



Newsletter of the  
Twin City DX Association  
[www.tcdxa.org](http://www.tcdxa.org)

September, 2025



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Gray Line Staff  
WAØMHJ  
WØJMP  
WØZF  
AJ8B

# The GRAY LINE REPORT

*DXing from Minnesota - Land of 10,000*

## Note from the President

Bert Benjaminson, WBØN, President

I am going to lead off with bad news. If we keep going how we have, we will run out of money soon, very soon. We have spent down our pandemic surplus and are in trouble. So we have two choices. #1— Dial back on donations to DXpeditions (that would defeat our main purpose) or #2. Raise yearly recommended member donations. I think it's time we raised the yearly member recommended donations to \$40.00 or more if you want. It's been the same since I joined in March 2003, so it's time. Also please remember our fiscal year is from September 1<sup>st</sup> to August 31<sup>st</sup> so we are open for 2026 membership donations now.

Ok so now for the good. The bands have been improving as of lately, so this winter may be our chance to work some good DX. Speaking of DX the CQWDX RTTY contest is September 27<sup>th</sup> to the 28<sup>th</sup> it is a fun and easy contest of which you can choose to just pick some DX you want or go whole hog and rock all the DX you can. It's up to you. Also, CQWDX SSB October 25<sup>th</sup> to the 26<sup>th</sup>, and CQWDX CW November 29<sup>th</sup> to the 30<sup>th</sup>. These contests are all 48hours, from 0000 Saturday to 2359Sunday. Of the 48 hours you can operate as many hours as you want. There are ARRL contests too Sweepstakes SSB and sweepstakes CW, 10M and 160m contests. So, there are many opportunities to get on and have FUN!!I will be there for all playing on my dipoles and vertical. I hope to see a lot of you playing. There is life besides FT8!

How about Hamfest type fun? September 20<sup>th</sup> (hey, that's someone's birthday) The TCFMC has their last chance tailgate Hamfest in Plymouth, MN. For info, check [Amateur Radio for the Twin Cities](http://Amateur Radio for the Twin Cities). I plan to be there and I hope to see a lot of you there.

(cont. on next page)

## Note from the President (cont.)

Also we have the 2025 ARRL Minnesota State Convention October 11<sup>th</sup> from 8:00AM to 4:00 PM At the Hennepin Technical College in Brooklyn Park.  
([www.northstarradio.org](http://www.northstarradio.org))

I will be there at the TCDXA table and again I hope we have a good club turnout there.

And last it's almost time for our BOD elections for 2026, so be ready to throw the bum out!!

73 to all es Good DX  
Bert Benjaminson WB0N

### 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.



# Club Calendar

(Let me know if I should add something)

◇

## October 2025

11 ARRL MN State Convention  
20 TCDXA Meeting  
25-26 CQWW DX SSB

## April 2026

18-19 CQMM DX Contest  
20 TCDXA Meeting

## November 2025

1-2 ARRL SS CW  
17 TCDXA Meeting  
29-30 CQWW CW

## May 2026

15 SWODXA DX Dinner  
15-17 Dayton Hamvention  
18 TCDXA Meeting  
30-31 CQWW WPX CW

## December 2025

5-7 ARRL 160M CW  
13-14 ARRL 10M  
15 TCDXA Meeting  
27-28 Stew Perry 160M CW

## June 2026

6-7 ARRL INTL Digital Test  
11 TCDXA Meeting  
13-14 ARRL VHF  
20-21 All Asian CW  
27-28 ARRL Field Day

## January 2026

3-4 ARRL RTTY Roundup  
18-19 ARRL January VHF  
19 TCDXA Meeting  
23-25 CQWW 160M CW

## July 2026

11-12 IARU HF Championship  
20 TCDXA Meeting

## February 2026

7- Minnesota QSO Party  
14-15 CQWW WPX RTTY  
16 TCDXA Meeting  
21-22 ARRL DX CW  
20-22 CQWW 160M SSB

## August 2026

8-9 WAE DX CW  
17 TCDXA Meeting

## March 2026

7-8 ARRL DX SSB  
16 TCDXA Meeting  
28-29 CQWW WPX SSB

## September 2026

5-6 All Asian DX SSB Contest  
12-14 ARRL Sept. VHF Test  
12-13 WAE DX SSB Contest  
21 TCDXA Meeting  
26-27 CQWW RTTY



# Grayline History

Newsletters can be found at  
<https://tcdxa.org/gray-line-report-newsletter/>

## *5 Years Ago in the Grayline*

- ◆ EME. The Ultimate DXing Challenge by Danny Dantzler, W0JMP
- ◆ Contesting without Touching my Radio by Al Dewey, K0AD
- ◆ Results of the 2020 Field Day— A Field Day Like No Other
- ◆ The TCDXA Member Profile is Dave Fugleberg, W0ZF
- ◆ The MWA Contest Corner features “Contest Burnout of Just a Pause?”

## *10 Years Ago in the Grayline*

- ◆ K0MD’s Rohn 55 Tower is Now Rotatable!
- ◆ Strong Winds = A Bad Tower Day at W0ZX
- ◆ Results of the 2015 Field Day
- ◆ The MWA Contest Corner features Adding an Amplifier to a Low Power Contest Station
- ◆ The TCDXA Member Profile is Bert Benjaminson, WB0N



# Grayline History

## *15 Years Ago in the Grayline*

- ◆ KØIR Handles the Big Pileups in Saba at PJ6A
- ◆ The KØJUH 160 Meter Monopole Project
- ◆ The TCDXA Member Profile is Fred Regennitter, K4IU
- ◆ The MWA contest corner features the 2010 CQWW RTTY Contest at KØIR
- ◆ A new tower at KØMD!

## *20 Years Ago in the Grayline*

- ◆ WØXV Survives Glancing Blow from Hurricane Katrina
- ◆ The TCDXA Profile is of Jules Freundlich, W2JGR
- ◆ DX from the Other Side of the Pond by KØBUD/4X4
- ◆ Results of the 2005 TCDXA Golf Outing
- ◆ A Look Back—An interview with Charlie Hansen, WØHW



## Dollars for DX Report

Mike Cizek WØVTT— [mgcizek@gmail.com](mailto:mgcizek@gmail.com)  
DX Grant Manager



TCDXA runs on a fiscal year that begins on 1 September, so this Dollars for DX column will take a look back at the entire fiscal year of donations. Speaking of donations, this is a good time to pay your dues for FY26 so we can continue our funding. We have been mostly living off of the surplus in funds that we built up during the covid years when there were no DXPeditions. If we want to keep funding these trips as we have been doing in the past few years, we will all need to step up and give more generously. Remember that our recommended minimum annual contribution is a minimum, you are always welcome and encouraged to give more.

We received sixteen requests for DXPedition funding during the year and funded ten of them for a total of \$6100. This is considerably more than we spend most years, but does not quite match last year's total of \$8050 when we received 23 funding requests.

Six DXPeditions fell below our threshold for funding: 3C2MD (#127), C8K (#114), FP5KE (#107), VP8G (#207), AU2K (#262), and XT2MD (#124). PJ6Y Saba Island was also out of the top 100 at #167, but we decided to fund them because of their significant youth involvement. The DXPedition team includes operators in their 20s, most of whom will be making their first DXPedition trip. Team leader W6IZT has been working closely with the Youth on the Air Program to make this operation succeed.

The remaining ten DXPeditions include trips to all corners of the globe and hopefully gave (or will give) many TCDXA members new Challenge points and some All Time New Ones. Our "heavy hitters" were 3Y0K Bouvet at #10 and ZS8W Marion Island at #11. Other DXPeditions funded were 9L, FO/M, V6, V7, VK9C, VK9X, VU4, and ZL7.

We have already received our first two funding requests for FY26. Yuris YL2GM and Yevgen EA5EL are going to Annobon to operate 3C0W, and a Slovak team is going to Palestine to operate E440M. Both operations take place in September. Voting for both is underway as this is being written (28 Aug) but will be finished by the time the Grayline is published.

Thank you.

Mike Cizek WØVTT  
TCDXA DX Grant Manager



Our members say...  
We have an anonymous submission  
*(Feel free to add to either list for the  
next newsletter)*

### Top ten reasons I dislike FT-8

1. It's boring
2. I enjoy making DX contacts. My computer does not.
3. The practice of calling, no matter who the station comes back to is the norm. Listen to a CW DX pile-up. That behavior has spilled over.
4. Calling CQ DX on a DX-pedition's non-standard frequency. You are feeding off the DX-pedition in hopes of a contact. You are a DX lamprey.
5. Calling me almost every day. If I wanted to work the same people over and over, I would be on a 75M net.
6. Calling me on my QRG, and then calling CQ on me after the contact. This is not a Sprint Contest!
7. Long path and multi-path signals are visibly "strong" on the waterfall, but decode can be non-existent.
8. Calling CQ DX results in a bunch of KB4 stations calling.
9. If a station sends me a signal report and I don't respond, that is a good QS0. I will likely get an e-mailed digital QSL.
10. It's boring.

