

TCDXA

TWIN CITY DX ASSOCIATION



Minnesota

Newsletter of the
Twin City DX Association

www.tcdxa.org

Volume 8, Issue 1

February, 2011



Inside this issue:

Member News 5

Member Profile 7
NXØX

Electronix 10
Servicing

2010 DXCC
Year End Review 12
by WIJR

KFØQR
Monopole Project 15

WØAIH Farm
Goes Green 20

Gray Line Staff

KØIEA
KØJUH
WØBV

The GRAY LINE REPORT

DXing from Minnesota - Land of 10,000 Lakes

SOUTH ORKNEY ISLANDS JAN-FEB 2011 DXPEDITION



Ralph, **KØIR** with a party of residents in tuxedos on an iceberg in the background.

Sunrise: February 13, 2011

I am awakened by the sound of the clanking and unreeling of anchor chain of the Braveheart. We have just completed our return trip across the Drake Passage and are anchoring in a sheltered bay at the southern tip of Argentina, just north and east of Cape Horn. We will hold here in quiet waters until our appointed time to enter the Beagle Channel and berth our ship in Ushuaia, Argentina on February 16th.

The Drake Passage has been unusually kind to us, both on our crossing to the South Orkneys and on our return trip. That is, until this morning, when 60 knot winds roared into the bow and port side of the ship. But now at anchor, everything is quiet and there is time to reflect.

Disasters, violent weather, personal hardship, and stories of personal trauma make for good reading. However, I have none of these to relate to you. We were



Departing Ushuaia, Argentina aboard the MV Braveheart

prepared for all of these things, but Mother Nature smiled down on us, and did not deal us these hands. We were fortunate. But then, luck favors the prepared.

The landing site we selected on Signy Island in the South Orkneys was Waterpipe Beach. After finding an anchorage a quarter mile off the beach, a zodiac trip to the shore, and a leap onto some large boulders, we were ashore and on schedule. The rocks were slick from algae growth but no one fell or slipped as life support and basic infrastructure items were hauled ashore. We inspected our proposed camp area



Landing on Signy Island in the South Orkney Island group.

and found it to be wet and oozy from a mixture of run off water and seal excrement. Multiple paths for the seals to access the sea converged on the area. It was not a good site so we looked further and found a flat plateau about 150 yards further inland. It would do nicely.

Over the next two days, equipment continued to be ferried ashore and we fashioned a ladder to climb the rocks more safely. A team began constructing the shelters, everyone helped lug gear from the shore to our campsite, and an antenna team began erecting our antennas and stringing our coax runs.



Setting up the VP8ORK camp.

One by one, DX Engineering verticals for 40 through 10 meters, a Spiderbeam push-up mast for 80 meters, a SteppIR vertical and the Battlecreek Special appeared on the horizon. K3 transceivers and laptops were placed on our operating tables, generators were fueled, power lines were run and basic cooking equipment was installed. The generators were started and lights appeared in the shelters. After two days of hard labor, VP8ORK was ready to come on the air and over the next twelve days the DX world would judge our efforts.

I had the opportunity to operate on all the bands and operated over 90% CW with the remainder of my time on RTTY and SSB. During my operating time, European signals dominated the bands, and I found signals from all parts of the world were often distorted. This, combined





Antenna construction - **EY8MM** (l) and **9V1YC** (r).

with very rapid QSB made capturing calls difficult and high rates hard to maintain. My teammates reported similar conditions. Mountains to the east of our camp also compromised our paths to both Europe and North America.

Stepping out of our shelters treated us to a panorama of snow covered mountains, glaciers, and icebergs strewn in the bay. The barking, grunting and pining of the seals was at times like a symphony and at times, especially at night, haunting and of another world. Looking out into the bay one could imagine the early Antarctic explorers looking ashore, the sealer's lusting after their newfound bounty, and whaling ships waiting to take on fresh water from Pumphouse Lake. Now we were part of that legacy.



Our campsite after construction was completed.

We settled into a routine of operating and sleeping, punctuated by antenna repair and re-supply chores. Regular zodiac runs moved teams between the camp and the ship. Overcast skies, gusty winds, and episodic rain, sleet and snow were as we expected and typical of the Antarctic this time of year. There were no major storms or excessive winds.

Several of us went for hikes past inland lakes, glaciers, and the ever present Antarctic fur seals, numbering in the thousands. The seals were curious about these new creatures wandering among them. The elder, battle-wise, males ignored us. The younger males, feeling they had to prove themselves, challenged us with open jaws and snarls while moving aggressively toward us. While quite agile on their flippers, we could easily outrun them.



The view from the VP8ORK camp.

We departed as we had arrived, loading zodiacs among the rocks along the beach. We swept our old campsite with two grid searches, picking up every bit of debris we could find. Satisfied, we left the site as we found it with no trace of our ever having been there.

Now, here at anchor, I can reconstruct the memories of this DXpedition. I smile at the thrill I felt in working fellow members of the TCDXA. I worked a station on 80 that I know runs low power and small antennas – this felt good. The stream of stations from Italy, Ukraine, and Poland seemed never ending; I hope they are there for the next DX Contest.



My teammate, **EY8MM**, spearheaded our 160 meter effort, resulting in 1906 QSOs on top band. The JA window on 80 was narrow, but a few made it through, and I was happy to hand out some of those QSOs. Ten and twelve meter propagation was like a small diameter spotlight sweeping across the east coast and then into 8-land, 9-land, and struggling to sustain itself as it moved reluctantly into Minnesota.



Nodir, EY8MM on 160.

We will rest now, reflect on our 64,173 QSOs, and have a few beers. Then, my teammates and I will move on. We will go our separate ways once we reach Buenos Aires, knowing we can never reconstruct this experience and bonds that are formed on trips like this, but each of us will feel satisfied with the effort our team put forth and each of us will treasure the memories and relive the experience again and again.

de Ralph, KØIR

Photos courtesy of KØIR and VP8O.com.



VKØIR “graduates.”

