



Newsletter of the
Twin City DX Association

Volume 1, Issue 4
December, 2004



Inside this issue:

<i>Propagation</i>	2
<i>Working Peter I</i>	
<i>Member Profile</i>	6
<i>WØZI</i>	
<i>Attic Antennas</i>	10
<i>KØCOM</i>	
<i>GM5A</i>	12
<i>2004 CQWW SSB</i>	
<i>Low-budget</i>	14
<i>80m 4-square</i>	
<i>Small World</i>	16
<i>CP6CW</i>	17
<i>2004 CQWW CW</i>	

TCDXA Officers
 President
Bill Dean, WØOR
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Dennis Johnson, KFØQR
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Jim Junkert, KØJUH
Gray Line Staff
KØIEA, KØJUH, & WØBV



Season's Greetings to all of our DX friends around the world. May the Holiday Season bring peace and happiness to you and your family.

Wishing you good DX in 2005, and may that rare one that you need finally make it into your log!

73 from the members of TCDXA

From the President's Desk

The past year was filled with change and new direction for the TCDXA. It all started in January, with a membership drive that went state-wide and which netted 27 new members, and swelling our ranks to the current membership of 82.

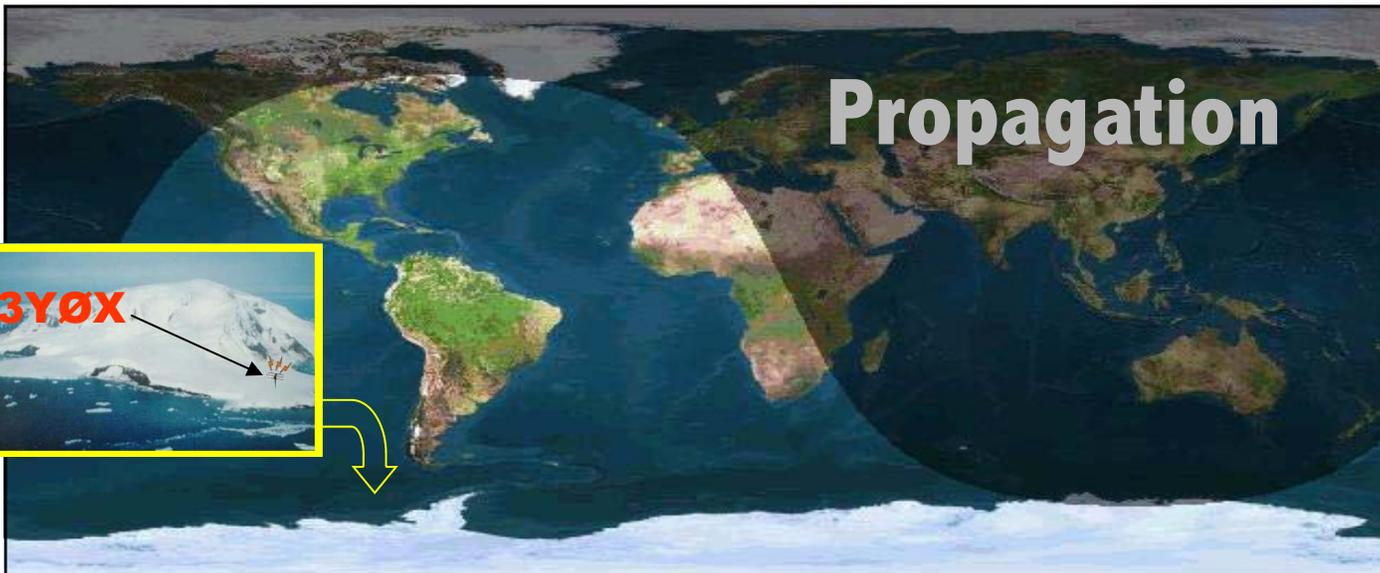
At about the same time, we went to work on the club website, with the goal of giving it a real Minnesota flavor. And, what better way to depict our region, than to use the scene of a north woods lake at sunset. "DXing from Minnesota – the Land of 10,000 Lakes" became our message on the website. Many thanks go out to our webmaster Lou, ACØX, for a job well done.

In March, the first issue of the TCDXA Newsletter, the "Gray Line Report" was posted on the website. It's a quarterly publication, and is the brain child of WØBV, KØIEA, and KØJUH. We hope you enjoy it. And, a special thanks to all the members for supporting the newsletter by contributing material.

In 2004, "Raising Dollars for DX" evolved as our club's main mission. Everyone agreed that this would give us something to focus on, and would be a good place to spend our money. Although our annual income is not huge, and is limited to membership dues plus several miscellaneous donations, the TCDXA has been able to help out 3B9C, T33C, TX9, 3YØX, and CP6CW with financial support. In a small way, we are helping defray some of the high costs of getting operators and equipment to these remote locations. Your membership and annual dues count. We couldn't have done it without YOU!

Please join us in 2005, and help us to continue Raising Dollars for DX. Season's Greetings to you and your family, and may the New Year put another "rare one" in your log.

73 de Bill Dean, WØOR



Working Peter One

by Carl Luetzelschwab, K9LA

*ed. - The gear for the January 3YØX DXpedition to Peter I is on its way to Punta Arenas, Chile, where it will be loaded onto the vessel **Antarctic Dream**. Excitement is quickly building among DXpedition team members and also among the many Deserving. It's time to determine your 3YØ "needs". Here is some good information from Carl, K9LA, to help you develop your strategy in your hunt for Peter I.*

Tnx to Carl, N4AA, for permission to reprint from "The DX Magazine"

The Big Picture

Figure 1 (from Peter Oldfield's DXAID software) is a great circle map centered on the Midwest of North America (the general area consisting of W5, W8-Ø, and VE3-5), with the path to 3YØX shown. The auroral zones are depicted at a K index of 3 at the time that is the midpoint between 3YØX sunset and sunrise.

The map projection used in Figure 1 tells us three important parameters: the heading to 3YØX (179 deg.), the distance to 3YØX (about 12,500 km), and the path's relation to high latitudes (if it gets near or goes through either auroral zone).

Geomagnetic Field Activity

Figure 1 shows that 3YØX is close to the southern auroral zone at a K index of 3. 3YØX could be under the auroral zone if the K index elevates to 7 or greater.

What's the chance of this happening? First, this DXpedition is going to occur well down the decline of Cycle 23, when geomagnetic field activity becomes the quietest. Second, January is one of the quietest months, with respect to geomagnetic field activity. Thus, the probability of extended periods of geomagnetic field activity is low.

But, what if the Sun does indeed do something unusual and elevates the K index to 7 or greater? It still may not have much of an effect, as RF from 3YØX to North America would encounter auroral zone altitudes many hundreds of kilometers north

of the 3YØX location. So, the likelihood of auroral absorption disrupting propagation is low on the paths to North America.

Having said that, there is still the probability (although quite low) of a healthy spike in the K index (from the shock wave from a coronal mass

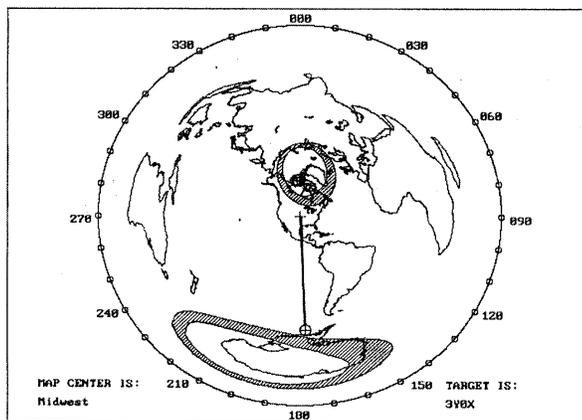


Figure 1 – Great Circle Path: Midwest to 3YØX

ejection or coronal hole) initiating a traveling ionospheric disturbance (TID) that would propagate from either auroral zone toward the equator and result in electron density depletion in the F region along the North America to 3YØX path. This would be an issue mostly on the higher bands.