### Top ten reasons I like FT-8.

1. Bringing activity to the bands.
2. Signal reports are legitimate.
3. See the above.
4. See the above.
5. See the above.
6. Etc., etc., etc., etc.



## New ARRL® DXCC® Trident Award

ARRL announces the DXCC® Trident Plaque, a new program to honor the accomplishments of radio amateurs who have confirmed QSOs with at least 100 ARRL DXCC award entities on each of three modes (phone, CW, and digital).

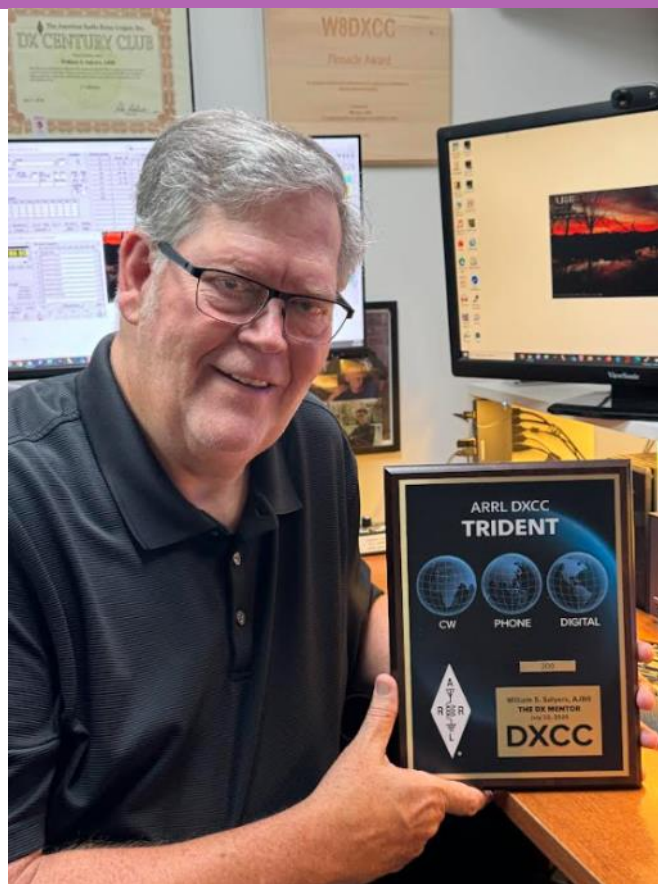
The basic award is issued upon application and confirmation by the ARRL Awards Department, and it is endorsable at levels of 200, 300, and Honor Roll, based on achieving that level on all three modes at the time of application. The earliest QSO date, and starting date for the DXCC Trident Award, is November 1, 1976, when RTTY (now named digital) DXCC was introduced.

ARRL Radiosport and Regulatory Affairs Manager Bart Jahnke, W9JJ, says the new award should be exciting to hams. “It gives all participants of the DXCC program, especially those new to DXCC, something fresh to work towards,” he said. ARRL has long had the Worked All States Triple Play award, but this introduces the multi-mode achievement to the DXCC program.

Confirmation of QSOs toward the Trident is done only through the standard process by credits within the ARRL DXCC program via Logbook of The World® (LoTW®). No QSL cards will be accepted with a plaque application. If your DXCC credits are not already visible in LoTW, you must first link your DXCC and LoTW profiles by requesting a credit merge from the ARRL Awards Desk.

To apply for the plaque or learn more, visit [www.arrl.org/dxcc-trident-award](http://www.arrl.org/dxcc-trident-award).

Celebrate your achievement and dedication to the DXCC program across all modes with the ARRL DXCC Trident award – a symbol of excellence in amateur radio operating and DXing.



AJ8B proudly displaying his ARRL DXCC Trident Plaque



## Can Lightning Really Strike Twice in a Few Weeks?

*My Sad Story By Bill, AJ8B*

In August, we had a pretty severe line of storms move through the Miami Valley. I did not take a lightning strike, but the winds shut me down.

I have a K4KIO hex beam in a clearing at 30 feet. It has stood proudly for 30 months with no issues. However, as well as it was built and as well as it has performed, it was no match for a large limb that fell from about 25 feet above it. (Image below)

I was able to get it repaired and back up over the Labor Day weekend. I took the opportunity to strengthen the mast, redo the guy cables, and generally clean up the antenna.

It was back to performing well with even better SWR than it had before.

(I had to tune it a bit!)

Then...



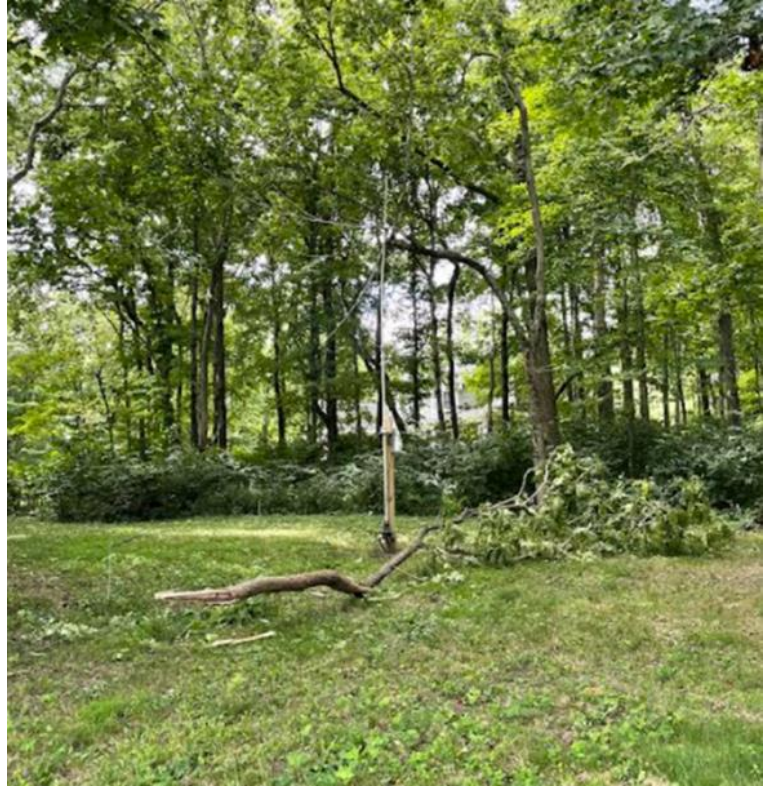
## Lightning Twice? (cont.)

Three days later, my wife called me at work. She said “I thought I heard a gunshot and I looked out back and saw a huge limb that seems to have hit your antenna.” She sent the picture to the right.

She was correct! A branch from another tree fell and caught the hex beam on the way down. Ugh!

The branch was 42 feet long and caused the damage shown in the picture below.

Just a few weeks apart!



These incidents are certainly much easier to repair than those that many of you have to do, but, it was still a pain!

The good news is that I had ordered a complete set of spreaders for the first repair job and had enough left over for the second set of repairs.

Also, The previous repairs were still fresh in my mind so it was much easier.

I AM glad it wasn't lightning, but...



# TCDX Equipment Survey Results

— John “Curley”, NI0K

The other day, while sitting in my hamshack, a light bulb flashed over my head: “What brands of HF radios are popular in DXer’s hamshacks?” Bringing up my email and opening a new message to the TCDXA group I asked the question, and I was surprised at the large number that responded. Thanks to the 27 hams that reached out!

Background: I was first licensed in 1970 as WN4SIK after being interested in electronics and radio since *for-ever*. Early on I was big into traffic handling (BPL!), RTTY (the first digital mode after CW), 2M cuz, well *everyone was on there*, computers (before the IBM PC) plus everything HF. I loved Field Day back when I could stay alert all night. In the early 80’s I worried about the uncertainties of the new VE program, so I studied and then went to the FCC office in St. Paul, sat for the 20WPM code test, breezed through the written test and upgraded to Extra. NI0K was the 2x1 call they assigned to me. When I retired from careers in technical endeavors, I was able to enjoy ham radio time, HF radios and building more antennas. I love ham radio and I’ve got my ears on for DX!



Why does this survey matter? DXer’s tend to be active hams, competitive hams (I’m gonna beat my buddies and the rest of the world to that new one!), (I’m on the honor roll and you’re NOT!), (HA! I’ve got P5 CONFIRMED!), hams that are dedicated to the time and effort needed to get that new one. They are willing to build antenna systems, sometimes in the dead of winter, buy the latest, best gear AND get up in the middle of the night to bag a new bandslot on 160 CW, not to mention travel to DX conventions. So, this group are the first to buy the new gear, trying the latest radio, accessory and gizmo to pull the weak one out. And the DXpeditioners use the same gear over there as in the comfort of their home shack. (Pic on top of next page)

Now, I’m not talking about the collection of radios (how many do you need?), all brands, new and old, antique, homebrew, etc., I’m talking about the radio with the big monitor connected, in front of the main chair, the one next to the paddle, the coffee warmer, (perhaps close to the mini-bar), the PC keyboard and the one with the cans plugged into it. In short, your *favorite*.