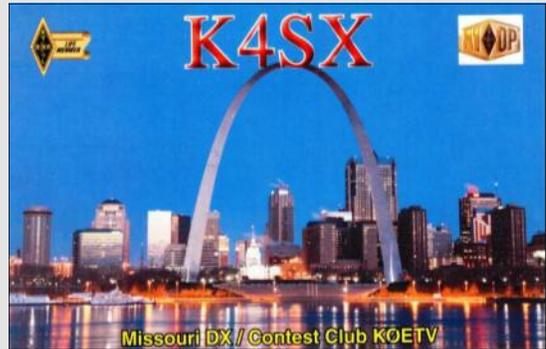


Member News

A BIG Welcome to Our Newest Members!



Shari Bird, Duluth, MN



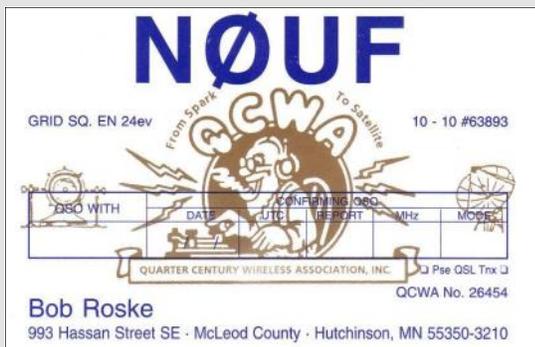
Ron Lowrance, Wright City, MO



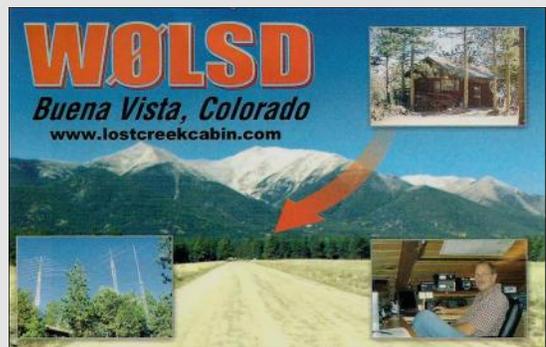
Steve Boller, Tonka Bay, MN



Roger Roth, Maple Grove, MN



Bob Roske, Hutchinson, MN



Ken Eigsti, Buena Vista, CO

Paul Staupé, WØAD
Eden Prairie, MN



Member News

Lunch at Carol's

Carol's restaurant in Blaine is getting to be a popular spot for TCDXA members who never turn down an opportunity to have lunch and guard against weight loss. On Wednesday, January 26, the group once again got together to enjoy some good food and conversation.

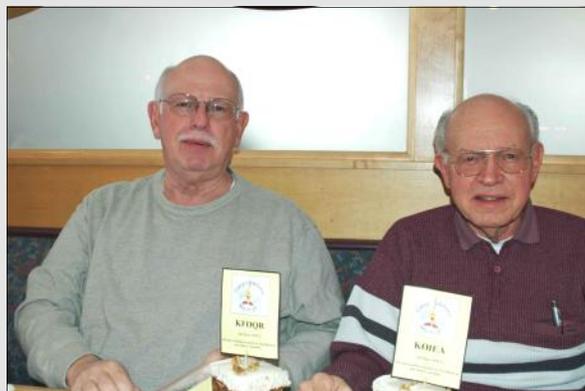
Dave, **KØIEA**, and Dennis, **KFØQR** were presented with a special Carrot Cake award for working DXCC, (100+ entities) on 160 meters during their first year on the band. As we all know, this is a MAJOR accomplishment from our part of the world.

The highlight of the lunch was Gary, **KCØSB**, joining the group for the first time since recovering from a ruptured aortic aneurysm. After a two month stay at Regions Hospital, he's back home and on the road to a full recovery. The exciting news for Gary is his major organs are all functioning normally again, and there is no sign that the trauma caused any permanent damage. He's completed his at-home physical therapy program and has been told he can return to normal activities. This includes golf, as soon as the snow banks disappear.

During lunch, he met for the first time Gary, **KOØQ**, the new TCDXA Secretary-Treasurer, who had a similar experience several years ago, and also made a full recovery.

In attendance:

Tom, **WØZR**
Don, **WØDJC**
Bill, **KØKO**
Ron, **NØAT**
Larry, **WØPR**
Bob, **WØBV**
Dave, **KØIEA**
Dennis, **KFØQR**
Gary, **WØAW**
Gary, **KOØQ**
Gary, **KCØSB**
Jim, **KØJUH**



Dennis, **KFØQR** (L) and Dave, **KØIEA** (R) are honored with a super-sized slice of Carol's famous carrot cake to recognize their amazing achievement of 160m DXCC in a single season from the Upper Midwest.



Gary, **KCØSB** (L) and Gary, **KOØQ** (R) compare their stories of survival from a ruptured aortic aneurysm.



T
C
D
X
A

M
e
m
b
e
r
P
r
o
f
i
l
e



**Brian
Bird**

NXØX

Hello from Duluth, MN. My name is Brian Bird. I am very excited to be a new member of the TCDXA.

I grew up in Duluth, MN where I have lived the majority of my life. Amateur radio was introduced to me when I was very young by my Dad who had been a ham since the early seventies as **WBØSXH**. I was always fascinated seeing the different QSL cards that came in the mail. But, I never really gave the hobby a thought, because it seemed no one from my generation was involved with a hobby like that at the time.

In 1993, a co-worker of mine was selling a YAESU FT-757 HF rig. This got us talking about amateur radio. During that conversation, I was surprised to learn that I actually worked with a couple of licensed ham operators. Since these guys were more my age and familiar with the hobby, I thought this would be the perfect time to get my amateur radio license. A couple months later, I successfully passed the license exam and was issued the call, **NØYTZ**. I needed a radio, so I bought that YAESU my co-worker was selling. During my first year of operating, I only worked 40 meter CW, as that was the only band I could tune with the wire I had strung up in the trees. I enjoyed CW very much. In that first year, I operated in the Novice Roundup, and won first place from Minnesota. I was hooked!

With all the code I was doing, and coming fresh out of the Novice Roundup contest, I passed my 20WPM code test. I was pretty thrilled about that at the time, thinking that maybe I do have a knack for CW operating. In the next couple of exam sessions, I passed the General, Advanced, and Extra Class written tests. I was then issued **AAØSY** in 1994. By this time, I thought, if I can get my wife interested in the hobby, it would be easier buying new gear for the “both of us.” Surprisingly, she actually went for it. My wife, Shari, was issued **KBØMHH**.