MUF Trends

With daytime MUFs (maximum usable frequencies) highest in the winter months, the North America end of the path is optimum for the higher bands. And, since the paths from North America to 3YØX are essentially north-south, the equatorial ionosphere, with its robust electron density even near solar minimum, could help out on the higher bands, with some trans-equatorial propagation (TEP) enhancements. The 3YØPI data suggests that this indeed happened.

On the lower bands, where the MUF is usually high enough most of the time, absorption will play the critical role. The limited amount of darkness at 3YØX will likely take its toll on the number of QSOs on the lower bands.

Finally, don't underestimate the fact that the 3YØX team will be at a super quiet location. They should be able to hear extremely well on all bands.

Predictions

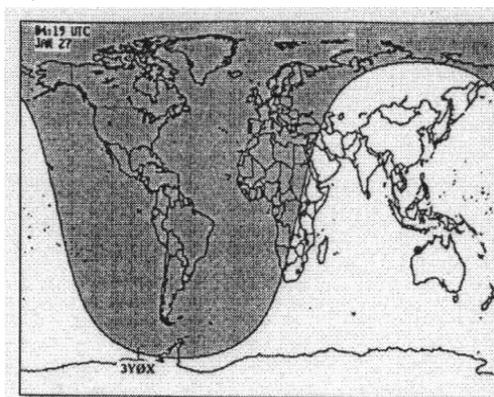
VOACAP was used to run predictions from WØ to 3YØX. The predictions were run at a smoothed sunspot number of 23, and 100w with modest antennas were designated in the prediction set-up. The 10m prediction is at a very low probability.

160m	0415 - 0815 UTC
80m	0300 - 0900 UTC
40m	0000 - 1200 UTC
30m	2300 - 1400 UTC
20m	2100 - 1600 UTC
17m	1400 - 0100 UTC
15m	1400 - 0000 UTC
12m	1500 - 0000 UTC
10m	1600 - 2200 UTC

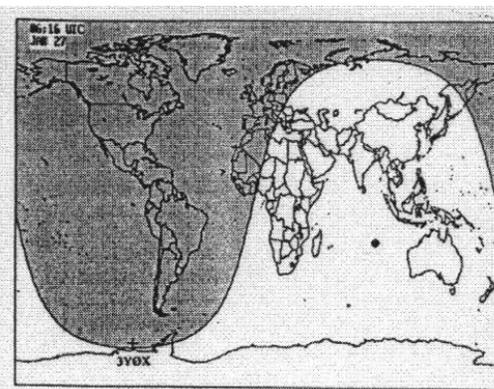
Since our predictions are monthly median results, don't be surprised if at any given time the next band higher is open on 'good' days or only the next band lower is open on 'bad' days due to the day-to-day variation of the ionosphere.

160m

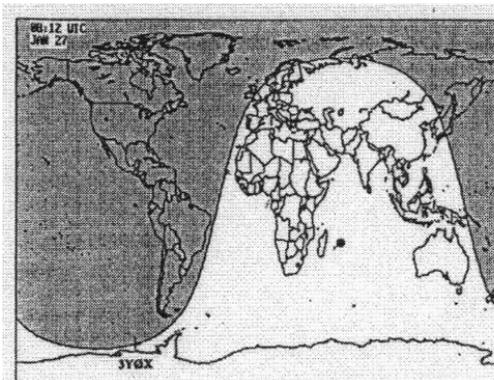
Figure 2 is a series of three Mercator projection maps centered on 3YØX for January 27 (the tentative halfway point of the DXpedition) at three different times of day: at 0419 UTC (3YØX sunset), at 0616 UTC (midway between sunset and sunrise), and at 0812 UTC (3YØX sunrise).



3YØX at Sunset (0419 UTC)



3YØX at 0616 UTC



3YØX at Sunrise (0812 UTC)

Figure 2 - 3YØX Between Sunset and Sunrise

Between 3YØX sunset and 3YØX sunrise, all of North America is well in darkness. But, as can be seen in Figure 2, the 3YØX end really doesn't get too much into darkness - in fact, the Sun will barely set during late January on Peter I (because it's summer and it's at a high geographic latitude). This should have a definite impact on propagation on 160m (and on the other low bands to a lesser effect, too).

North America should fare better than paths more to the east (to EU) or to the west (to JA) out of 3YØX, since RF from 3YØX to North America will encounter the dark ionosphere sooner than on those other paths. It will be interesting to see the 160m results of this DXpedition. For the record, the 3YØPI DXpedition in January 1994 made about 350 QSOs to North America, South America, and Central America on 160m – no other 160m QSOs were made. But, there are a lot more people on 160m now, there are a lot more capable stations now, and there will be a bigger 160m effort from the 3YØX team than in 1994, so I would expect more 160m QSOs this time around.

Summary

Due to the expense and inaccessibility, this likely will be the last DXpedition to Peter I for quite some time. So if you need it for DXCC, now's the time to work it.

For those with modest stations, it could be tough working 3YØX in the first couple days, due to its demand. Thus, waiting a couple days may be a good approach to take (but don't wait too long and miss them!). Another good approach would be to avoid those times when everyone else is on, and pick times when most everyone else has either already gone to bed or hasn't gotten up yet. For this latter approach, 30m and 20m will be the important bands. Note that the 3YØX team plans to have 9 stations available at all times, so they should be easy to find (as if the pile-ups won't give them away!).

Remember – DXing is only a hobby. Don't get bent out of shape from those who intentionally interfere or make inappropriate remarks. Ignore them. If you listen to the instructions from the 3YØX operators, more than likely you'll end up in their log. So have fun, and above all - good luck!

Gearing-up for Peter One



Team members met in Atlanta from September 23rd to 26th to get to know one another and their gear.

3YØX Planned Schedule

- Jan. 12, 2005 Team meets in Punta Arenas, Chile
- Jan. 13 Equipment loaded onto the vessel
- Jan. 14 Depart Punta Arenas to Peter I
- Jan. 19-21* Arrive Peter I, land via helicopter
- Jan. 21- Feb. 4* Radio operations
- Ship stands offshore during entire operation
- Feb. 5* Depart Peter I
- Feb. 10 Arrive Punta Arenas

(*) Weather dependent

3YØX Planned Frequencies

<u>Band</u>	<u>SSB</u>	<u>CW</u>	<u>RTTY</u>
6m	50115	50115	-
10	28475	28024	28080
12	24945	24894	-
15	21295	21024	21080
17	18145	18074	-
20	14195	14024	14080
30	-	10104	-
40	7057	7004	-
80	3799	3504	-
160	-	1826.5	-



TCXDA Treasurer's Report - YTD Jan 1 thru Dec 31, 2004

reported by Jim, KØJUH

Income

Balance Jan. 1, 2004	\$ 604.56
Annual dues collected-2004	2,001.00
Annual dues collected - 2005	241.00
Door prize raffle ticket sales	104.00
Special donation by NØXB	50.00
Special donation by KØJUH	150.00
Miscellaneous	12.00
Total income	\$ 3,162.56