Yeah, I know you're not trying to keep up with, *ahem*, you-know-who, but well... And probably no one that reads this has any skin in the ham radio industry either. But still *I* found it interesting, being a member of the Dull Man's Club and all.

### **Spoiler Alert: Surprise Ahead!**

#### RESULTS

Many that responded included the model as well as the brand. Some have main and backup radios, so if they are different brands I included them as a second entry. For example, I have both a Flex and an Elecraft, so I made two separate entries with both brands under my call.

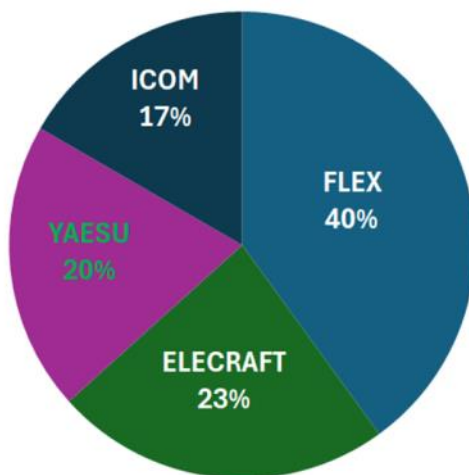
After creating a spreadsheet, I struggled to present a chart that presented the results to my satisfaction. Excel told me that a bar chart was the best, but I thought a pie chart was better. Not being one to follow directions, I've included both charts. There isn't so much information that it deserves lots of discussion, but there are two big *surprises*:

- ◆ Kenwood *isn't* on the list *at all*
- ◆ USA-made brands represent the top two and comprise 63% of the total. This used to be exclusively Japanese brands. Hooray USA!

Only one of the respondents has a rig that is more than one generation older than current models, so DXer's are always looking for an edge. Did I mention DXer's are competitive?



## RESULTS



### TAKEAWAYS

I would wager that most of you: either have, or are planning to upgrade your station in 2025. Antennas, feedlines, towers, rotors, antenna switches, radios and accessories, station ergonomics, PC and/or software in some way. Or perhaps upgrade your personal abilities such as Contest University, code practice, or personal fitness. <Methinks KØIR has you all beat>

After reading this you will have a reaction ranging from, “Yeah I knew this already, who cares?” to, “Geez, wow.” Please let me know what you think, all comments are welcome! Please send them to: [ni0k@outlook.com](mailto:ni0k@outlook.com)

73, -de John “Curly” NIØK

## RESULTS



# Propagation Banners Explained

Robert Gulley— (K4PKM@radioranchero.com)

*Robert is a friend of mine who put this article together.  
I hope you find it informative!*

Visit any popular amateur radio website and one is likely to see a propagation banner showing current solar and atmospheric conditions using data gathered from around the world. Unfortunately, most of us do not take advantage of the wealth of information provided by these banners, so in this article I give some brief information on each category in hopes that these reports will become more understandable, as well as useful.

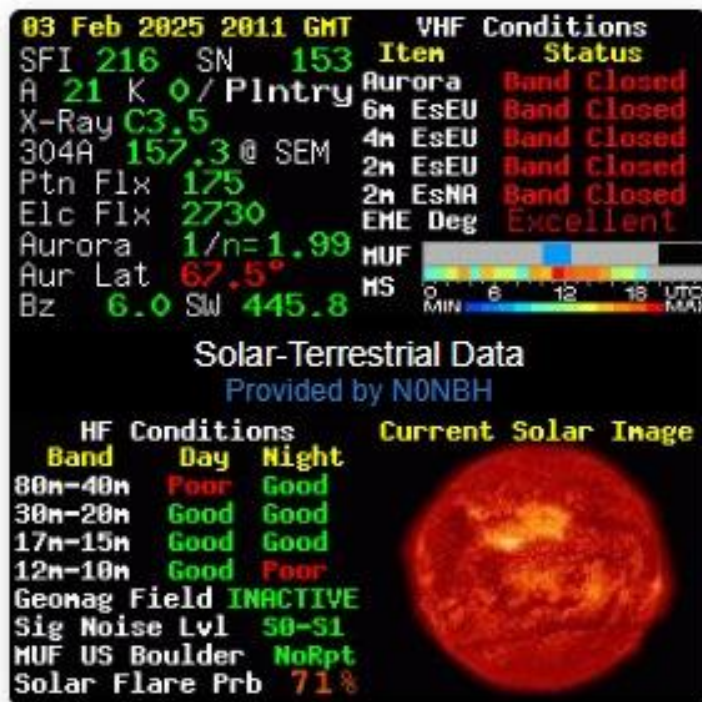
There are numerous variations of banners, but most of the data is sourced from one or two reliable locations. The propagation banners we see everywhere are usually the product of Paul Herrman, N0NBH, and images from his site are used with his permission.

These banners are not just useful for amateur radio operators, however, but are of great interest to shortwave radio listeners, utility monitoring folks, and a whole host of other radio-related hobbyists and professionals.

Unfortunately, most amateur and shortwave radio folks only look at one or two numbers to determine what conditions will be like. This yields a much less than accurate understanding of solar and atmospheric conditions, because these numbers can tell us so much more.

Now, I admit to being one who looked only at the K and A indices for a number of years, and my brief glance also looked to see which bands were listed as possibilities for activity.

One day my curiosity got the best of me, however, and I started trying to learn what all the other numbers meant. Now I am by no means a propagation expert, but what I discovered has been quite helpful to me in understanding current conditions, as well as indicating possible future conditions. I hope the following explanations will help you as well.



## Propagation Banners (cont.)

The SFI is considered a reasonably good indicator of the F-Layer ionization level, although it does not tell the whole story. There are many other factors which affect propagation, and a high or low number does not always reflect actual conditions, as we will see.

The 2.8 GHz measurement (sometimes called the 10.7 cm flux) is measured daily with typical ranges between 60-300. Higher numbers usually indicate higher MUFs, and therefore higher bands for DXing. This number should be seen more in terms of a pattern rather than an individual number.


A high Solar Flux Index on any given day does not mean conditions will be great—rather several days of a high SFI can mean favorable conditions have developed which will offer good DXing on some of the higher bands.

### Sunspot Number


Sunspot numbers indicate overall sunspot activity and the size/quality of the sunspot groups. The ranges go from 0-250, with higher numbers indicating more upper-level ionization. Folks start talking about them on the ham bands when the sunspot numbers are up, because they are a very useful indicator of when upper bands might allow some serious DXing.

For example, an SFI of 126 is respectable, and which might indicate possible upper-level ionization, but we may notice a sunspot number that is rather low, say 49. The SFI may indicate good solar activity, but with a low sunspot number we will see band predictions which are moderate

Sunspot numbers are averaged monthly over 12 months. The 12-month average gives the best correlation for propagation activity, but it does not account for unusual sunspot activity. (And unusual solar activity may not be immediately reflected in other indices as well, if at all. One just cannot contain nature in a tight little box!)



**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 graphics. *Subscriptions are \$27.00 for one year.*

Get two weeks of The Daily DX or a sample of The Weekly DX free by sending a request to [bernie@dailydx.com](mailto:bernie@dailydx.com), or at <http://www.dailydx.com/trial.htm>.



## Propagation Banners (cont.)

### A and K Indices

The A and K indices are the other two most commonly read indicators of ionosphere conditions, and folks will often refer to the K index as an explanation for good or bad propagation conditions.

The A Index is an averaged number, meaning it is based on the previous day's readings. The A index is a scaled value in the range of 0–400.

The K index is based on the latest average of eight readings taken every three hours from around the world. The K index is a logarithmic value, 0–9, with levels of 4 or more indicating a geomagnetic storm. High geomagnetic activity can lead to HF radio blackouts.

<u>K Index Ranges</u>	<u>A Index Ranges</u>
K1=Very quiet	A0 - A7 = quiet
K2=Quiet	A8 - A15 = unsettled
K3=Unsettled	A16 - A29 = active
K4=Active	A30 - A49 = minor storm
K5=Minor storm	A50 - A99 = major storm
K6=Major storm	A100 - A400 = severe storm
K7=Severe storm	
K8=Very severe storm	
K9=Extremely severe storm	

### XRY

The XRY reading is a measure of the X-ray intensity of X-rays hitting the atmosphere. “B” and “C” readings indicate the lowest levels of activity, while readings of “M” and “X” indicate possible blackout conditions for Regions 1-2, and Regions 3-5 respectively.

More useful is the indication this number/classification gives for the D-layer activity, which is the layer responsible for blocking signals from the broadcast band up to 4-5 MHz during daylight hours.



## Propagation Banners (cont.)

If the X-ray level is high enough, the absorption effect of the D-layer is greatly increased, potentially reaching up through the entire HF band. This means signals from earth never make it through to F-layer, and therefore would not be reflected/refracted back to earth.