Since Shari and I were now both licensed ham operators, we needed to buy some radio gear. The first thing “we” did was upgrade our antenna. I ended up purchasing a multiband vertical, along with a Kenwood TS-450 ra-



Brian, **NXØX** and Shari, **KBØMHH**.



dio. The vertical really opened up a lot more frequencies for us. My wife was not interested in CW, so we bought her a microphone. You know the saying “be careful what you wish for?” Now, I could hardly get on the radio because my wife was on it. To get in my share of operating, I decided to join her chasing states and new countries on SSB. However, with our modest antenna system, DXing was tough. So, we settled on chasing U.S. counties instead. We still got the thrill of the hunt, but this chase was more realistic for our small setup.

In the late nineties, it was time for a move, and we became inactive for several years. After selling, building, and moving into our new home, it took quite some time to get back on the air. In 1999, I received the vanity call, **NXØX**. I became interested in collecting and operating the older Drake tube era radios. I have collected most of the gear from the Drake 1A receiver to the Drake TR-6 six-meter rig. (If anyone knows of a Drake 1A speaker available, that is the only piece I am missing for my collection.)

My current station is the Kenwood TS-950SDX and an Alpha 87A amplifier, combined with several station accessories. My antenna is a Mosley TA-33 beam with the 30-meter kit at sixty-feet for 10 through 30 meters. For 40 through 160 meters, I use the Hy-Gain HyTower vertical with the 160-meter kit. My next antenna project is to put up a beverage antenna for the low bands. Once I was back on the air, the first goal was to finish working all

the U.S. counties. In 2004, I completed working all 3077 U.S. counties on SSB. I am still trying to work them all on CW. Currently, I have worked 2055 counties and still actively working on achieving that award. After Shari finished working all the U.S. counties in 2005, we began to seek new challenges. We are now trying to work 5BWAS and more new DX entities. Right now, I only need Delaware on 15 meters to finish 5BWAS.

Today, Shari and I enjoy chasing DX countries and making those odd contacts to complete some of the awards such as 5BDXCC, WAZ, etc. Currently, I am at 212 DX entities worked with 194 confirmed. My short-term goal is to have 200 confirmed by the time of the Dayton Hamvention in May. Shari is currently at 165 entities worked with 140 confirmed. Her goal is to have 150 confirmed by the same time.

And now, a few words about my family. My wife, Shari – **KBØMHH**, is an office manager at Slumberland Furniture. We have two children. Ashley, 19, is also a licensed ham radio operator with the call sign **KØUMD**. She was licensed back in 2002 at just 11 years old. She is currently attending the University of Minnesota Duluth, with a major in Cell and Molecular Biology and a minor in Chemistry. She plans to continue, and to pursue a doctorate degree of Pharmacy. Megan, 17, is our youngest daughter. She has no interest in ham radio. She is a junior in high school, and has plans to go into the nursing field someday.



Maintenance on the TA-33



Shari, Ashley, **KØUMD** and Brian.





Boeing 737 cockpit.

I am only around the house a couple of days per week to play on “the radio.” I fly for Southwest Airlines as a Captain on the Boeing 737, based out of Chicago. This is the reason one of my QSL cards is a SWA 737 taking off out of Orange County airport, near Los Angeles. Sometimes when I come home after being away for work, Shari will say, “I worked some rare DX this week.” As I’m writing this, Ralph **KØIR** and crew are putting **VP8ORK** on the air. I only have this weekend at home to see if I can log them for a new one. I know what I’ll be doing this weekend!



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.



Minnesota's only Full Service
Amateur Radio Dealer.
We offer sales and service on
**ALINCO, ICOM, KENWOOD,
TYT, WOUXUN and YAESU.**

www.Radioinc.com
1-800-426-2891

2663 County Road I
Mounds View, MN 55112
(763) 786-4475 Fax (763) 786-6513
sales@radioinc.com

ELECTRONIX SERVICING
6028 Candlewood Drive
Brooklyn Park, MN 55443

Gary Grivna **KØGX**
763-561-2836
grivn001@umn.edu
Computer Sales-Repairs-Upgrades
Amateur Radio Repair All Brands
Audio Video Electronic Repair



ELECTRONIX SERVICING

by Dave Wester, KØIEA

Owned and operated by Gary Grivna, **KØGX**, Electronix Servicing has been in business since 1976. Gary does computer consulting, sales and repair, in addition to repairing all types of consumer electronics, including amateur radio gear.

How did Gary get started in this business? Gary received his initial electronics training at NEI in 1968. While attending school, he worked for Stark Electronics, where he did factory warranty work for Dumont/Emerson. He moved on to full-time employment at Nortronics, where he installed and aligned tape heads for radio and TV stations. At Nortronics, Gary also built automatic test equipment.

His next employment was with T.L. Systems, where he built serum bottling machines for the medical industry. More expertise was gained when he went to work for Audio Design in Minnetonka, doing all of their service work.

With all this experience, Gary decided to start his own business in 1976. Electronix Servicing got off to a good start by receiving a Sylvania franchise. Then, in 1979, he made the big transition into computers by picking up the Benson Optical account, where he serviced all of their computers. Incidentally, it was there that he met Bob Shaw, **WØIM (SK)**, who was doing all of Benson's computer programming. Gary's next customer was the West Tonka public schools, where he did all of their computer repairs. And would you believe, Gary also did all the T.V. repairs for the Sunshine Factory?!



Okay, why am I telling you this story? Because I believe, with Electronix Servicing, the TCDXA has a real resource to turn to for computer sales and service, consumer electronics repairs and amateur radio equipment repairs at reasonable rates. Do you live out of town? Gary services radios sent from all over North America.

Four of us took our Yaesu MK Vs to Gary to have our INRAD roofing filters installed. The filter does what I want it to do. With the NB engaged, I no longer hear the hissing on CW from strong stations up or down the band. The filter's bandwidth is 4 kHz.

I admit it; I'm an "appliance operator." And, I wasn't willing to risk trying to install the roofing filter and zapping a PC board with a static charge or making a slip with the soldering iron and ruining a printed circuit. Appliance operators need someone like Gary to turn to when our electronic devices start malfunctioning.