Packet Cluster Escrow Account

Balance Jan. 1, 2004	\$1,498.35
Computer upgrade ACØX node	-100.00
Comet Vertical for ACØX node	-127.79
ACØX node maintenance/repair	-200.00
Balance Dec. 31, 2005	\$1,070.56

Expenses to date

MWA donation	\$ -75.00
KØWV funeral flowers	-101.18
3B9C donation	-300.00
T33C donation	-250.00
T32 Program expenses	-200.00
Dinner for guest speakers	-39.45
Materials - member certificates	-53.47
Postage/envelopes	-99.11
Service fee - checking acct.	-36.00
Checks and service fee	-5.25
ARRL Frequency Defense Fund	-150.00
TCDXA website hosting	-65.69
3YØX donation	-500.00
FK/C donation	-200.00
3B9C/D68C videos	-32.95
Old timer's night - Sept meeting	-29.42
WØNAR funeral flowers	-89.41
CP6CW donation	-250.00
Total 2004 expenses	\$-2,476.93

Current balance - December 31, 2005:
\$ 685.63

TCDXA Want Ads

For Sale by Owner: We're moving south. Selling our MN QTH on 5 acres, in Medina. Private road, with underground utilities (very low noise). Ham-friendly neighbors. Never an RFI complaint in the 12 years we've been here. **No CC&Rs.** Neighbors help with antenna projects. Park-like back yard, with plenty of space for antennas. Existing antennas cover 160m through 440MHz. We purchased this property in 1992, with DXing in mind. It's proven to be an *excellent* radio location.



House is approx. 2700 sq. ft. 4 bedrooms, 3 baths. Family room with vaulted ceiling and gas fireplace. Large amusement (radio) room with walkout. Formal living and dining room. Modern kitchen. 3-car attached garage. Detached 22 x 28 ft. garage/workshop. 3-season porch. Extensive upgrades. All mechanicals are top-notch, excellent condition. Off-peak cooling (3.7cents/kwh) and dual fuel (gas/electric) heat are very economical. Orono Schools.



More info - call Bob, WØBV or Kate, KØYV at 763-475-1074

“Who is WØZT?? I see his spots on the packet cluster, but I don’t think I’ve ever heard him on the air.” If you identify with this statement, read on, and it will all become as clear as pure water!

Bob is CEO of The Milbert Company, which is the Culligan Water Conditioning franchise in Inver Grove Heights, MN. His business is also the site of his “shack”. Together with employee and life-long friend Steve Root, KØSR (now *there’s* a familiar callsign!), they’ve transformed the second floor of the Culligan building into an incredible super-contest station! Bob & Steve go way back, together, in ham radio, and with their mutual passions for

Bob Milbert, WØZT



Steve, KØSR (left) and Bob, WØZT at their super-contest station, located at Bob’s business in Inver Grove Heights.



Circa early 1980s: Bob (left) and Steve doing a multi-op effort in an ARRL SSB DX contest from Bob’s basement. (Can you tell who was more serious about contesting??)

fishing, hunting and hockey. Together, they make the perfect team for designing a super-station. Bob supplies the mechanical design expertise, while Steve engineers the electronics. The result is a streamlined, 2-radio contest station, with antennas which are the envy of any DXer. More on station details, in a bit.

Bob lives just “down the hill” from Culligan, in South St. Paul. He’s a South St. Paul native. He first became interested in radio in 1961. He credits Ed Nohava, WØJBT and Dr. Jim Canine, WØPCT as his Elmers, who turned Bob on to DXing, while Bob was still in high school. Jim steered Bob into chasing Don Miller, and Bob really enjoyed the challenge and the competition of the pileups.

Bob was first licensed in 1962 as WAØFQF. His first rig was a DX-35 and a Drake 2B receiver. Over the years, he has tried a Kenwood TS-820, 830, 940, 120, 130, 480; an Icom IC-735, 761, 765, 781, 706; and a Yaesu FT-900, 1000D, and 1000MP MkV.

Bob has a terrific family. His wife and best friend is Vicky, who is quite radio-tolerant. However, Vicky is very glad that the new contest station is no longer in the house. In the past, the family endured many contest weekends, when the whole house was saturated with RF energy: TV pictures obliterated, stereos blaring with SSB/CW, and phones out of order.

The Milberts have three grown children. Son Bryan is a St. John’s U. grad, who is an avid pilot and kite boarder. Bryan is in charge of the bottled water plant at Culligan. Melissa is a Harvard grad, who is in her final year of law school. And, Megan is a U. of MN grad, seeking a Masters degree in Education at the U. of St. Thomas. Melissa and Megan were both standout hockey players at South St. Paul High School, and went on to play on the National Championship Hockey teams in college: Melissa at Harvard in 1999, and Meg at the U. of MN in 2000.

Bob has had an interesting career. After graduating from Dartmouth College in 1971, he got involved in local politics, and served on the South St. Paul City Council from 1975, until 1986, when he was elected to the MN House of Representatives. Bob served in the House, until he retired in 2002. Bob was appointed to serve on the Campaign Practices and Public Finance Board, under Governor Pawlenty. He also serves on the MN Amateur Sports Commission, and is a member of the USA Hockey Foundation.

Bob and Vicky travel to Hawaii, every winter, where Bob operates /KH6. They also take yearly trips to Texas and Oregon to fish, windsurf, and visit friends.

Bob's brother, Jeff, WØRJ, is a dentist in Cold Spring, MN. Jeff chases DX - mostly on SSB. He's an avid hunter and fisherman, too.

Steve describes Bob as "a mechanical genius". Bob won the ARRL Antenna Design Contest, several years ago. His award was for a "triangular-shaped quad", which covers 20 through 10 meters (5 bands), and uses a novel mechanical support for the elements.

And, Bob describes Steve as "an electronic genius." Beginning in 1998, this talented and dynamic design duo began developing the plan for a highly-automated two-radio contest station. They say that it's a design which is under constant construction. Bob says that he and Steve "will never stop trying to improve their (competitive contest) performance". However, every visitor is awe-struck by what they have accomplished, and conclude that these guys must be at least 95% of the way to station perfection.



To begin the station description, here's a run-down of the gear:

Radios

- (1) FT-1000MP Mk V
- (1) FT-1000D

Amps

- (2) Alpha 87 (auto-tune)

Antennas

10 meters: (2) stacked 7-el yagis on 45-foot booms at 38 and 92 feet

15 meters: (2) stacked 6-el yagis on 45-foot booms at 55 and 97 feet

20 meters: (2) stacked 5-el yagis on 46-foot booms at 38 and 92 feet

40 meters: (1) 2-el yagi at 97 feet

80 meters: (2) Force 12 Sigma 80 verticals, spaced at 1/2 wavelength

160 meters: (1) homebrew short vertical dipole (patterned after the Force 12 Sigma 80)

WARC bands: (1) 30m rotarty dipole at 94 feet (also works on 12 and 17m)

Lowband receiving antenna: W8JI 4-el four-square receiving array.

Accessories

Top Ten Devices band decoder

WXØB SixPak antenna switch

WXØB StackMaster stacked yagi switch

Band pass filters (10, 15, 20, 40, 80, 160)

2m packet station

Several KØSR-designed station controls

Steve designed the station so that band changes are fully-automatic. The band selector buttons on each radio select the correct antenna and band pass filter, and change the band on the associated (auto-tune) Alpha 87. The WXØB SixPak is interlocked, so that both radios can't select the same antenna.