X-ray intensity varies greatly with solar activities such as solar flares and CMEs. X-ray intensity increases based solely on the strength of the solar flare. E-layer activity is directly affected by X-ray flux, whereas F-layer activity is more affected by the UV flux.

### 304A

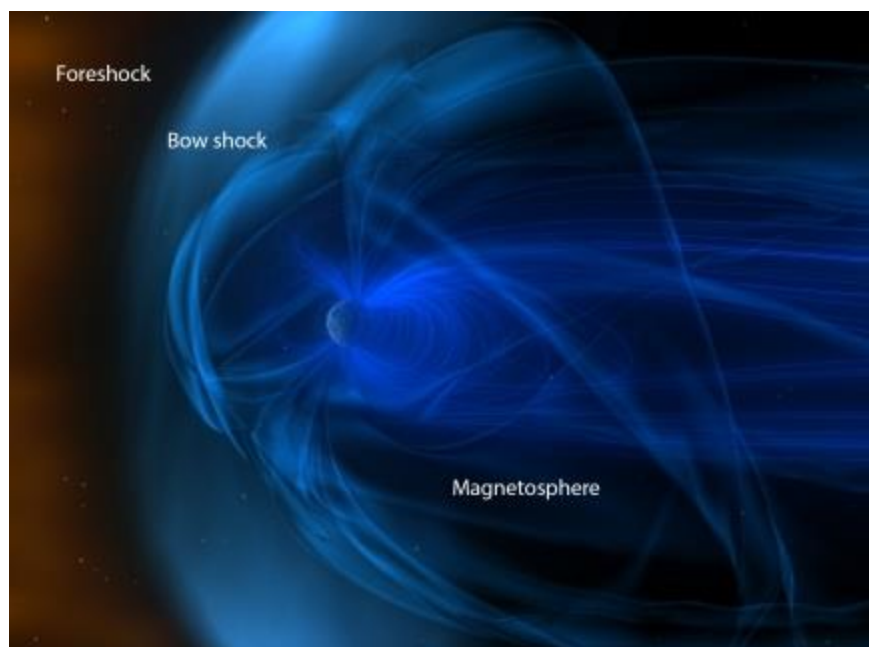
This category refers to the solar radiation level measured in the ultraviolet light range of 304 angstroms, produced by ionized helium in the sun's photosphere. Radiation in the ultraviolet spectrum creates much of the F-layer ionization, reflecting/refracting RF signals back to earth.

Two different measuring stations are used— one here on earth and the other comes from the SOHO (**Solar and Heliospheric Observatory**) satellite. The range is 0— infinity. This number increases with increases in the solar flux index (SFI).

### Bz

*Interplanetary magnetic field*, Bz, indicates a positive or negative pull with or against the earth's geomagnetic field. The solar winds are responsible for carrying the interplanetary magnetic field through space.

A positive value indicates the interplanetary field is working with, or oriented in the same direction, as the earth's field. Negative numbers mean it is pulling or distorting the earth's magnetic field and therefore increasing the effect of geomagnetic disturbances. These effects are seen most readily when using weak-signal software, such as WSJT-X.



## Propagation Banners (cont.)

In effect the shielding of the earth's magnetic field is reduced when the readings are negative. The geomagnetic field is a teardrop shape pattern giving us the north and south magnetic poles. The field helps direct ionization flow around the atmosphere.

(The image here shows a representation of the field, including the tail which faces away from the sun, and the bow shock created by the resistance of the earth's magnetic forces encountering the sun's radiation forces.)

The magnetic field traps charged particles which might cause a great deal of damage if they were to reach earth's surface, as well as greatly influencing the shape and direction of radio signals.

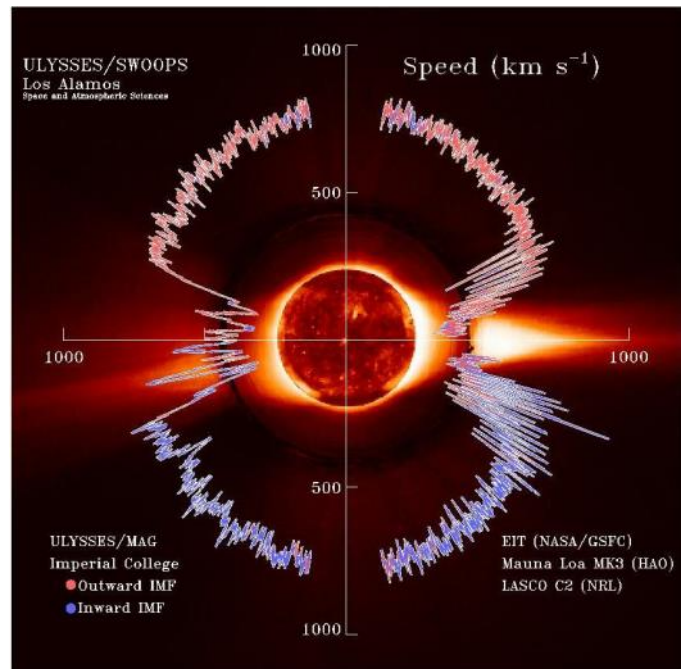
The geomagnetic field is weakest near the polar regions and strongest near equatorial regions and on the night side of the earth opposite the sun. The variations in the geomagnetic field are much of what these forecasts are designed to predict, because they are the most likely to affect day-to-day HF propagation.

### Solar Wind

The SW reading is a measure of the solar wind speed, ranging from 0–2000 km/s, with readings typically well under 500. If the speed increases to more than 500 there is increased pressure on the ionosphere, weakening it, and causing disturbances to the F-layer.

The solar wind contains charged particles and magnetic fields. Stronger winds will create a more distorted shape to the earth's magnetic field—in effect flattening it—which further reduces the magnetic strength at the poles, as well as causing the tail to extend even further behind the earth.

The movement of the solar wind (or plasma) is outward from the sun, and fills an area known as the *Heliosphere*. The Heliosphere is a bubble-like region in space emanating from the Sun, and expanding outward into the solar system. Galactic cosmic rays are partially blocked or reduced by the effects of heliosphere.



## Propagation Banners (cont.)

### Proton Flux (0-unknown)

The *proton flux* (PF) is a measurement indicating the density of protons in the magnetic field of the earth, particularly along the polar magnetic lines.

Solar flares and CMEs can cause proton storms which allow for a greater influx of protons to penetrate the magnetic field, which in turn, causes a rise in the E-layer of the atmosphere. This increase in activity can reduce or completely block signals from getting beyond the E-layer, effectively shutting down HF signals until the magnetic field stabilizes.

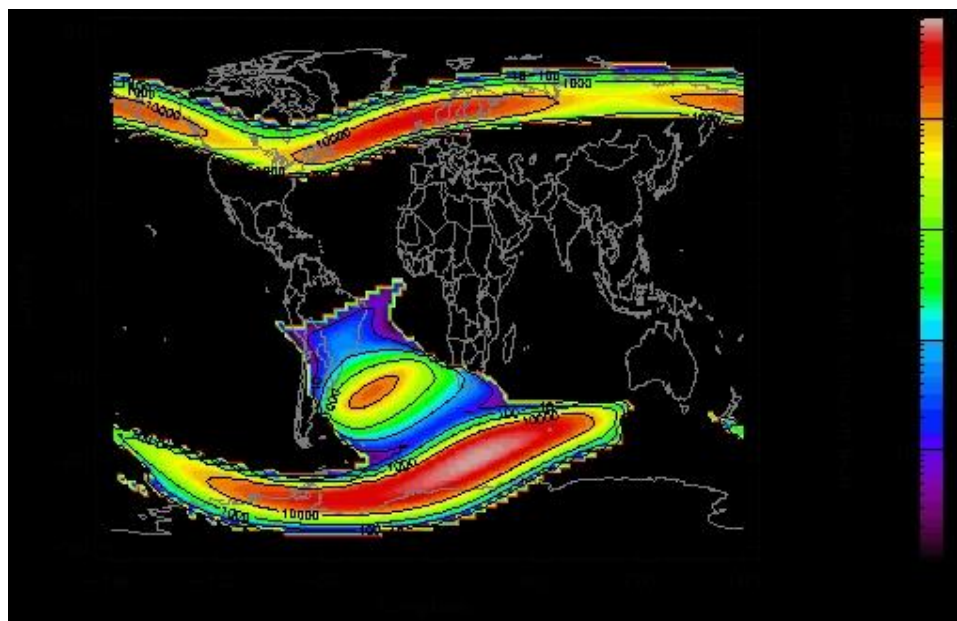
The protons are drawn into the earth's magnetic field toward the poles, meaning they do not typically penetrate the lower latitudes. The increased levels can cause geosynchronous satellites to be interfered with, as well as Polar Cap Absorption events, or PCAs.