73 de Dave, KØIEA



Gary installs roofing filters in our Yaesu Mark Vs, while Dennis, **KØQR**, intently looks on.



Performance on each band was checked, using Gary's IFR-Com 120B high-end circuit analysis equipment.





Announcing WØDXCC 2011

July 23, 2011

Riverfront Community Center
Leavenworth, KS

Hosted by the Kansas City DX Club

Sponsored by the Missouri DX/Contest Club and the Lebanon, MO ARC

- ♦ World-famous KCDXC CW Pile-up Contest with prizes!
- ♦ The latest in DX, Contesting and Antenna Forums, featuring K4UEE, W8JI, K4SV, KØBJ, KØCA, K9LA, WØAIH, K5GO, N5DX, K5UR, NØJK
- ♦ DXCC card checking, including 160m and deleted countries
- ♦ Famous Kansas City BBQ Buffet Banquet with special guest speakers
 - ♦ ARRL booth and club representatives
- ♦ Local vendors including Associated Radio; NØTT QSL Cards
- ♦ Radio and Antenna manufacturers, including Icom, Yaesu, Alpha, Force 12 and others—latest equipment on display.
- ♦ Many area points of interest to visit for family fun

See us at <http://www.w0dxcc.com/>



2010 DXCC Year End Review

by Joe Reisert, W1JR

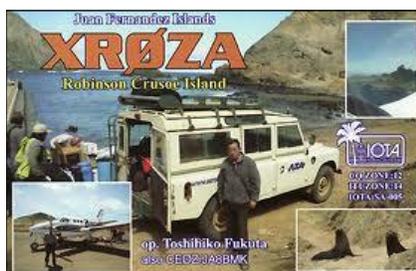
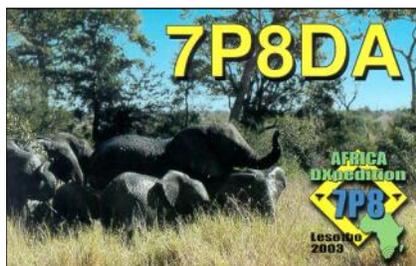


An Overview

DX wise, the year 2010 started out as a year of great expectations but was very similar to what we experienced in 2007 through 2009 with only a few improvements in radio propagation. There were approximately 285 DXCC entities activated during 2010, about the same as 2009 but this also includes four (4) newly created entities. I'd call this the "Year of the Caribbean," not only because of the four new entities but that many more DXers were visiting the Caribbean Islands and making all these entities available to "The Deserving."

DX Operations

There was a major DX item of interest in 2010. An agreement was established to allow limited operations from some of the restricted access US Possessions in the Pacific area. However, they must conform to special regulations and will probably not be activated more often than once every five (5) years. The first one to be activated will probably be KH5 Jarvis, but not until November 2011. Several large scale DXpeditions were activated, although some were not successful for one reason or another. Hopefully, they will be rescheduled. Still no word on Navassa, but I'm sure that will eventually happen.



The 2010 DX Review

The following is a brief summary of monthly activity during 2010. Emphasis will be on rare to semi-rare operations and DXpeditions, especially where no resident amateurs are active.

January is still a tough month for DXers, but this year was helped by the solar flux being above 90 at the start of the year. A very active DXer could have worked 100 entities over the long New Years Day weekend. There were at least 230 entities activated during January; about ten or so more than in 2009. Activity from semi-rare entities was helped by the unfortunate earthquake in Haiti, with HH2/HB9AMO on the scene. Other semi-rare operations were: C56SMT, EL8RI, SV2ASP/A, C21DL, 7P8BA, T32BJ, TLØA, DT8A (S. Shetlands), TX3D (Austral), YJØNA and XRØZA to name a few. A well-equipped DXer could have worked at least 200 entities in January.

February was also a very good month for DXers, with 160 meters still yielding some very good DX and 17 meters improving.

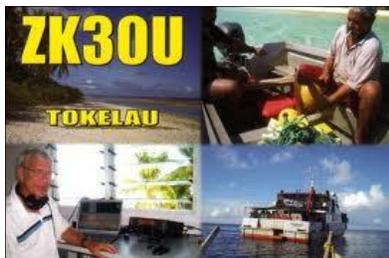
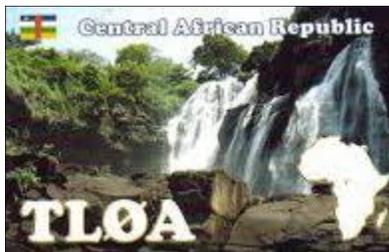
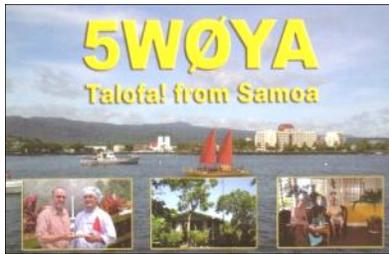


During mid-February, HF conditions really improved. C21DL, DT8A, TX3D and XRØZA were still active. They were joined by 9X and 9U operations, 5WØYA/OU, E51WWB (N. Cook), H4ØFN, H44MS, J5NAR/UAP, VP6AL and VK9X/G6AY.

March propagation seemed to improve with some openings on 12 and 10 meters. 3B9WR, 4U1UN, 9QØAR, A33A, CE0Y/LA9SN, HC8GR, S79GM, TZ6TR, VK9C/NL8F, XT2KY and ZK3OU/YA were all very active. One of the longest and most productive IOTA (Islands on the Air) DXpeditions started. Using several different T32 callsigns (to identify the different islands), they operated from Malden, Caroline, Vostok/Flint, and Starbuck Islands. No known amateur activity had ever taken place from these widely separated islands. They sailed several weeks, covering over 2,000 total miles and made over 34,000 QSOs.

April saw a large DXpedition operating as YI9PSE activating all HF bands and modes making over 50,000 QSOs. This was followed by operations from FW5X, SV2ASP/A (on CW and RTTY), TN5SN, T2A, TT8PK and ZL7J.