The StackMaster switches allow selection of the high, the low, or both yagis in each stack.



The operating desk at WØZT: The FT-1000MP Mk V is in the left position, and the FT-1000D is on the right. On the left are the rotor control boxes and the StackMaster switches. On the right are controls for the lowband receiving array and the 80 meter phasing.



Steve is pointing to the group of 6 bandpass filters and their switching relay board and power supply, which he has beautifully wired into a rack cabinet. The cabinet sits just to the left of the operating desk and also contains the packet station and the SixPak.



The towers at WØZT - both are US Tower heavy duty 90 foot crank-ups. The tower in the foreground supports the 2el 40m yagi, the 30m rotary dipole, and the two 20m yagis. The tower in the background has the 10m and 15m stacks. Prop pitch motors are used to turn the top antennas, and TIC ring rotors are used to turn the lower antenna in each stack. The tower on the left edge of the photo supports a source of noise.

An obvious challenge to contesting and DXing from an industrial park is electrical noise. At WØZT, the electrical noise is especially troublesome on the lowbands.

Last year, at the WØ DXCC Convention, Steve cornered antenna and lowband guru Tom, W8JI. Steve asked Tom what should be used for a lowband receiving antenna at WØZT. Tom steered Steve to www.w8ji.com, where Tom has posted design details of a receiving 4-square array. This looked promising to Steve, and was exactly the type of challenge that Steve and Bob love to tackle. They completed the project, just a few weeks ago. Steve put it through its paces in the ARRL 160m Contest, and it worked superbly!



Here's the W8JI lowband receiving array. Bob camouflaged it to be inconspicuous in the field, next to the Culligan parking lot. As you can tell from the photo, it's extremely difficult to see! Good job!



Up on the roof at WØZT: On the right is one of the two phased Force 12 Sigma 80m verticals. The two verticals are spaced 1/2 wavelength apart, and can be switched in or out of phase, for gain in any one of four directions.



Mounted to the west side of the building is a home-brew 160m short vertical dipole, which Bob and Steve patterned after the Sigma 80 design. The inset photo shows a roof edge mounting bracket, built by Bob, which allows the entire antenna to be easily tilted onto the roof for maintenance.

Here's a good indication of how the the WØZT super-contest station is performing:

<u>Year</u>	<u>Contest</u>	<u>Results</u>
2001	ARRL 10m	SOHP CW: new State record
2002	ARRL CW DX	SOLP: new Division record 7th place, nationally
2002	ARRL 10m	SOHP mixed: new Div. record
2003	CQWWDX SSB	SOHP: 1st place WØ
2003	CQWWDX CW	SOHP: 1st place WØ
2003	SS CW	SOLP: new Division record 2nd place, nationally
2004	Jan. NAQP CW	New State record
2004	Feb. Sprint	New State record
2004	ARRL CW DX	SOHP: new Division record
2004	ARRL SSB DX	M/S: 6th place, nationally
2004	ARRL 160m	SOHP: new State record

These results are the superb efforts of Steve, KØSR. Bob operated with Steve in the 2004 ARRL SSB DX contest.

In addition to contesting, Steve is also a serious DXer. Steve has Top of the Honor Roll and 5BWAZ, among other award plaques, on his wall at home. Steve uses the WØZT station before and after work for chasing band countries. He's discovering the DX possibilities of the 160m band, for the first time, after installing the W8JI lowband listening array. The array is also allowing him to dig deeper for 80m DX. When you see those exotic spots on the cluster by WØZT, there's a good chance that they were posted by Steve.

A year ago, Bob needed three more countries for Top of the Honor Roll. He worked TO4E (Europa) at the end of last year, and he just worked the VU4 operation. So, now he needs just one more: Scarborough, BS7.

In addition to his quest to "work 'em all", Bob enjoys casual DXing, when his extremely busy schedule permits. He really enjoys deep, over-the-pole Asia openings on 20m SSB, and similar openings.

But, Bob's greatest enjoyment is fine-tuning the WØZT contest station. We'll give you an update on his progress in a future issue.



Stepping Around the CC&Rs

by Michael Sell, KØCOM

In the spring of 2002, I moved to the Denver area to start a new job. My Minnesota QTH was a 1/3 acre lot, equipped with a nice house, as well as a 60 ft tower in the back yard. Selling the house and most of the antennas was easy. Finding a new home in the Denver area was a challenge. That's when the mistakes started to happen. I chose the wrong realtor, got sticker shock on the price of homes on the Front Range, freaked-out on commuting in Denver, and discovered that most all homes built since 1990 are in CC&R developments.

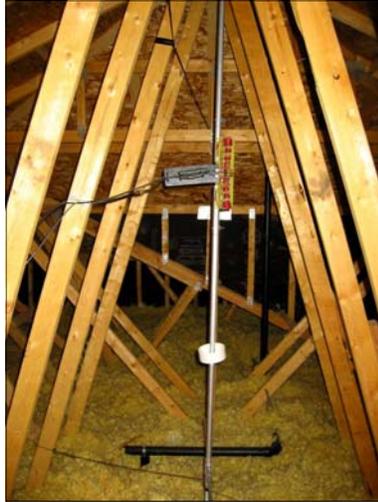
As I tried to bring ham radio back into perspective, the family needs, work needs, and budget soon conspired against me. I ended up buying a house in a CC&R community in Thornton. I remember talking to other guys who I've known in ham radio, and who have ended up in this mess when they relocated. I never could understand how they could let that happen to them. Now I know - **boy**, do I know!

After selling the old house, tower and beams, I kept two antennas: a double bazooka for 75 meters and a vertical for VHF and UHF. That turned out to be a good decision, along with choosing a two-story house, with a large attic. Funny story about house hunting: after my wife would approve of the house, based on location and features, I'd only want to see the attic!

Upon moving in, we decide to have a computer network, phone, and cable TV distribution system retrofitted into the house. I asked the installer to run three additional coax cables from the basement into the attic while he was doing the other work. Hey, I've got a couple of antenna's in a box here somewhere, only question is which box?

The VHF, UHF vertical goes up, no problem. I can work just about any repeater I can hear. I procrastinated over the HF antennas.

After all, the guidelines for the neighborhood covenants stated that no transmitters other than a garage door opener are permitted. Did I really want to test the situation by radiating RF from my attic? A call to my good friend, attorney, and ARRL director in Minnesota, Jay Bellows, KØQB, quelled my fears. Jay assured me that restriction would be totally unenforceable. What about cell phones, TV remotes, microwave ovens, baby monitors, cordless phones, heart monitors, etc?



Force 12 Sigma 5 vertical

Ok, let's see how that 75-meter dipole will fit up there. I zig and zag it around the 2 by 4's and attach the coax. Down to the shack and test it out, SWR is great over the entire band, and I can hear some signals. There was no RF back into the shack, so it was time to set up some working stations.

By the fall (2003), I had found a group of hams working 75 meter AM phone, so I unpacked all of my boat anchors, and tried things out one by one. Then, in the fall, I find I can work all my old friends back in Minnesota on 75 meters in the early morning hours, and with the addition of a Force 12 Sigma 5 vertical for 20 through 10 meters, I can work them on 20 meters, as well. Then, I worked two new countries in the 10-meter DX contest! Still, I was a bit nervous about the neighbors. By mid-winter, having not heard a peep from neighbors that live not more than 20 feet from my house, and having very few complaints from my own family living upstairs, I get bold and get the Johnson desk kilowatt on the air on 75 meter AM phone. Each time I finish transmitting, I expect a neighborhood committee to show up to evict me. I go to the Homeowners meetings expecting a brouhaha. But, nothing!!! Could it be that, without any outward signs of ham radio activity, (towers, beams, wires, etc) no one seems to know what's going on? Do they think that cable is really that bad?

