

Mike: Photography has always been a big hobby of mine. I've owned many cameras over the years. I like to follow sports especially the Minnesota Twins as well as U of M Gophers basketball and football.

{Editor note: I can attest to his love of the Gophers. Several times over the years, Mike has called me at the last minute and said "Al, I have tickets to the Gophers – Purdue basketball game at the barn. Want to go?" Being a Boilermaker, it was easy to say yes!}

Al: Mike, thank you for your time today and all you have done for amateur radio in the Twin Cities including your leadership in the Twin City DX Association over the last few years.

Mike: It's great calling you a close friend. And thanks for putting this story together! It's a story I love telling. What a great hobby!





The MWA Contest Corner

A Look Back at the 2016-2017 Contest Season

by Al Dewey, KØAD



Although there are plenty of scheduled radiosport events all year long, most of the more serious contesting is done in the fall and winter. For the purpose of club competition, MWA considers the contest season to start with the CW WW RTTY DX contest in September and end with the ARRL DX Phone contest in March. Looking back at the past season, about the only word that can be used to describe it is “brutal”. The fact that we are at or near the bottom of the solar cycle really became apparent in this year’s

contest results. As I looked back at each contest, as well as the comments from others, “poor conditions” was used in just about every report. MWA competes against other contest clubs in ten different events over the contest season. We also compete against each other, but not other contest clubs, in the Minnesota QSO Party. The preliminary results for the season have been posted by Rich, NØHJZ at <http://www.w0aa.org/index.php/scores-2/current-year-scores>. As a club, scores were down significantly from last year in nine of the eleven events. The only two contests where there was an overall increase in club scores was the CQWW RTTY contest in September and the ARRL 160 M contest in December. In CQWW RTTY, there was only a 1.1% overall increase in last year’s scores. In the ARRL 160 M contest, there was a 26.5% INCREASE in the overall club score. Although I don’t have a good explanation for the CQWW RTTY increase, the fact that the solar minimum seems to have less of an effect on the low bands is consistent with a good increase in 160 meter contest scores. Most of the DX contest scores were down dramatically; between 65 and 77 %. Even at the big stations, it was a struggle. I was at WØAIH for ARRL Phone contest and it was difficult to run for more than an hour or two on 20 meters even during the peak times, which was very unusual. The one exception was the ARRL DX CW contest. For some reason, the conditions were not quite as bad for that event with 15 meters being open a good part of the day. Although club scores were still down over 7% for ARRL DX CW, that is a far cry from the dramatic decreases in the other DX Contests. Despite the good participation in the Minnesota QSO Party, skip was very long making it difficult for Minnesota stations to work the roving mobiles in the state. Outstate participants fared better and N2CU even achieved another clean sweep of all 87 Minnesota counties.



As for the famous “Pizza Competition” within MWA among Team North, Team South, and Team Hennepin, NØHJZ reports that preliminary results show that Team North will be the winner this year. What this means is that Team North showed the biggest percentage improvement in its overall scores from last year allowing them to win 6 of the 12 points necessary to capture the crown. Team North will, therefore, have their pizza dinner subsidized by the other two teams at the MWA annual meeting this fall. I should add that these results are not “official” until they have been verified with the actual results printed in QST. Although not likely, the winner could change if members of the claimed winning team had a high

error rate or failed to submit their log altogether.

Contest Simulators

As mentioned, the poor conditions this season took a toll on MWA’s performance in many of this season’s contests but especially those of the DX variety. It certainly became more difficult, if not impossible, to run in DX contests from our location in the “black hole”. What’s a contester in the black hole to do when conditions are this bad, but you still would like the rush that comes with running a DX pileup? One answer might be to use a contest simulator.