May had its ups and downs. TLØA was activated on CW and RTTY by visitors F6EXV and DJ8NK, respectively. A DXpedition also put on an all band and mode effort from E4X, starting at the end of the month,



and made over 80,000 QSOs. They caught an unusually long distance, late in the evening, sporadic E opening to the East Coast of the USA on 6 meters and worked many mid-Atlantic stations. E4X may have set an all-time record for a DXpedition, by working over 6,500 QSOs on 6 meters. VK9LL activated Lord Howe Island. KP4AO, using the 1000 foot dish antenna at Arecibo, Puerto Rico, worked over 240 stations on 432 MHz EME, a distance of about 250,000 miles!

DX wise, June was also a very productive month. EA5BYP organized a DXpedition to 3C9B and 3CØC, although the later operation was mysteriously cut short after about 11,500 QSOs and no 160 meter operations. T3ØXG, FJ/DL1DA and OJØA followed.

July saw activity by FP/K9OT, OJØA, 9Q5ØON, XT2EME (mostly VHF EME), FWs, 9XØTL, 5V7DX and XW1B. As usual, August was very quiet except for YJØVK and XT2EME.

September came alive, as usual. Notable activity was from Pierre, ZS8M, one of the Top-Ten needed, using only SSB on several bands. He is antenna challenged, so as not to affect the bird population. Also, a large construction project on Marion Island took Pierre off the air for some time, but he will make every effort to work the deserving until he is reassigned early next year. C91KNH, RI1FJ (FJL), YK1BA and FH8ND soon followed.



October will probably go down in the DX history books. Four new entities were added to the current DXCC list and activated, as mentioned earlier. All four of the new PJ entities came on after 0400 UTC on October 10th, the day of the change of government status of these Dutch islands. The four major DXpeditions coordinated their operations to spread out over the bands, so as to cause the least amount of QRM to each other. I'm told that it was well controlled, and over 100,000 QSOs were made in the first week of operation. Unfortunately for me, I had family business in Hawaii (sob), so I missed all the action, and have lots of catching up to do! Other notable operations in October were KG4AS, CEØY/DK7ZB, 5V7TT, TY1JB, ZD9AH, A25s, CYØ/VE1AWW (a resident worker on Sable I.), FP and 9X. The CQWW SSB DX contest experienced great propagation conditions to round out the month.

November saw operations from 5R8X, 9U, 9X, TJ3AY, 9L, TO3A (FJ), HKØGU (HKØS), 3DAØs, VKØKEV (Macquarie now in residence), ZK2A, ZD9T and ZD9AH, ZL7s and ZL8X. The latter made a great effort on all bands and modes, while making over 140,000 QSOs from this semi-rare entity.

December rounded out the year with operations by H4ØFN, J5V, S21YX,



VK9NN, ZL7s, a large scale DXpedition by 9Q5ØON and 5TØJL on New Years Eve.

And now the Drum Roll. Those entities that were NOT believed to have been active during 2010 are as follows:

Africa (17) - 3B6, 3X, 3Y/B, 5A, 5U, D6, E3, FR/G, FR/J, FR/T, FT/W, FT/X, FT/Z, SØ, S9, T5 and VKØ/H;

Antarctica (1) - 3YØ(Peter 1);

Asia (9) - 1S, 7O, BS7H, BV9P, EZ, P5, VU4, VU7 and XZ;

Europe (3) - 1AØ, JX and R1M (MV Island);

North America (7) - CY9, FO/C, KP1, KP5, TI9, XF4 and YVØ;

Oceania (13) - 3D2/C, FO/M, KH1, KH3, KH4, KH5, KH5K, KH7K, KH8S, T33, VK9/M, VP6/D and ZL9;

South America (6): CEØ/X, HK0/M, PYØ/S, PYØ/T, VP8/SG and VP8/Sand.

Please note that some rare entities may not be on this list. This is because some operations, however short, were conducted during 2010. Examples are FK8/C from Chesterfield and 3D2AA from Rotuma.

A list of DXCC entities that are believed to have not been activated in over six (6) years are: 7O, BV9P, CEØX, E3, FR/E, FR/T, FT/Z, HKØ/M, KH1, KH3, KH5K, KP1, P5, VKØ/H, VP8 (S. Sandwich) and ZL9. This shows that an avid DXer working hard at DXCC in the last



7-10 years could have been able to make the DXCC Honor Roll. This list also serves as a guide to those planning DXpeditions to rare entities.

Looking ahead to 2011

Solar Cycle 24 sunspots are increasing, albeit slow and sporadically. This will improve propagation on the higher HF bands. Look for the solar flux to go over 100 with low A (<20) and K (<3) indices. Solar wind speeds below 300 km per second and dynamic pressure less than 0.5 nPa as shown on NOAA Space Weather are also good indicators of improved HF propagation.

The possibility of new entities being added to the DXCC list still exists. Kosovo may finally obtain all the needed requirements for separate status. An election is scheduled for early January that could possibly change the status of the Southern Sudan region. If separation from Northern Sudan occurs, a new entity could be created. Also of note is that a recent Russian treaty took back possession of Malyj Vysotskij Island (4J1FS, etc.) from Finland, so this entity should soon be added to the deleted list.

January was an exciting month, with more sunspots and some rare entities such as 3B9, VK9X, VP8ORK and DXØDX (Spratly). These will hopefully be followed in later months by S9DX, VK9C, T3Ø, CYØ, T31, 3D2R, 3D2C and KH5 (Jarvis Island), to name a few. We hope that the excellent cooperation with the USFWS that permitted the recent operation from Desecheo and Midway Islands will help to open the door for operations from other entities such as Navassa Island, which has similar environmental restrictions. VKØ from Heard Island is also in the rumor mill for 2013. Others operations may be in the planning stages and not yet announced. 2011 should be an exciting year for DXers.

DX means many different things to many people. Some DXers are only interested in the ARRL DXCC Honor Roll, and soon run out of interest and challenges. Others pursue the never

ending ARRL Challenge competition. Some like to chase Islands for the IOTA (Islands on the Air) program by the RSGB. There are approximately 1200 IOTA Island Groups, and many have never been activated so there are lots of challenges. For the last several years, CQ Magazine has reinstated the year-long CQ DXCC Marathon to see who can work the most entities in each calendar year. This program has a few more challenges by also adding several entities recognized only by CQ Magazine, but not on the ARRL DXCC list, as well as working all 40 zones. And, there are the never-ending DX Contests. There are lots of things to do. Don't let the airways die for lack of activity. Stay active and join the fun.