Last summer, I expanded the antenna line-up to be ready for the contest season. I now have an Isotron 160C for 160 meters, double bazooka's for 75 and 40 meters, the Sigma 5 vertical for 20 through 10, and the VHF, UHF Diamond vertical. I worked the CQWW DX SSB contest, both CW and SSB Sweepstakes, and had a lot of fun. I worked 76 sections in Sweepstakes, and heard the other 4 sections, but just could not get conditions to work them. I worked local guys on both AM and SSB on 75 meters. I'm able to keep in touch with my Minnesota friends, as well as many others in the U.S., almost every week.

Is it the same as those days with the TH11 @ 70 feet? Certainly, it's not even close. Was moving to this CC&R area a death sentence to my ham radio activity? No, not at all, as I am presently enjoying Ham Radio very much - in some ways, perhaps, even more than the past. I have a much greater appreciation for what I have, and what it affords me in enjoyment in this great hobby of ham radio.

73 de Michael, KØCOM



40 and 80 meter double bazookas



Bob Trover
KBØPM
SK

Long-time TCDXA member Bob Trover passed away on October 23rd at the age of

64. Bob was very well-known in the Minnesota ham community, as the past owner of **TNT Radio Sales** in Minneapolis. Bob served in Viet Nam as U.S. Army Captain in the 67th Evac. Hospital. He worked as a Nurse Anesthetist from 1963 to 1999.

Bob was an active DXer. His other interests included private pilot, EAA Warbirds, Elks, VFW, American Legion, Masons, Scottish Rite, Shriners, fishing, and morning coffee with his friends. Bob always greeted you with a smile and an interesting story. He will be sorely missed by his friends in TCDXA.

Remembering November 8th, 2004



“Ahhh *\$#@%! Here we go, again!!”



“Geez, c'mon! We wanna work DX!”



Contesting from GM5A

by Dr. Glenn Johnson, WØGJ

I was in Scotland for the last half of October for some advanced surgical training. I was not able to attend the annual RSGB meeting, but I did attend the fall GMDX meeting in Stirling, Scotland. There were 50 DXer's there from mostly Scotland and northern England. One couple drove up from the London area. I gave a presentation on Bhutan, both the A52A DXpedition and the current status of activity in Bhutan, which, by the way, is increasing! I was invited to help operate the GMDX club station, **GM5A**, in Stirling, for the CQWW SSB Contest.

The guys in the club have a superb operating site in the country, with the Firth of Forth just a few feet away. They are at 53 degrees north latitude. They spent many, many man-hours preparing things during the three weeks before the contest. They have a 110' vertical for 160m, a pair of phased verticals for 80m, a 2-el 40m @ 70', and monoband beams for 20-15-10m on 50-70' towers. All are nicely spaced over a couple acres. All are fed with 1" heliax. The building is a nice cement block building from WW II, where torpedoes were made. The only neighbor is the dog pound, ¼ mile away.

There is a nice kitchen, bathroom, meeting room for maybe 40-50, converted to a sleeping area for contests. The shack is a 20' x 20' room, with operating stations on three walls - each station dedicated to one band. Each has either an ICOM 756 ProII or a Yaesu FT-1000 MP or Mark V, plus five Alphas and one ACOM 1000 amp (400 "Scottish watts" to make up for "feedline losses"). There are several storage rooms for equipment and antenna extras. Each operating position has an identical computer, networked with WriteLog, via coax cables. Another computer was used as a "monitor" for WriteLog, and another was used for displaying the gray line. Internet connection was via an intermittent cell phone connection. There is little local noise, but lots of rain.



Antennas at **GM5A**. Aye, 'twas a grey day!

0000Z is midnight. I was not there for the beginning of the contest, but I was able to get there by 10am Saturday. (I took my wife and nurses to the airport.) Right away, the 80m phased array failed. It had rained a lot the previous week, and the problem was blamed on water in the phasing box. When I arrived, they had just put up a new dipole for 80m.

160m: What fun! My favorite band! LOTS of good activity from 30-45 minutes before/after sunrise. It's just like working stateside here on 80m. Countries and prefixes you only dream of, here. **VE1ZZ** spotted hearing us 3 hours before his sunset! We worked a few NA east coast stations, during the last hour of the contest.

80m: Very active band from 4 hours before sunset until nearly noon! Everyone was sad we missed a good first night on 80, because of the blown phasing network, but with rain and darkness, did their best, until sunrise, when they put up a dipole suspended from near the top of the 160m vertical.

40m: 24 hour band. ALWAYS activity.

20m: Opens in the morning to east Asia. EU is LOUD...and so is EAST COAST NA!!! By 4 hours after sunset it's a dead band, until after sunrise. Always a few beacon stations on, but worked 'em all the first day.

15m: Like 20m, but better! I spent a lot of time on 20 & 15m. Peak NA time is late afternoon, and what runs! DEAD band 2 hours after sunset. Slow to open in mornings.

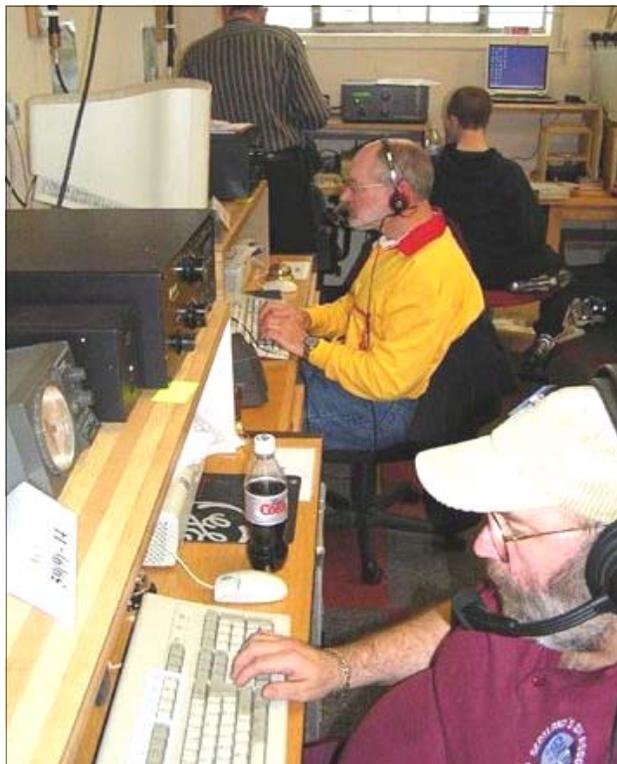
10m: I had one 6-hour shift on 10M, and it was great! Not many NA in the log, but ALL of EU and most of Asia.

Propagation to NA: Low bands - east coast only. Upper bands - propagation seemed to stop at the Mississippi River, but several MN stations got in the log. I think there was one SD and one NE. From St. Louis to the SW US, there was good propagation. Zone 3 (west coast) was always weak and fluttery. East coast stations were always first call, always strong. When running, it was impressive who would stop by. A5's, VU's, YI's, ST's, S2's, etc., etc. There is ONE beam heading to NA (NW) and EU is over a 180 degree area, just like the US/VE is for domestic contests for us here on the "north coast".