The PF levels have to exceed 10 PFUs before this occurs, but as long as levels remain this high, communication will be disrupted. In addition to disrupting communications, extreme proton storms have been known to interfere with spacecraft equipment and optics, and some astronauts have reported seeing streaks or flashes of light. This coincides with optical imagery issues experienced by cameras monitoring solar events.

### Electron Flux (0-unknown)

A similar measurement reported on the solar banners is the electron flux. Like the proton flux, an electron flux reading indicates the density of electrons in the magnetic field of the earth, and increased numbers indicate potential interference with communications.

Solar flares can dramatically increase the electron density, affecting the E-layer of the atmosphere. Both the proton flux and the electron flux are measured hourly.



### Maximum Usable Frequency (Boulder CO)

The maximum usable frequency (MUF BDR) is a measurement of the MUF at the given time from Boulder Colorado. MUFs are measured at various locations around the world, and each location will be different

Keep in mind that any MUF reading is *only a guide*, nothing is set in stone! The MUF may be low at night and still signals might come through on 20 meters, for example.

Also, the reading is reflective of measurements taken from a specific area, so the MUF will be different at each location, as well as different at various times of day. All of this to say again, the MUF is only a guide, and often signals will go beyond the reported/estimated MUFs in any given area.

### EME Degradation

The Earth-Moon-Earth Degradation is a measure of expected EME conditions based on signal attenuation for a given day, dependent upon the sky noise temperature and the astronomical sky, along with the moon's location in the sky.

The measurements are from "Very Poor" to "Excellent", meaning an attention of  $>5.5$  dB to  $<1.5$  dB, respectively. For more excellent information on EME and meteor scatter propagation, go here:

<http://www.mmmonvhf.de/>.

### Band Conditions Forecast

Many solar banners will include the band forecast for both day and night conditions. These are determined using the solar flux index and the sunspot number. Again, these are only suggestions, and are not necessarily accurate for any given location.

Many times I have found good propagation conditions when bands were reported likely to be poor, as well as the reverse situation. This is why the more we understand all of the resources available to us the more accurately we can predict propagation conditions.

As an aside, when conditions seem to run counter to the general predictions, this is the very time to pay closer attention to the various numbers and their contribution to the whole. The more attention we pay to various individual indices, the more the significance of each category will become evident as see patterns emerge.

As an example, when I am looking at the basic banner information, I always check the solar winds indicator and the direction of the winds, because I have learned a negative direction greatly increases the chances for poor propagation than typical "A" or "K" indices.



## Propagation Banners (cont.)

### Geomagnetic Field

This indicator gives an indication of the level of disturbance to the geomagnetic field. This is based on the K index value, ranging from Inactive to Extreme Storm over nine levels. -- The last three levels, Major, Severe and Extreme usually indicate blackout potential as well as high Auroral activity.

### Signal Noise Level

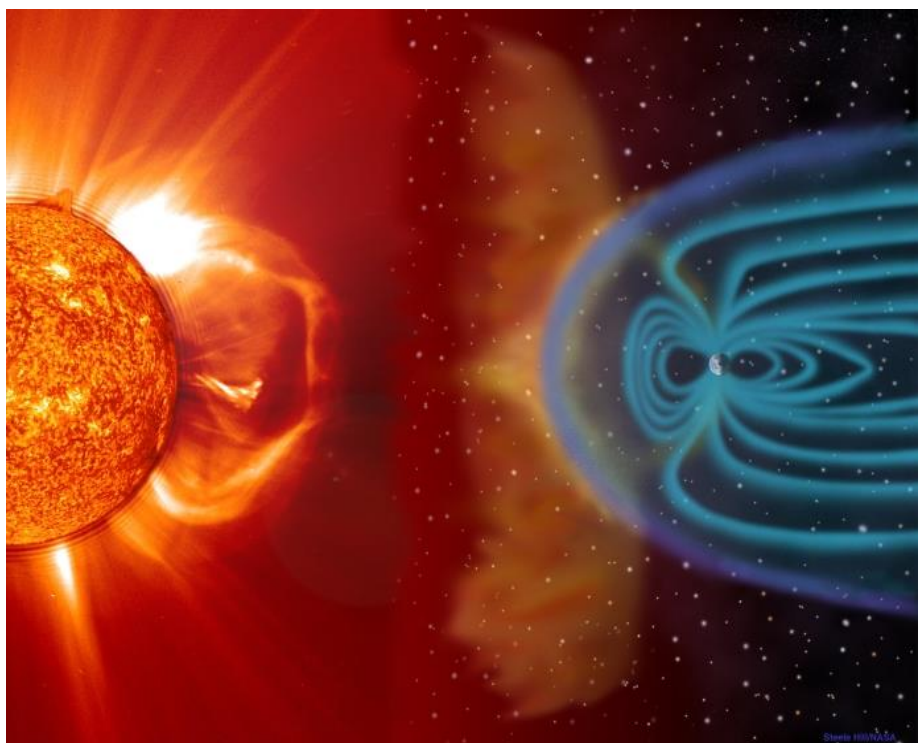
The signal noise level is an indication of the interaction of the solar winds with the earth's magnetic field. Increased solar wind activity means more signal noise (measured in S-units), and this number is updated every ½ hour. Following strong geomagnetic activity, the signal noise level may actually be very quiet, presenting a good opportunity to work the lower bands.

Likewise right after a solar flare the MUF will be raised, but the noise levels will be lower, so daytime propagation will usually be better. This is because while the noise burst during a flare is significant, as soon as the flare is over noise levels drop considerably, *but the ionization levels are still high.*

Two to three days after a solar flare there will be an impact from the shock wave of the flare which can cause a geomagnetic storm. Again, after this storm subsides, noise levels can be quite low. Keep an eye on the noise levels during and after a solar event to make the best use of these opportunities.

### CME

The CME (Coronal Mass Ejection) reading is a prediction of when the next CME is likely to occur. Unless there is a reason for NOAA to think a CME is headed to earth, this reading is not updated. The color code signifies the threat level, with green being mild, yellow being moderate, and red being severe.



## Propagation Banners (cont.)

### Auroral Activity

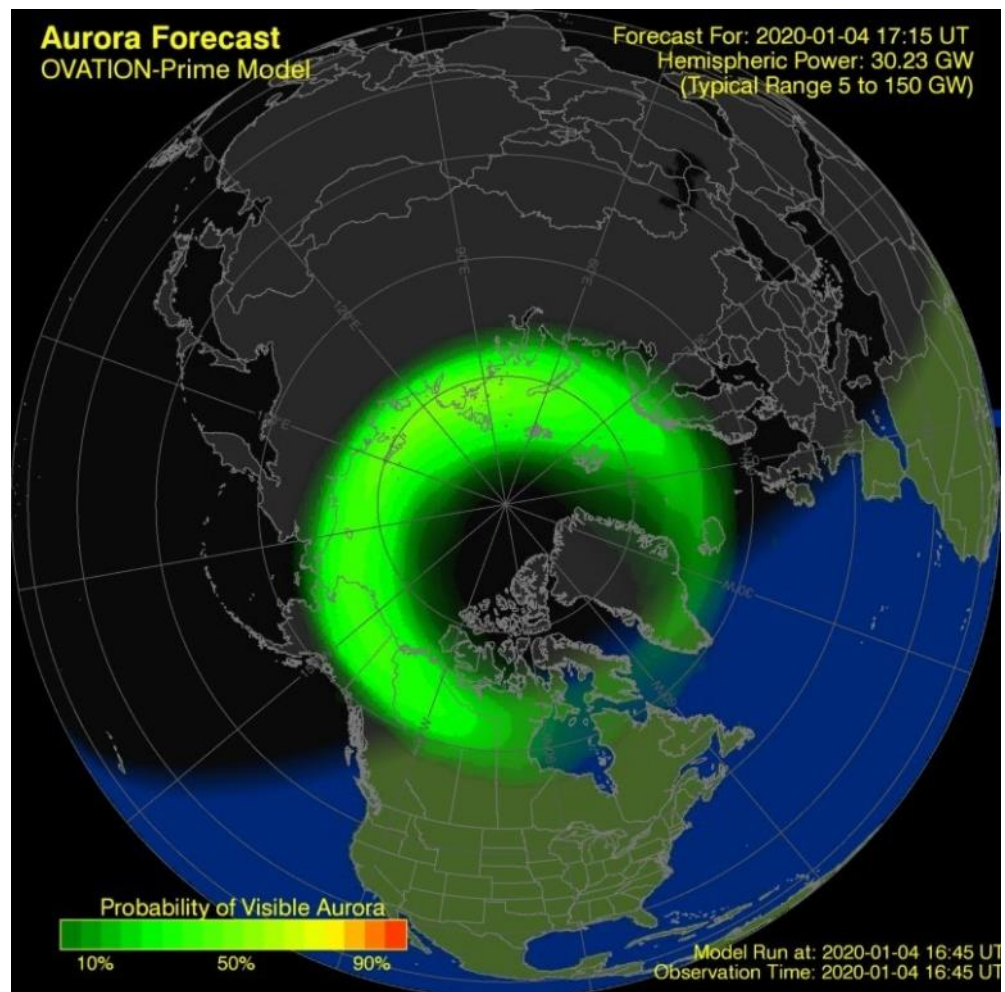
Two additional categories are the Aurora and the Aurora Latitude indicators. The Aurora number is a range from 1-10, with higher numbers indicating an expansion of the auroral oval.