Finally, all the opinions expressed are solely mine, as are any errors that I have made (I hope there aren't many). Best of DX to you in 2011, and here's hoping to see you in the pile-ups.

73 de Joe, W1JR

ed. - This article is reprinted with permission from The Daily DX.



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, or at <http://www.dailydx.com/trial.htm>.



An Appliance Operator's Approach to 160m and 75/80m via a Monopole Antenna

by Dennis Johnson, KFØQR

In the Beginning

Ahh, the war stories...pile-ups, weak signals, did I get 'em?, the 2m chatter, the one ringers, the constant static, the tuner uppers, missing that once in a lifetime opening! Who could resist the lure of 160m DXing? The line was cast, the bait was taken, and the hook was set deep...thus another fish was lured into the 160m maelstrom.

Goals and Planning

The goal of this project was to build a broadband antenna system for 160m, and to improve my existing 75/80m setup. After listening to fellow TCXDA members, and reading a few articles on 160m antennas, I decided on the monopole configuration for my Trylon Titan 80-foot self-supporting tower.

Unfortunately, for this would-be 160m DXer, the project had to start with the deconstruction of my old tower that was damaged in an ice storm several years ago. So, one of the items on my list of things to do was to take down the old tower, and replace it with another of the same type (which my insurance company was kind enough to pay for). The following tasks were required to complete the project and get on the air:

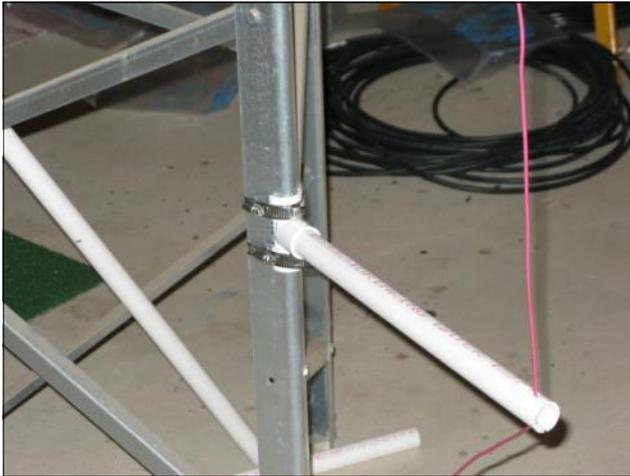
- ◆ Remove and Replace the existing damaged tower,
- ◆ Design/Build a spreader system for the monopole drop wires,
- ◆ Design/Build matching networks for 160m and 75/80m,
- ◆ Design/Build a Current Balun to keep RF out of the shack,
- ◆ Remove my narrow-banded 75/80m Butternut verticals,
- ◆ Install ground rods, radials, coax cable, rotor cable, matching network control cables, etc.

Construction and Installation

Spreader system for the monopole drop wires

The design for the spreader system was based on using six drop wires, instead of the two or three wire configurations that are typically used. This six-wire configuration was used with the idea that building a drop wire "cage" around the tower would increase the antenna's diameter, thereby maximizing bandwidth.





The use of insulated standoffs was mocked up on the tower's top section in my basement in early spring, with the final configuration being in the form of a "T" attached to each leg of the tower. Thanks to Jim, **KØJUH** for the "T" idea. (See page 5 of the November, 2010 issue of the *GrayLine*. [<link>](#)) This provided the re-

quired standoff distance of 1 to 2 feet (18" in my case) from the tower, and the spreading effect to space the six drop wires equidistant from each other to form the cage.

The spreaders were made from 1 ½" PVC pipe, and painted with Kilz brand PVC-compatible paint for UV protection. The spreaders were placed at the 75- and 40-foot levels of the tower, using large hose clamps. As seen in the photos, this maintains the "cage" shape from top to bottom of the tower, and keeps the drop wires from moving around in the wind.

Current Balun

The current balun design was found in an article on the internet by **AEIS** [<link>](#), and was built using a weather-tight box and #31 toroids. The toroids were part of a bulk purchase made by Tod, **KØTO**. The 8" x 8" x 4" weatherproof electrical junction box was purchased from the local Menards. I used 16 toroids, and wrapped the coax through as many times (six or seven) as would fit through the centers. The toroids cost \$4 each, and the weather-tight box cost \$19.

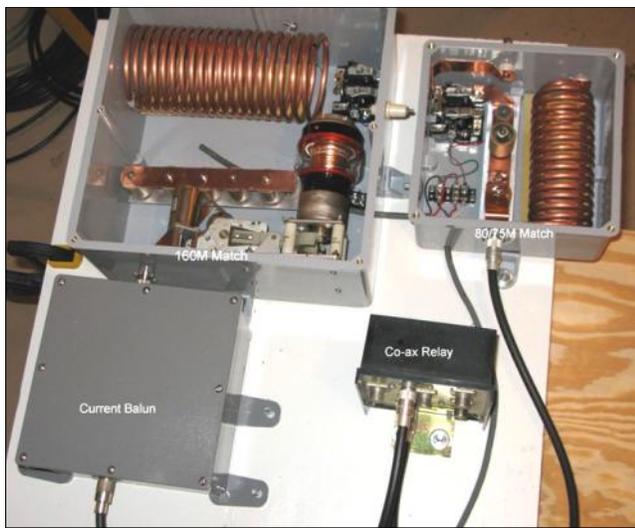


Matching Networks

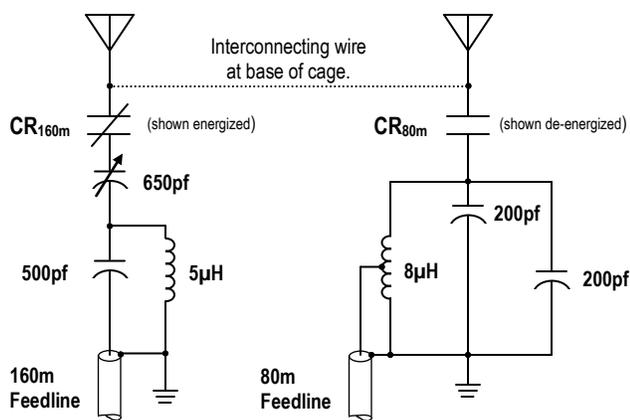
In my opinion, the matching networks are the heart of the whole project, and the most interesting and challenging to mock up and build.