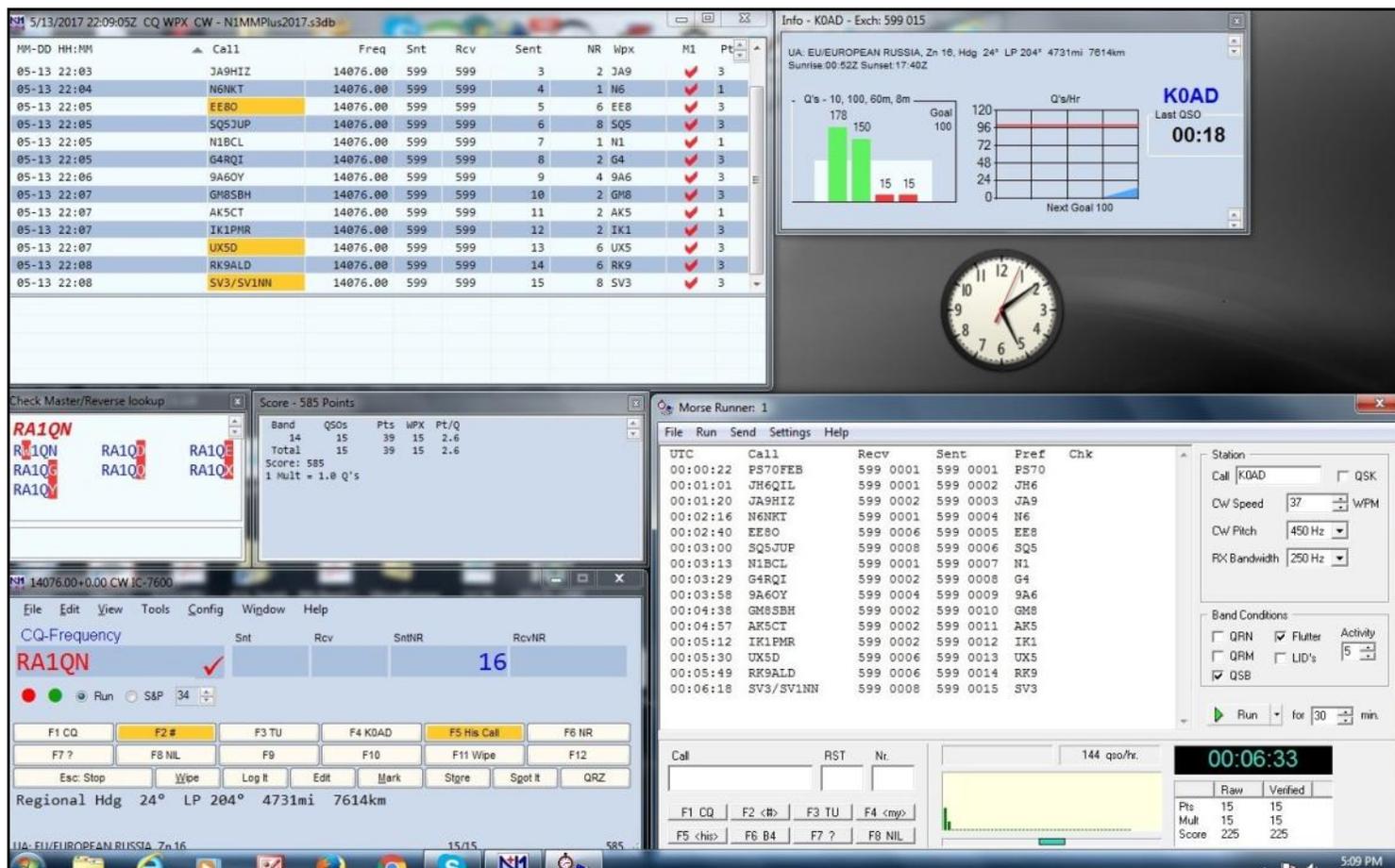


Figure 1 – A typical screen layout using N1MM Plus with MorseRunner for the CQ WPX CW Contest.



Two of the most popular CW pileup simulators are RUFZ by DL4MM and MorseRunner by VE3NEA. Of the two programs, I much prefer MorseRunner. When I am in the mood for a contest “run”, or want to practice up for an upcoming contest, I will often run a 30 minute session with MorseRunner. Once the program (which is Freeware) is installed, there are some simple things that need to be configured. These include your call, the desired code speed, the CW pitch, etc. It’s also possible to “configure” the band conditions to define activity level (1 through 10) and include things like QRM, QRN, QSB, flutter, and even the presence of lids. Once these things are configured, you simply start the run, press F1 to call CQ and you start hearing call signs come back to you. The audio from the program is surprisingly realistic. It really sounds like a radio. Sometime I even catch myself reaching over to my radio to throw in a filter, adjust the volume, etc. until I remember this is a simulation. The program keeps track of how well you copied the callsigns and exchanges over the 30 minute period.

One of the things that can make MorseRunner seem even more realistic is the interface that is available to the N1MM Plus contest logging program. By using MorseRunner with N1MM Plus, it feels even more like a “real” contest. Also some of the N1MM features like Super Check Partial, the Information window with rate data, etc. come into play. To use MorseRunner with N1MM Plus, all you need to do is the following:

1. In the N1MM Plus Files area, download the special version of MorseRunner from the “Additional Support Files” area on N1MM Web Site. There are actually two special versions. The one simply named “MorseRunner” is set up for the CQ WPX CW Contest. The one named “MorseRunner_CQWW” is setup for the CQWW CW Contest. Install the desired program on your PC.
2. Start up N1MM Plus and set the “MorseRunner Mode” flag on the “Other” Tab under the main Configurator menu. Review the HELP for this flag and configure accordingly.
3. Configure N1MM Plus for a new CQWPX or CQWW contest. Make sure your Function Key macros match what are set up for MorseRunner.
4. Review any additional instructions in the Readme file included with the special MorseRunner download. Note that it is even possible to set things up for SO2R with N1MM Plus and MorseRunner. I have not attempted that yet!

That’s it. If you follow the instructions carefully, you will be running DX with N1MM Plus. Close your eyes and imagine we are at the top of the propagation cycle. Have fun! See you in the pileups.





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/sponsoredxpeditons.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 old-timer 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 Mark Endorf, WAØMHJ; Secretary-Treasurer Pat Cain, KØPC; DXpedition Funding Manager Matt Holden, KØBBC and Director Scott Wright, KØMD.

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 **Gray Line 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/>.