The aurora oval is elliptical band around each geomagnetic pole, normally ranging from about 75 degrees magnetic latitude at noon to about 67 degrees magnetic latitude at midnight. As greater amounts of energy strike the geomagnetic field at the poles, the auroral oval increases, meaning it moves to lower latitudes. This has the benefit of increasing VHF communications at the expense of HF communications.

When the Northern and Southern lights are greatest, a result of heightened auroral activity, there is the possibility of the polar blackouts. The aurora latitude measurement is the expected lowest latitude of the auroral oval. The text is also colored according to activity, with red being low activity, yellow being high-latitude activity, and green being mid-latitude activity.

### Some Additional Information

Other banners may show some additional information, representative of some of the different styles of banners available from N0NBH. This can include VHF propagation condition predictions, as well as a solar flare prediction category similar to the CME prediction.



## Propagation Banners (cont.)

The VHF propagation tool is particularly useful during periods of expected E-skip activity and solar flare activity, where VHF propagation is likely to increase dramatically. One of the lessons learned from studying the solar banners is that when HF conditions worsen, VHF conditions often improve, even if only for a few hours.

Some banners will give indications for the MUF specifically as it relates to VHF, while others will show the probability of E-skip conditions in various parts of the world.

As an example, the color coding for E-skip Europe is Band Closed (Red) = No Sporadic E (ES) activity; High MUF (Green) (2M only) = Conditions support 2M ES; 50/70/144MHz ES = the respective band is open.

There is also a meteor scatter color coded bar on some banners which indicates the probability of meteor scatter activity, from Min. to Max., measured by the hour (UTC).

### More than Meets the Eye

There is a wealth of information just upon a casual glance at one of these banners, but the greater benefit comes from studying them, discovering patterns, and applying the information in the real world, whether amateur, SWL, or utility aficionado.

No amount of propagation information will help us make or log contacts unless we turn our radios on and use them! Propagation maps and banners like these can be a help or a hindrance depending upon how they are used. They can be a challenge or an excuse!

For an additional source of information and very cool visual displays of the sun and other areas of interest, check out Solarham.com

The study of propagation can be a life-long pursuit. The monthly column by Tomas Hood NW7US is a perfect example. Tomas puts propagation study into practical terms each month by giving us predictions of likely conditions based on solar patterns he has studied for years. I can confidently say even Tomas, with all his knowledge (immensely greater than mine!) learns new things all the time.

So, whether you are a beginning radio hobbyist or a seasoned veteran of all things radio, there will always be more to learn and patterns to recognize in the pursuit of propagation. I hope you will enjoy the ride!

### Images

QRZ-Banner.jpg - Sample Common Propagation Banner (courtesy QRZ.com/N0NBH)

Magnetosphere.jpg - Image from NASA showing teardrop shape of the Magnetosphere

Solar-Wind-Speed.jpg - Graphic showing the pattern of the Solar Winds (courtesy NASA.gov)

Electron-Flux.jpg - Model of Electron Flux coverage based on NASA modeling

CME.jpg - Image of Coronal Mass Ejection (courtesy of European Space Agency)

auroraloval.jpg - Example of Auroral Oval (courtesy NASA.gov)



# Prince Edward & Marion Isl. April 27th— May 13th, 2025 By Yuris, YL2GM



Hi radio friends! This is a short story of the latest LRSF DX-pedition ZS8W to Prince Edward & Marion Isl.

I have been fighting for this opportunity since 2018. Through these years the department directors changed and the requirements changed as well and it always ended up that there was no place for me on the ship. In 2025, I decided to try for one last time and in January and March I flew to South Africa for personal meetings with the new department leadership. On 1st of April, I received a message from Environmental Affairs Department of the Republic of South Africa that I have been included in the team going to Marion Island as a communications engineer.

Ship was scheduled to depart from Cape Town port on April 17. My South African visa was about to expire on April 5 and to acquire new visa it's necessary to visit Stockholm and the processing takes 15 working days, so it wasn't possible to get new visa in time for the departure and I had no other options than to travel to South Africa early before my current visa expires.

I bought a Turkish Airlines ticket: Riga - Istanbul - Cape Town. On April 4, my XYL Zigrida took me to Riga airport where the journey and adventures begun. My two checked bags were accepted and the weight limit was fine. Then for the first time I was asked to show my carry-on luggage that consisted of two items: an SPE Expert (12 kg) and a backpack with laptops and a transceiver (8 kg). The airport check-in personnel refused to let me on board with two carry-ons even though I was willing to pay for the second item. The shift supervisor was called and also denied it. I had no other choice than to buy a Business Class ticket from the airline operating that flight and then I boarded the plane as the last passenger.



*Starting DXpedition from Riga airport*





*With my friend Tjerk ZS1J in Cape Town*

In Istanbul, I went to the transit passenger desk to get the ticket for the second leg of the flight: Istanbul – Cape Town and I was denied the ticket, with the reasoning that I didn't fly the first leg Riga – Istanbul with a Turkish Airlines ticket. The only solution offered was to buy a new ticket to Cape Town for \$860. I had no other option because I needed to be in Cape Town the next day.

After landing in Cape Town and going through immigration the officer smiled and said: “Last day of your visa!” and I kindly replied: “Yes, but now I can stay here for 90 days.” After airport formalities I rented a car and drove to the hotel, located about 40 km from the airport. In South Africa, driving is on the left side of the road, unlike in Europe, so I had to be cautious and get used to it.

The hotel was located approximately 40 km from the city center and 800 meters from the ocean. The next day, I went to see Tjerk ZS1J and picked up my antenna bags which had been in Cape Town since 2018. There wasn't much open space at the hotel, so I could only set up a 6m Yagi and a DX Commander vertical antenna. I worked a few days with the call sign ZS1/YL7A. I also tested the other antennas and packed the two antenna bags.

Later I was informed that I need to pass a medical examination to be included in the island visitor team. Over the next two days I visited doctors and received all necessary clearances.

The ship was scheduled to depart on April 17. However, I was allowed to board it a day earlier. On Wednesday, I brought the bags to the dock, returned the rental car at the airport, and boarded the ship. I was the only passenger that day and others arrived next day around noon. We waited for departure but it didn't start. For some reason, departure was postponed to the next day. Loading of containers and cargo continued late into the evening. The ship finally left the port on Friday at 3 PM.





*Leaving Cape Town*

On Tuesday, April 22 at 5 PM, we saw Marion Island on the starboard side and Prince Edward Island on the port side. Unfortunately, due to bad weather the helicopter couldn't fly and we had to spend two more days on the ship, hoping for better weather conditions. Life on board was like an all-inclusive five-star hotel. Generous and delicious meals were served three times daily. Coffee and snacks were available at any time. After 8 PM the bar was open for a glass of wine and socializing.



*Equipment and luggage transportation from ship to shore*

On Friday after breakfast, when the weather conditions improved, the flight lists were created. Each flight could carry eight passengers and ten flights were scheduled that day, with the last three intended for personnel luggage. The first to fly were key personnel and team members with essential tasks at the station, such as generator replacements and equipment repairs.

As I didn't have the approved permit to disembark on the island yet, I wasn't included in the flight schedule that day. I was cleared to disembark the next day, however, thick fog kept the helicopters grounded for some more time.

Finally, on Sunday April 27, the sky cleared and sun came out and I was brought to the island base on the second flight. I was assigned a radio room in the helicopter hangar about 200 meters from the main building, that houses a canteen, control rooms, and technical labs. As always, I try to bring one radio setup and a simple antenna in my hand luggage and it came in handy this time as well. After lunch, I managed to set up an EFHW antenna and made the first contact from the island with AD8FD.





*Shack in the helicopter hangar and vertical antenna*

The helicopter pilots kept working until evening, delivering equipment and containers to the island. In the evening, the container with my antenna bags also arrived. The next day I set up the DX Commander vertical and operated two stations.

On May 1, I had to shut down my equipment for three days. A group of scientists in the expedition were conducting ultra-low-level radiation measurements and they had come to Marion Island specifically due to its low RF interference. I planned to use the downtime to set up more antennas and explore the island. The first antenna was LBS vertical – 14 meters high for the 160m–30m bands. Then I planned to install a Spiderbeam. The antenna locations had been agreed upon and the environmental protection requirements were discussed.

Unfortunately, I couldn't erect the Spiderbeam due to constantly changing weather – daily rain, snow and winds of 20–30 m/s. The Spiderbeam wouldn't survive that so I had to operate with the vertical only. I went on a short island tour and took some photos. Due to continued bad weather the scientists also suspended their work so I could resume my transmitting.