As stated in the title of this article, I am basically an appliance operator (with an electronics and quality/reliability engineering background), and do not possess the expertise to design matching networks on my own. With the help of an article by **K9AY** (“Shunt Feed Secrets” Nov. 1993 *Low Band Monitor*) and advice from local TCDXA members, I proceeded to lay out and build the matching network boxes for 160 and 75/80m.



The 160m box uses a vacuum variable (\$45 used), and a homebrew inductor made from 1/4” soft copper tubing (\$29 per 25-ft roll), and various doorknob capacitors (\$15 ea.). All components were mounted in a 12” x 12” x 6” weathertight electrical junction box (Kraloy #JB-12126, \$33) in a “T-match” configuration.”



The 75/80m box uses a homebrew inductor of the same construction as the 160m box and doorknob capacitors. Because I used the same drop wires for both bands, the antenna is “electrically long” for 75/80m, and requires a different matching scheme. Thanks to Gary, **W0AW**, and a lot of head scratching, we were able to get a very good match using a “voltage fed” network that feeds the input to a tap on the inductor.

If you look closely at the two matching boxes, you will notice another bit of hardware lurking in the corner of each box. Because my setup uses a common feed point to the interconnecting loop at the base of the drop wires, relays were used to switch between the 80m and 160m matching circuits.

Remove and Replace the existing old tower

The new tower sections were laid out and bolted together on the ground in the back yard, adjacent to the existing tower. The tower was assembled into two 40-foot sections to facilitate and speed up installation with a crane. All hardware was preassembled on the upper 40 feet, including rotor, mast, coax, control cables, and the drop wires. The coax and control cables were run down and attached inside the tower legs to minimize RF being fed into these lines.

I used the crane and bucket truck services of **Crosstown Sign** (Ham Lake, 763-784-7742), and highly recommend them for any of your tower work. They took down the old damaged tower in two sections, and erected the new tower in two 40-ft sections. They also installed my Force12 30m 2-element beam, dropped the coax and control cables, attached the PVC spreaders and positioned the 6 drop wires at the top and 40’ level.

Miscellaneous Hardware Installation

Ground rods: I installed six 8-ft rods around tower base, and rented an electric jack hammer to drive into my solid clay. It worked very well, and only took ten minutes to drive 6 rods. For hard ground, I highly recommend it; it was worth the \$75 rental fee.



A copper strap (3" and 2 1/2" wide by 0.022" thick) was used to interconnect the ground rods and radials, and connect to each tower leg. It was purchased from Georgia Copper [<link>](#) ... excellent material.

The matching network boxes, current balun, and coax switch box were mounted to a piece of 3/4" plywood and installed on a 2" O.D. piece of galvanized water pipe. This was then inserted into a four foot piece of 2" I.D. pipe buried in the ground.

I installed 19 radials, each 130 feet long, and made from #16 gauge electrical wire. I will add more radials next spring, as space allows on my small lot. The six drop wires (#12 AWG) were attached to a loop of #10 gauge copper wire around the base of the tower.



Receiving Antenna

This was not discussed earlier, but some type of receiving antenna is a must IMHO. I purchased and installed a **K9AY** loop system from **Array Solutions**. After running various dual band Butternut verticals in single and phased configurations, I was not about to attempt Topband, without a receive antenna. There's nothing noisier than a vertical antenna (unless it's two phased verticals, which, in my opinion, are even worse).

Matching the System

After many hours of trial and error, changing capacitor and inductance values, the 160m and 75/80m networks were matched. The 80m match being the most hair pulling of the two, which was finally accomplished with a voltage fed setup.

160m		75/80m	
Freq	SWR	Freq	SWR
1.800	1.50	3.500	1.30
1.815	1.40	3.520	1.22
1.825	1.30	3.540	1.22
1.835	1.30	3.560	1.18
1.840	1.22	3.580	1.14
1.850	1.30	3.600	1.14
1.860	1.13	3.620	1.18
1.870	1.21	3.640	1.22
1.880	1.29	3.680	1.30
1.890	1.29	3.700	1.35
1.900	1.37	3.758	1.50
1.910	1.46	3.770	1.57
1.920	1.46	3.795	1.61
1.930	1.66	3.810	1.66
1.940	1.66	3.820	1.70
1.950	1.95	3.830	1.72
1.960	1.95	3.840	1.75
1.970	2.15	3.860	1.89
1.990	2.37	3.880	1.96

So how do the SWR curves look? See the chart (above). Nice bandwidth, eh? MUCH better than the typical 25 kHz that you get with the skinny commercial brands.

End Results

When I started this project, I had worked and confirmed 7 DXCC entities on 160m by firing up any mismatched piece of wire or aluminum that hung in the back yard. Since my first monopole contact on 160m, I have now worked an additional 115 entities as of the middle of February, and 49 of the 50 states. Entities worked include 4X, ZD9, ZL8, EA9, 9L, 9Q, 5R, TJ, T3Ø and more. I have mainly concentrated on 160m, but have also had some excellent results on 80m.

Does it work? You bet - better than expected! It's very broad banded on both 160 and 80 meters. The monopole has exceeded all of the goals that I had at the outset of the project. And, I've been told that I'm LOUD!

This project was costlier than expected, due to the additional tower work that was done. However, it has been worth the effort and cost because the end results are very satisfying!

73,
Dennis, KFØQR



The Farm Goes “Green”!

Paul, **WØAIH** has fulfilled yet another of his dreams! He now has a 10kW class wind generator up and supplying power to The Farm, and to the local power grid.

As with all of Paul’s tower projects, he designed and built this installation to the highest commercial-grade specifications.

Following, is a photo review of the construction process that took place during 2010.



Site work begins last summer. This way beats digging by hand!



Backfill of guy anchors. 8-ft x 8-ft x 8-ft holes; 26 yards of concrete.



The top of the gin pole.



The 140 ft. Pirod tower is constructed in August. Up goes one of the 1300-pound sections.



Precision hydraulic ground control. Note that the operator is radio active.



The lonely, completed tower with gin pole is QRX for more parts to arrive.