One week before the contest, a 70 mph wind blew down the 5-el 20m @ 70'. It was hurriedly replaced with a 2-el quad at 70'. I was IMPRESSED how well that quad worked, as the band was opening and closing...first calls all of the time to weak stations. I've heard that described for over 40 years, but now have lived to see it.

53 degrees north latitude is frustrating, just like we are frustrated, here in MN. You can hear stations to the south running DX you can't even hear. NA contacts were an easy 3 points each. EU was only 1 point each, but more EU multipliers.

In summary, operating from Scotland is very similar to operating in MN with decent antennas. The "situation" is just shifted 6 hours to the east. And, the GM guys are some of the finest chaps in the world!



Front: GMØTTY on 40m; back: WØGJ on 20m.

GM5A Results of 2004 CQWW SSB Contest

Courtesy of Colin Smith, GMØCLN

Ops: WØGJ, GM3YOR, GM4AFF, GM4FDM, GMØCLN, GMØHZI, GMØRLZ, GMØTTY, MMØBSM, MMØCCC, and MM3GVE

Goal: 10 million points

Results:

<u>Band</u>	<u>QSOs</u>	<u>Zones</u>	<u>DX</u>
160m	739	10	60
80m	795	15	65
40m	1719	29	110
20m	2316	37	138
15m	2152	38	143
10m	<u>894</u>	<u>32</u>	<u>140</u>
Totals	8615	161	656

Score: 12,747,651

A Low-budget 4-square Vertical System for 75/80 Meters

by Jim Junkert, KØJUH



Bob Bruner, **WØEK** and XYL Debbie, **KBØSIL**, live on 40 acres of rolling countryside near Albany, MN, where they enjoy the tranquility of country living. While Bob keeps busy chasing DX, Debbie stays busy with her hobby: breeding and showing Persian cats. Visit her website to see some of the “kids”, close up. www.deebows-persians.com

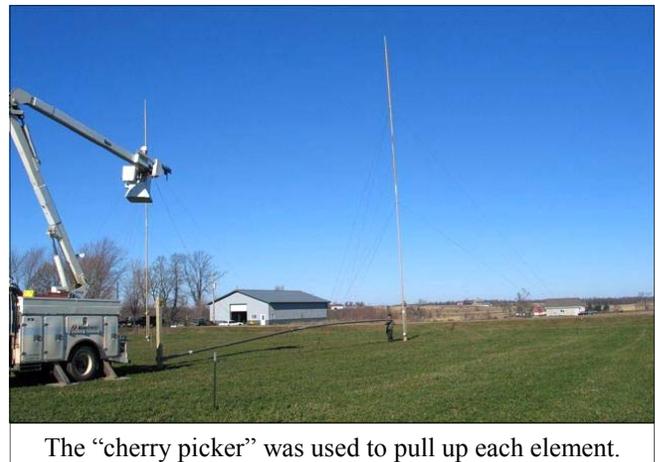
Like many that start out chasing DX on the higher frequencies, Bob soon got hooked on the low bands. Early-on, he had beverage antennas, so his receive setup was a winner. However, his performance suffered on transmit. Dipoles and inverted Vs at 50 feet simply were not getting the job done. So, his dream of having a gain antenna system on 75/80 meters began to evolve.

The first phase started when Elvin, JA3CZY, came to stay with Bob, while Elvin was stateside on vacation. Bob put Elvin to work, helping him put the support posts in the ground. And, as the months passed, more work and fine tuning was done on plans for the system.

Finally, on a beautiful sunny day in late fall, it all came together. On November 11th, after months of planning and preparation, his 4-square vertical system for 75/80 meters became reality. With the help of **KBØSIL**, **KØIEA**, **KØJUH**, and a “cherry picker” rig, the 4-square system went up, and was put on the air for the first time. And, amazingly, the system performed flawlessly on the initial key down test.

The SWR was flat across the entire band! From 3500 to 4000 the SWR did not exceed 1.2 to 1. The system is switchable in four directions: NW, NE, SE, and SW. Early tests indicate a three to five S-unit advantage on receive over Bob’s inverted V. The difference is even greater on transmit. Front to back is running around 25 to 30 db.

If you’re serious about duplicating Bob’s effort, the following materials list will give you what is required. Keep in mind that the more you’re willing to horse trade, homebrew, and scrounge around for material, the more dollars you will save. The total cost of this system came in at less than \$1100.



The “cherry picker” was used to pull up each element.

MATERIALS LIST

4 Verticals: Constructed from two 30-foot sections of 4” diameter aluminum irrigation pipe. At the top is a 4-foot section of 3” diameter pipe, which can be adjusted to vary the overall length for tuning purposes. The best SWR results were obtained with the total length set at 63 feet.

Vertical Support Posts: Four 12-foot 6x6 posts sunk 4 feet into the ground, and spaced 70 feet apart, in a square configuration. The spacing is greater than a quarter wave, in order to maximize forward gain.

Ground Radials: 40 quarter wave radials (14 guage) for each vertical. Total wire = 11,200 feet.

Radial Plates: 4, total. These are Bob's own design from 1/4 inch stainless steel plate. Each plate has sixty terminals to connect the radials to and one PL 239 coax connector.

Phasing Box: This is the same DX Engineering box that made the trip to Heard Island and back in 1997 and Bob purchased it in 1998 from WØGJ. It's been in storage, ever since. It was resurrected for this project, along with the original 75-ohm coax phasing lines.

3/16" Dacron Guy Rope: Each vertical is guyed 3 times: at 27 ft, 37 ft, and 47 ft. - a total of nine guy ropes per vertical. The ropes tie off to 6-foot steel fence posts (from Fleet Farm), spaced at 120 degree intervals around each vertical. Total guy rope = 1,400 feet.

And last, but not least, a miscellaneous assortment of stainless steel nuts, bolts, terminals, wire, etc.

Bob extends his thanks to a host of people for their advice and help on this project. **KØKX**, **K1ZM**, **WØGJ**, **ON4UN**, and **K7EM**, to mention a few. And, we can't forget the construction crew: **XYL**, Debbie, **KBØSIL**, Elvin, **JA3CZY**, Dave, **KØIEA**, Jim, **KØJUH**, Toby the Yellow Lab, and Red the friendliest cat on earth.

If anyone has comments or questions on this 4- square system, please feel free to contact Bob Bruner at wØek@upstel.net. Also, visit Bob's website at <http://www.wØek.com/> for more information on the system.



Bob connects the phasing line at the base of one of the vertical elements of the 4-square array.



Bob does some final tweaking at the phasing box.

DX Quiz for Old Timers

by Dave, KØIEA

The "Terrible Ts"

There was a time, when a group of African countries were very difficult to work and they came to be known as the "Terrible Ts". They were all former French colonies. Can you name these countries and their callsign prefixes off the top of your head? Hint: There are 8 of them.

(answer on page 25)

“A Small World” Takes on a Whole New Meaning!

by Gary Hosler, WØAW



Nearly a year ago, I purchased a contest logging program. Some project came up that didn't allow me to compete in the contest, so I didn't even bother to install it. After dabbling with a software program at Field Day with the Stillwater Amateur Radio Association, I remembered that I had the program *WriteLog*, still gathering dust at home. I managed to get it installed and configured the night prior to the CQWW RTTY Contest.