*Sightseeing Marion Island and Agulhas II in background*



The following days passed in a routine. At the base the food was prepared by professional chefs. Meals were served buffet-style and the food was delicious.

On Friday May 9, a ceremonial event was held. The overwintering team handed over their duties to the new team. Official part was continued by a festive dinner.

I operated on 80 and 160 meters for two nights, but then problems began – the wind changed the SWR, and the amplifier’s protection system shut it down. I tried retuning often, but it didn’t help. The antenna controller was damaged and could no longer tune the antenna for the necessary bands. As a result, only 477 QSOs on 160m and 1200 on 80m were made. Many correspondents – especially from NA couldn’t make contact.

The expedition leadership informed me that by May 12 my antennas had to be packed into the container and I started packing the antenna bags in the morning. Only the EFHW antenna and an FT-891 transceiver remained.



*With friends on Marion Island*



*Seals on Marion Island (photos by friend from SANAP)*



The next day, after breakfast I cleaned up the room and packed my hand luggage. After lunch, we waited for a helicopter flight to the ship. Once again, weather conditions were not favorable but the weather improved shortly before sunset. That day the helicopter took the first 40 expedition members to the ship and the rest stayed overnight at the base, awaiting the next day when the rest of the expedition members and the remaining cargo containers were transported to the ship. On Wednesday evening, May 14, the ship departed. We spent five days at sea and I had a comfortable single cabin. After 8 PM, it was possible to go to the bar and enjoy a glass of wine and chat with friends. The ship was scheduled to reach Durban on May 20, where it would be open to the public – students and locals – to learn about the research vessel SA Agulhas II.

73, *Juris /Yuris /YL2GM*

Operating Time  
Operating Time

First QSO: 2025-04-27 12:52:00  
Last QSO: 2025-05-13 09:42:00  
Number of days: 15.87

Number of QSOs  
Number of QSOs

Total QSOs: 31,672  
Unique Calls: 9,840  
Duplicate QSOs: 2,600 (8.21%)

Band/Mode breakdown

Band	FT8	CW	SSB	Total	Total %
160	477	0	0	477	1.5%
80	1206	0	0	1206	3.8%
40	4609	1266	0	5875	18.5%
30	5219	1	0	5220	16.5%
20	4360	955	2	5317	16.8%
17	3441	0	0	3441	10.9%
15	2895	1276	49	4220	13.3%
12	1686	0	0	1686	5.3%
10	3486	744	0	4230	13.4%
<b>Totals</b>	<b>27379</b>	<b>4242</b>	<b>51</b>	<b>31672</b>	

DXCC by Band/Mode breakdown

	FT8	CW	SSB	Total
160	48	0	0	48
80	65	0	0	65
40	97	60	0	98
30	86	1	0	86
20	92	60	2	97
17	87	0	0	87
15	83	71	15	93
12	67	0	0	67
10	88	61	0	92
<b>Totals</b>	<b>126</b>	<b>91</b>	<b>17</b>	<b>130</b>



# Morse Runner Practice File Creation

*Reprinted with Permission by the Tennessee Contest Group*

*By Jim— AD4EB*

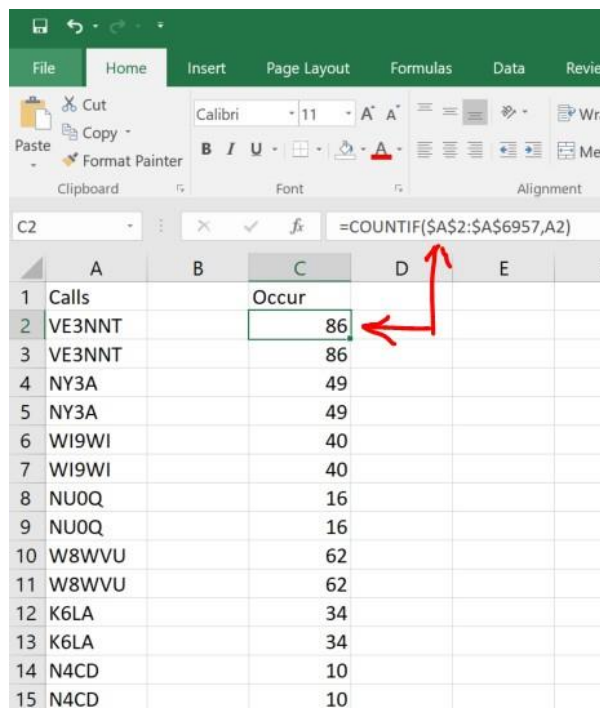
One of the ways I prepare for operating mobile in state QSO parties is by using VE3NEA's Morse Runner contest simulator. Before this year's 2024 FQP, I practiced daily for 5-6 weeks to prepare for the large pileups anticipated. This write-up describes how this was done.

I have found the key to getting higher rates is to be able to pick out callsigns the very first time they are heard. And in big pileups, you often only hear partial callsigns. So I use the simulator to practice pileups containing only callsigns that are expected to be heard in a particular contest. The top 200 most anticipated callsigns were used during the 2024 FQP practice sessions, and the hope was to learn them all by their partial characters.

Morse Runner uses Super Check Partial database files of the master.dta file format. The file resides in the Morse Runner root directory, and must be named master.dat. The remainder of this write-up describes one of the ways to create custom master.dat containing the desired practice callsigns.

The way I do it uses Excel and MEdit.exe like so:

- 1) Copy the desired cabrillo logs into Excel as one long list of callsigns (delete all but the actual callsigns).
- 2) Find the number of occurrences of each callsign using the Excel COUNTIF function. There are good YouTube videos on how to do this:



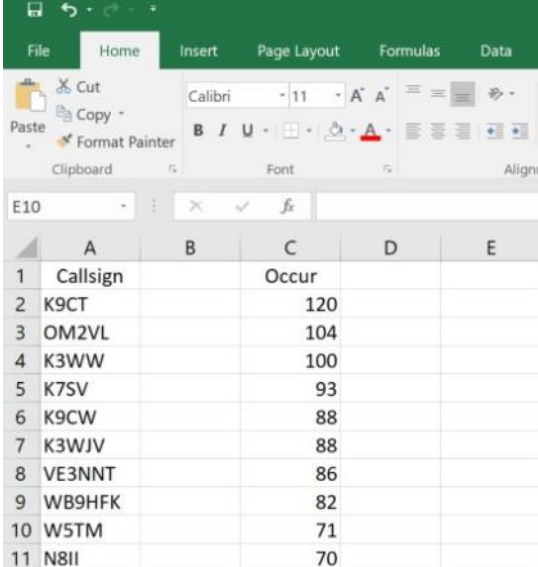
	A	B	C	D	E	F
1	Calls		Occur			
2	VE3NNT		86			
3	VE3NNT		86			
4	NY3A		49			
5	NY3A		49			
6	WI9WI		40			
7	WI9WI		40			
8	NU0Q		16			
9	NU0Q		16			
10	W8WVU		62			
11	W8WVU		62			
12	K6LA		34			
13	K6LA		34			
14	N4CD		10			
15	N4CD		10			



## MorseRunner (cont.)

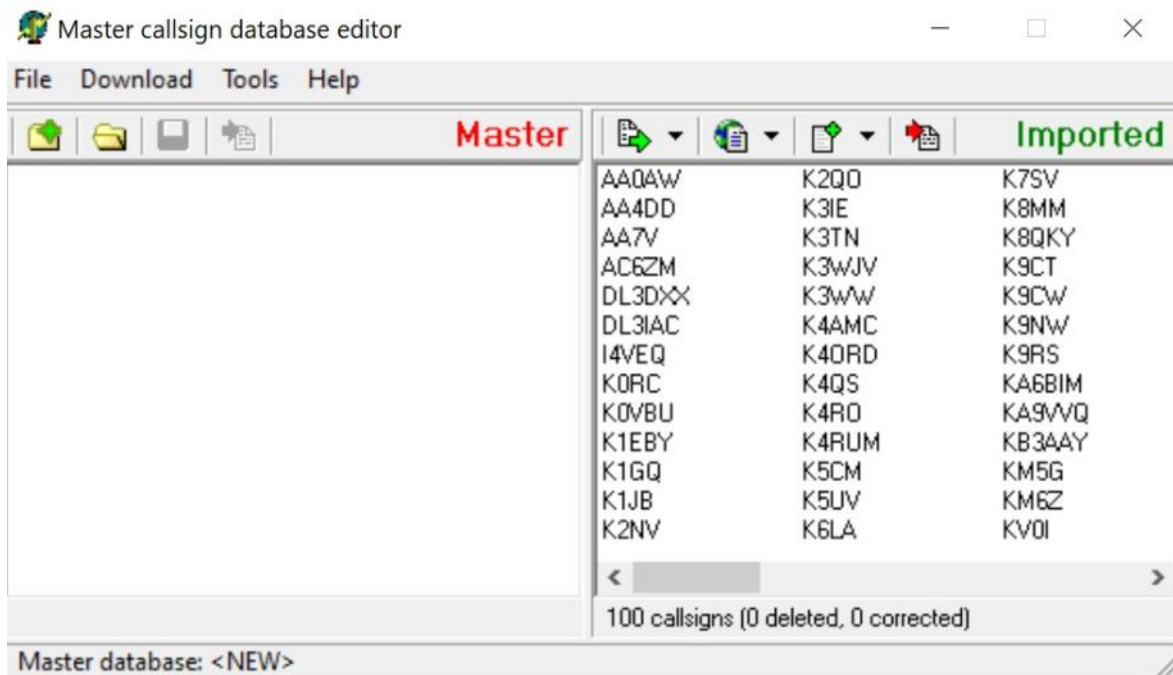
3) Use Excel to eliminate duplicates, then sort by number of occurrences:

4) Decide how many and which callsigns you want to practice with. I start out by taking the top 25, then the next 25, etc. Then go with larger groups as the callsigns and partials are memorized. Copy the group into notepad and save as a .txt text file.