The Farm Goes “Green”! (continued)



Paul designed this 15-foot, 11-inch diameter, 5/8-inch wall pipe as the mount for the wind generator. Paul included closed steps in his design. It was manufactured by Wisconsin Body and Hoist.



Len Kreyer, **N9QIP** and his Skywave Tower crew arrive in October to do some heavy lifting. Len operates a network of amateur repeaters that span across Wisconsin.



The 1,000-pound generator mount is installed on top of the tower.



The generator arrives, and is ready for assembly. It's a 10kW Class Wind Turbine manufactured in Norman, OK by Berge Windpower.



The last blade is assembled to the generator.



Paul and his helper ride up on the winch.



The Farm Goes “Green”! (continued)



The gin pole is raised above the pipe mount.



Up goes the 1050-pound generator. Len used a second winch to “tag” the generator and blades away from the tower and guys.



The final mounting of the generator.
Note: This is the first time that professional tower help has been used at the Farm.



The generator was tied into the power grid by Eric Pipkin, **W9RKN** and his crew from Sparta.



This is the “magic box” that converts “wild 3-phase” into 120/240, 60Hz power. Paul was highly impressed by the wiring done by Eric and his crew.

Pipkin Electric

Renewable Energy Systems

Eric Pipkin

Owner

Office: (608)272-3999
Cell: (608)-797-3999
Fax: (608)-272-3544
email: pipkinelectric@centurytel.net

3498 Acorn Ave. Sparta, WI 54656 www.pipkinelectric.com

Paul has noted that real-time power output runs between 7 and 11kW on windy days. The generator’s specifications predict a monthly output of over 1,200 kWh for an average wind speed of 10 mph.



**How you can help...
and build a legacy that reaches
far into the future!**

As you undoubtedly have read in the news, philanthropy is down considerably from years past, due to the current economic conditions, with no relief on the horizon. *Courage Center is forced by these circumstances to concentrate more of its remaining philanthropy on core services.* This means that programs such as ours are being funded less by Courage. We have cut staff hours and cut costs everywhere we can, but we need to build our Handiham endowment fund, and cover current costs in order to keep operating. The endowment fund helps keep our Handiham budget independent of the overall Courage Center budget. When you place the Handiham program in your estate plans or donate to build the endowment, you help make our services more secure far into the future.

For more information on how to include the Handiham program in your estate plan, contact Walt Seibert, **KDØLPX**, at 763-520-0532 or email: walt.seibert@couragecenter.org.

The Courage Handiham System is a program service of the non-profit Courage Center, a registered 501(c)(3) charity. Your gift will help people with disabilities enjoy the world of amateur radio. All gifts are formally acknowledged.



By mail - letters and gifts of monetary support:

**Courage Handiham System
3915 Golden Valley Road
Golden Valley, MN 55422**

Shipping address for gifts of ham radio equipment:

**Handiham System
Camp Courage
8046 83rd St. NW
Maple Lake, MN 55358**

Please make checks to "Courage Handiham System" or call toll-free: 1-866-426-3442 to donate via credit card, or go to: <http://www.handiham.org/node/270>.

"Thank you for your support! We really appreciate your help."

- Patrick Tice, **WAØTDA**, Handiham Manager

TCDXA Treasury Report	
February 18, 2011	
Submitted by TCDXA Secretary-Treasurer Gary Strong, KOØQ	
Income:	
Carryover from 2010	\$ 1,422.50
2011 dues collected	2,136.07
Donations & misc.	341.68
Door prize ticket sales	122.00
Total YTD income	\$4,022.25
Expenses YTD:	
Bank service fees	\$ (0.00)
Website: ISP and domain	(0.00)
Office supplies, guest dinners, and misc.	(25.00)
Flowers (SK) and hospital gifts	(0.00)
ARRL Spectrum Defense Fund	(0.00)
NCDXF Donation	(0.00)
MWA plaque	(0.00)
KMØO/9M6 funding	(100.00)
Total YTD expenses	\$(125.00)
Current Checking Balance (2/18/2011):	\$ 3,523.27
PayPal balance	348.98
Cash on hand	25.00
Total current funds	\$ 3,897.25



VKØIR
ZL9CI
A52A
T33C
3B9C
TX9
CP6CW
3YØX
K7C
5A7A
VU4AN

K5D
VK9DWX
FT5GA
3D2ØCR
E4X
CYØ/NØTG
VP8ORK



K4M
TX3A
KMØO/9M6
YS4U
YI9PSE
ZL8X
DXØDX

XU7MWA
S21EA
J2ØRR
J2ØMM
BS7H
N8S
3B7SP
3B7C
5JØA
VP6DX
TX5C
9XØR

TCDXA DX DONATION POLICY

The mission of TCDXA is to support major DXpeditions by providing funding. Annual contributions from TCDXA members are the major source of funding for this mission.

A funding request from the organizers of a planned DXpedition is directed to TCDXA Vice President Tom, **WØZR**, telutz@earthlink.net, who makes an initial evaluation of the request, and discusses the attributes with the TCDXA Board of Directors. The request will be judged by how well DXpedition plans meet several 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 a vote. If approved, the TCDXA Treasurer will process the funding..

Key Considerations for a DXpedition Funding Request

DXpedition destination	Website with logos of contributing clubs
Ranking on <i>Most Wanted Survey</i>	QSLs with logos of contributing clubs
Most wanted ranking by TCDXA Members	Online logs/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	Success of previous operations by same group
Equipment: antennas, radios, amps, etc.	Valid license and DXCC approval
Stateside and/or foreign QSL manager	Funding mode: USA and/or foreign financial address

Guidelines for Level of Funding

\$\$\$\$ First level	A major DXpedition in terms of operators, equipment, duration of stay, and transportation costs. Requires elaborate planning and a huge budget. Always ranks high on Most Wanted Survey. Examples: VKØIR, 3YØX, K5D, VP8ORK.
\$\$\$ Second level	Major to modest DXpedition in terms of operators and equipment. Ranking on Most Wanted Survey can vary from high to low. Examples: D68C, 3B9C
\$\$ Third level	Modest operation in terms of operators and equipment. Usually ranks low on Most Wanted Survey. Examples: T33C, K7C
\$ Fourth level	Special requests, and DXpeditions to entities <i>NOT</i> on the Top 100 Most Wanted Survey. Examples: CP6CW, YS4U



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

- end -