I had no great expectations, as my rotor was at M2 being repaired, and the antennas were fixed on Europe. To further negate any competitive position, I lost my entire Friday evening to a wine tasting benefit for the St. Francis of Assisi Animal Rescue. By the time the benefit was over, so was 20m propagation, and my ability to navigate a keyboard.

Saturday morning, I finished programming some of the function keys with contest exchanges, and began to listen around. I hadn't spent much time reviewing the rules, but thought that I would try the Single Band Low Power category, and hope that the 20m monoband yagi would perform, in spite of being in a fixed direction. I thought that I had read that the contest exchange was “599 MN”, and that the stations outside the US would return “599 and CQ Zone”.

I began the hunt, and the first station that I ran across was VU2WAP calling CQ. I punched the function key to send my call a couple of times and was surprised to see the VU returning my call. I watched as characters printed across the screen: “WØAW DE VU2WAP 599 22 599 22 K”. I punched the function key to send the response DE WØAW 599 MN. I thought all was well, and was about to QSY when VU2WAP sends “NR NR NR?” I didn't realize that we needed to provide contact or serial numbers, but figured he was my first contact so went into manual mode and send “NR 01 NR 01”. This was greeted with “01? 01? 01? K”.

Not sure what to think at this point (the brain still not functioning after the wine tasting). I returned “RGR NR 01 NR 01 K”. I began to think I'd better listen to a few exchanges to see if I'm doing something wrong. It didn't take but a few seconds to realize that this is the CQWW Contest and that all stations are required to include their CQ Zone. I've chased DX in CQWW for years, but somehow I overlooked this part of the exchange. Time to reprogram the function keys and try again. The contest went as expected after the initial disaster, and I even tried to hold a run frequency on Sunday (with fair success).

When I got into work on Monday morning, I looked up VU2WAP's email address on QRZ, and sent him a note of apology. I explained what had happened, and gave him the time of the QSO, and the correct zone information. I just didn't know how often he checked his email, or if the address on QRZ was even current.

I told Dennis (KFØQR) about what had happened, and it gave him a good laugh to start out his Monday. A few minutes later, my phone rang and the voice on the other end said, “Mr. Hosler this is Miku, VU2WAP”. I was nearly speechless. There was a heavy echo on the telephone connection, so Miku began to say “Over” after he had completed a sentence or two. We had a very nice conversation for about ten minutes covering the contest, antennas, software, propagation, etc. It's one thing to see the DX spotted on the Cluster, and call them. It is something else to answer your work telephone and have a VU on the other end of the line. We tend to think the only way that we will ever talk to the DX is via the radio, or by a chance meeting at Dayton. The world is actually a much smaller place!

de WØAW

A South American Odyssey: CP6CW in the 2004 CQWW Contest

by Bill Dean, WØOR



With the excitement of a Guatemalan adventure still fresh in our minds, the four of us (Ron, NØAT; Vlad, NØSTL; Dave, WØFLS and me, WØOR) who put TGØAA on the air in November 2003 for the CQWW CW contest began talking about doing it all over again in '04. Even before we disembarked from the plane that brought us back home to Minnesota, we had all pretty much agreed on several points: a good team had been assembled, everybody had a lot of fun, and despite the odds, we had racked up a score we could be proud of. We wanted to experience the high of being the sought-after signal again.

But like any DXers or contesters worth their salt, each of us couldn't help thinking that there were things we could have improved upon. Couldn't we have grabbed more mults? Could we have found a way to put up a better antenna for 160? Shouldn't we have done better planning for an internet connection? And, so the conversation went. The bottom line is that we were all thinking about the challenge implied by the proverbial, "wait 'til next year."

So what about next year? Did we want to go back to TG? (See story in the March, 2004 edition of the *The Gray Line Report*). That probably could have been arranged. We had made friends and connections with several local hams in the Guatemala City club. And, while the 2003 QTH offered several advantages, living conditions were primitive, and there was the possibility of finding an improved location, where adequate power to drive a linear and an internet connection would be available. The consensus, however, was to try something different, to go somewhere new.

One of the things we noted was that the one country in South America that almost never seemed to be represented in CW contests was Bolivia. There are plenty of LUs and PYs and a sprinkling of ops from most other places in SA. But few, if any, CPs were to be found below the phone bands. So, we started seriously thinking about Bolivia as a destination.



During one of the early 2004 winter meetings of TCDXA, we put together a power point presentation for a club program. When the question of whether or not we would do it again next year came up, we mentioned Bolivia as one option. Did anyone have connections there?

As good luck would have it, TCDXA member-Bob Garwood, WØBV, did indeed have a connection. For many years, Bob has run schedules with Ray Rising, (formerly KØLWJ, now K4LWJ), who is currently licensed in Bolivia as CP6RR. Ray attracted international attention in the 1990s, when he was abducted by guerillas in Colombia and held for ransom for 810 days, before being released. Today, he works on behalf of a worldwide mission headquartered in North Carolina, whose goal it is to provide the means to communicate with various indigenous peoples, especially in third world countries. This group has translated the Bible into a number of obscure languages, bringing its teachings to people who have heretofore had little contact with outsiders. In Bolivia, they also broadcast programs in some of the Indian languages. Ray maintains the broadcast stations.

Knowing of our interest in Bolivia, Bob put us in touch with Ray. As a ham headquartered in the Santa Cruz area, Ray was able to set up contacts with members of the local radio club. In May of 2004, we received an invitation to use their club facilities, as our QTH for the contest. For the next several months, via e-mail and Sunday afternoon

skeds, we formulated our plans to travel to Bolivia, and to operate in the CQWW test.

Unfortunately, one of last year's crew, Dave Raymond, **WØFLS**, was unable to join the team for '04. Dave had been assigned by his employer, Motorola, to the Twin Cities for several years, but during the year, he was reassigned to another project in Washington, DC, and the new assignment prevented him from doing a repeat performance.

We knew a full blown operation would be difficult with only three, so we began trying to recruit a fourth member. The good news is that Tom Lutz, **WØZR**, decided he would like to go. Tom has not been a contester, and he seemed a little worried that he might be a drag on the scoring. As it turned out, he was absolutely equal to the task. A member of FOC, Tom is an outstanding CW man. It was not much of a leap for him to catch on to DX contesting.

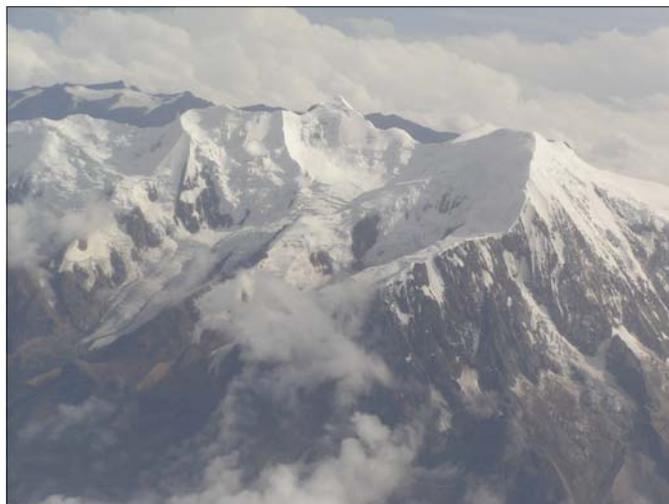
As November crept nearer and nearer, we attracted a second recruit. Tony Wanschura, **KMØO**, is also an outstanding CW operator and an experienced contester, to boot. Being retired, and an experienced traveler, Tony was interested in spending some additional time in Bolivia. That turned out to be a godsend for us, as Tony is also a tower climber. There was some work to be done on the antennas at the Santa Cruz club station. Tony contributed mightily to the effort by leaving about 10 days ahead of the other four guys. Despite several days of rain, Tony and Ray had three beams up and working by the time we arrived. There were two tri-banders - one for the run station and one for the mult station - and a three element 40 meter beam. All were at about 55 feet. There were inverted Vs for 40 and 80, already in place. That left to us the problem of 160.