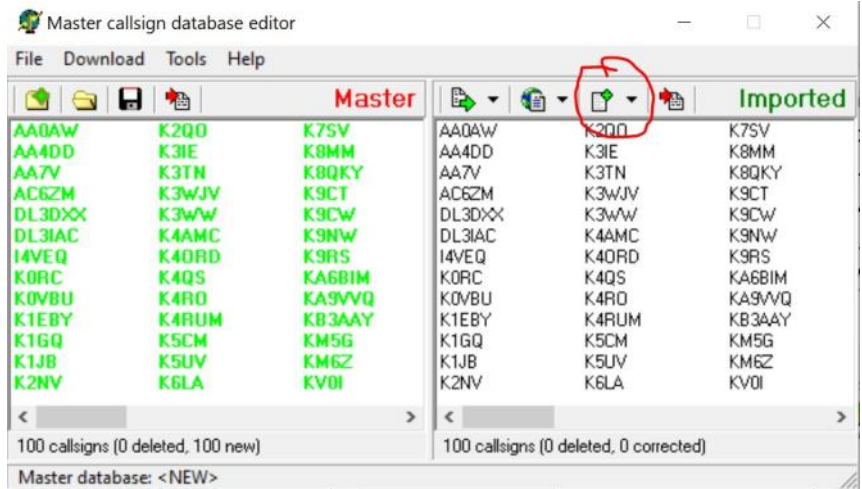
	A	B	C	D	E
1	Callsign		Occur		
2	K9CT		120		
3	OM2VL		104		
4	K3WW		100		
5	K7SV		93		
6	K9CW		88		
7	K3WJV		88		
8	VE3NNT		86		
9	WB9HFK		82		
10	W5TM		71		
11	N8II		70		

5) Now we need to convert the text file(s) into .dta Super Check Partial files. This can be done using a program called the “Master.dta Editor,” which is another VE3NEA program. Download from his website and import in the .txt file from step 4:



## MorseRunner (cont.)

6) Convert or add the callsigns to the Master Window (green):



7) Finally replace the existing Morse Runner master.dta file with the newly created one. Note that for the new file to be used, you must shut-down and restart Morse Runner.



When I practice with Morse Runner, I set my Call to 'E' (saves time), Speed 45 wpm, Activity 7, and duration 30 mins. Use whatever setting you are comfortable with.

— 73 Brad WF7T



# Breaking a Pileup

## The Key to Breaking a Pileup: Listen and Learn - Before You Call

By HK3C— John ([www.hk3c.ca](http://www.hk3c.ca))

*John sent this to me and I thought it was a great refresher. If you have heard John, you know that he is a world class operator with some of the best audio on the air.*

### First: You Have to Hear Them

Before calling, you must be able to hear the DX station - and hear them clearly enough to understand exactly what they're doing. If you can't hear them well, there's no point in calling.

Once you can copy the DX station reliably, your next job is to figure out where they are listening. If they're operating simplex, this is straightforward. But for most pileups of any size, they'll be operating split.

Fortunately, many modern transceivers allow for simultaneous reception on two frequencies. Use this feature to your advantage: listen on the DX's transmit frequency and try to find the station they're working on their receive frequency.

Propagation might prevent you from hearing the station being worked. If so, be patient and keep listening. You'll eventually discover whether the DX operator is staying on one frequency or tuning around in the pileup. Ideally, when you call, you should be on the exact frequency the DX station last used to receive— Only Then Should You Call

Also, if you need to tune up your amplifier, do it somewhere else - away from the DX station's frequency.

### Keep Calls Short

When it's time to call, give your full call sign once - then stop and listen again. If necessary, repeat the process a few times. Once the DX comes back to someone, there's no point continuing to call - unless that someone is you.

And even while calling, keep listening.

Ask yourself:

- who is the DX working? Are they focusing on stations in your region or another continent?



## Breaking a Pileup (cont.)

- are they responding to the strongest signals, the earliest callers, or those who call just as the pileup dies down?
- are tail-enders being worked - or ignored?
- observe the DX operator's pattern and use that information to fine-tune your call timing and placement.

### Be Patient

Pileups can be unpredictable and chaotic. But if you keep listening carefully and call strategically, you'll likely get through. It may take one call, or it might take 30 minutes. Don't get discouraged.

Sometimes the DX will get away. Propagation may shift, the operator may change bands or modes, or they might QRT altogether. That's beyond your control - don't let it affect your focus or discipline.

Good listening makes a big difference. It tells you where to transmit, and when.

### Get the Rhythm

Listen to understand the rhythm of exchanges and what information is being passed. Is the DX station giving just a call sign and a "5-9" report? Or are names and locations being exchanged?

Match the format. If the DX is keeping it short and simple, don't throw in your QTH or name. Stay in sync.

Pay attention to clues. Is the DX working by the numbers or regions? Are there noticeable QSB patterns in propagation? You may be able to time your call to coincide with a signal peak.

Over time, careful listening will teach you about global propagation - not just between you and the DX station, but also how signals travel to other parts of the world.

*You'll also hear good (and bad) operating practices. Learn from both - but don't imitate the bad ones.*



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More information can be found by emailing the  
**thedxmentor@gmail.com**



## Breaking a Pileup (cont.)

### Phonetics and Timing

Listen to how other operators call. Some have a polished style that gets results; others struggle. Learn from the difference.

Tail-ending - inserting your call just as the current contact is wrapping up - can be effective. But use caution: it can also be seen as rude, and it can cause QRM. Know your audience - some DX operators dislike this tactic.

Sometimes, calling right after the DX station stops transmitting is effective. Other times, it's better to wait until the pileup dies down, then call just before the DX responds. Again, careful listening will reveal the DX station's habits.

"Big gun" stations with high power and big antennas often dominate. But if you're a "little pistol" running 100 watts to a wire, smart timing can help level the playing field.

Try different approaches:

- call once and wait.
- call once, pause a few seconds, then call again.
- never call continuously - you'll just become a nuisance. Especially avoid calling over the DX station or when they're responding to someone else.
- watch the timing and pace of each exchange. That's often the key to success.

If the DX station says, "The India Tango station," and that's you, respond with your full call. But don't jump in if it's only a partial match - others may have a similar suffix.

If the DX asks for "the Papa Zulu station" and no one answers, you may feel tempted to throw in your call after a pause. That's a gamble - you're sticking your foot in the door. It might open... or slam shut.

### When All Else Fails

Sometimes pileups get out of hand. When that happens, DX operators may start working by the numbers, by country, or by zone. Be aware that some DX stations don't operate split even when they should - either due to inexperience or lack of equipment. Regardless, always remember: The DX station is the boss of the pileup. They run it however they choose. Good hunting - and good listening!





# 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/sponsoredxpditions.html>

### 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: Bert Benjaminson, WBØN, President & Director, [wb0n@yahoo.com](mailto:wb0n@yahoo.com), Vice President & Director, Tom Weigel, AB0J, Secretary/Treasurer & Director, Pat Cain, [k0pc@arri.net](mailto:k0pc@arri.net), Mike Cizek, WØVTT, Director & DX Grant Manager and John Rusciano, NG0Z, Director.

### Website:

We maintain a website at [www.TCDXA.org](http://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](http://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
S9OK	3DAØRRU	7P8RU	VU4W	CY0S	ZL7/K5WE
TN8K	3B7M	FT8WW	TX5S	VU7W	3Y0J

## 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, Mike Cizek, WØVTT. 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

DXpedition destination	Website with logos of club sponsors
Ranking on <i>Most Wanted Survey</i>	QSLs with logos of club sponsors
Most wanted ranking by TCDXA Members	Online logs and pilot stations
Logistics and transportation costs	Up front cost to each operator
Number of operators and their credentials	Support by NCDXF & other clubs
Number of stations on the air	LoTW log submissions
Bands, modes and duration of operation	Previous operations by same group
Equipment: antennas, radios, amps, etc.	Valid license and DXCC approval
Stateside and/or foreign QSL manager	Donation address: USA and/or foreign

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