On Sunday, November 22nd, the four of us, sans Tony, left Minneapolis St. Paul International at 10:35am for the 21-hour trip to Santa Cruz. Making a connection on Continental in Houston, we arrived in Miami about 6pm EST. With plenty of time before our overnight ride to South America, we enjoyed our last US dinner in the Miami terminal. Our American Airlines flight left about 11pm. Funny, how, despite having had dinner in Miami,



Ready to go! TCDXA Members Ron, **NØAT**; Tom, **WØZR**; Bill, **WØOR**; and Vlad, **NØSTL** are ready to depart from Bill's QTH for Bolivia on November 22nd.

we all ate the midnight supper served aboard. Two movies and a little shut-eye later, we awoke to see the sun rising over the snow-capped Andes. There was an hour layover in Bolivia's capital, La Paz, and then it was on to Santa Cruz. La Paz is the highest capital city in the world, at more than 12,000 feet. Santa Cruz is more than 11,000 feet lower, and only about 150 miles south of the start of the vast Amazon jungle. It is Bolivia's fastest growing area, now with more than a million souls.



From the plane window - The Andes, near La Paz.

At Viru Viru International Airport, we were met by Ray and several members of the Santa Cruz club. All went well, until we started through the customs inspection line. We were told to place



Our first glimpse of Santa Cruz

our equipment bags on a table. We complied, and watched the inspectors and our hosts talk in animated Spanish. It soon became obvious that, despite careful advance preparations to avoid customs difficulties, we were going to have a problem. Inexplicably, some of the equipment was seized. Some went though. It seems that if it was packed in an ordinary suitcase, it was OK. If it was in a protected equipment case, it was taken. The upshot was that of two IC-756 Pro IIs, one (Ron's) was held by customs and one (Tom's) was allowed through. My IC-746 and Dentron Cliperton L were held. Much later, after we had arrived at our hotel, I remembered that my underwear, which had been used as protection around some of the equipment, was still at the airport in the customs holding area. Needless to say, an unexpected shopping trip was hastily arranged!



A typical route in Santa Cruz, during our \$1 taxi ride.

Bolivia must be one of the least expensive countries in the Americas. Some examples: Our hotel, a four-star, was excellent. It featured a swimming pool, free internet access and best of all, a huge breakfast buffet. All for just \$35 a night. The fifteen to twenty minute taxi ride to the club site was \$1. Dinner at a fine restaurant for five, including beer, wine and dessert was less than \$30 - little more than \$5, each.



The great staff at our 4-star Hotel Canciller

On Tuesday, we spent the day familiarizing ourselves with the club station, setting up the equipment we got through customs, and meeting some of the club members and staff. Unlike most radio clubs in America, the Bolivia club is as much a social club, as it is a radio club. Wives and families are involved in association activities. They own a large building and the land it occupies. In addition to a reception room/office and the room



Radio Club Santa Cruz - club callsign **CP6AA**.

containing the ham shack, there is a conference room, a sizeable dining room, kitchen and rest room facilities, and a spacious club meeting room that is nearly the size of a small auditorium. A full time secretary, a groundskeeper, and a caretaker who lives on the property are employed by the club. It feels more a bit more like an American Legion club, than a radio club.

Wednesday, we took some time out for a cultural experience. We boarded two Cessna single engine planes bound for an Indian village that is being served by Ray's mission. During the 150-mile flight we watched, as the geography below us



Club secretary Fabiola

gradually changed from farmland to jungle. Landing at a tiny grass strip, we were greeted by a host of villagers. The children seemed especially excited to see us. Right off the bat, we were escorted on a tour of the area. A number of buildings, including a new school, had recently been constructed by church volunteers from the US. Proud village residents showed us other modern enhancements, including electrical power lines. Problem was, they couldn't turn on the generators. The cost of fuel was too high. A highlight was a visit to a small, nearby river. The area near the river was teeming with several varieties of colorful butterflies. Vlad captured a picture of one species that is being used on our QSL card.



Gringo turistas, ready for our trip to the Indian village.



The area near the river was teeming with exotic butterflies.



Ray with "his kids" in the Ayores Indian village of Zapoco. The community pavilion is seen in the background. This village is served by Ray's mission.



Our jet-lag began to really set-in. Luckily, we found a few vacant hammocks for an afternoon siesta.

Thursday, we finally got our equipment from customs, and finished setting up the station. Ron and I decided to stay up all night, so that we could try to work 160 and 80 meters. It turned out to be total frustration. Despite spending most of the day preparing the vertical and the beverage, nada. Not only were conditions lousy, the noise level was overwhelming. We understand we were heard all over North America, and the big guns were calling us. We could hear almost nothing. All night it was the same story, no signals, nothing but crashes.



This view shows the meticulously-maintained grounds around the club station. Note the iron fence, and the abundance of powerlines. QRN plus powerline noise made it really rough trying to hear on the lowbands.

There has been very little activity on 160 CW from Bolivia in recent years, and a major goal was to provide some contacts on topband. In addition to the extra multipliers that would contribute to our score, we all hoped to operate on 160 with our own calls before and after the contest. There was hope that we might be able to use the facilities at one of Ray's broadcast sites, where there is a 260 foot broadcast tower. As the rules prohibited us from operating from there during the contest, we would have had to set up a separate operation. That idea didn't pan out. We simply ran out of time.

What we did do is to put up a 128 foot vertical at the club site. They had a 135 foot repeater tower available. As intrepid as Tony is, he hesitated to climb that one. No problem, as it turned out. Ray knew of a young Bolivian who climbs

broadcast towers. This turned out to be child's play for him. In a matter of minutes he had the top of our vertical anchored to the tower. It took us considerably more time to string about 15 radials around the property. A quick SWR check (about 1.7:1) and we were in business. Finding room for a beverage was a bit trickier. But we did manage to put one out at a length of approximately 275 feet, pointing roughly NE.



Our Bolivian version of Don Overbye, hanging our 160m vertical from the 135-foot repeater tower.



These are our tower climber's kids enjoying a mid-day snack, while watching their father work.

Friday, during the day, we all got on the air on various bands, using CP6/our home calls. Each of us logged several hundred QSOs. But that didn't really ease the disappointment over 160. When the contest started, we occasionally tried to do something on 160, but ended up making only two

contacts: a W6 (ed. - the W6 was N6TR/7, in Oregon) and a W7. Ron worked them, and reported that they were both loud. But that's all that was ever heard.



Ron checked-out the 260-ft broadcast tower, used only during the day, and available for 160m at night. We ran out of time, and didn't get to try it.

Contest conditions were generally fair. On 10, 15, and 20, there was less noise, and it was possible to maintain rates between 125 and 150 per hour. On 40 and 80, however, the noise made it a real chore. There was QSB most of the time. All the signals seemed to be at the same low level, and the pileups on us made it extremely difficult to dig out the calls, correctly. It was slow-going, most of the time. When we tried to spread out the pile by listening up, it helped a little, but it was still difficult.

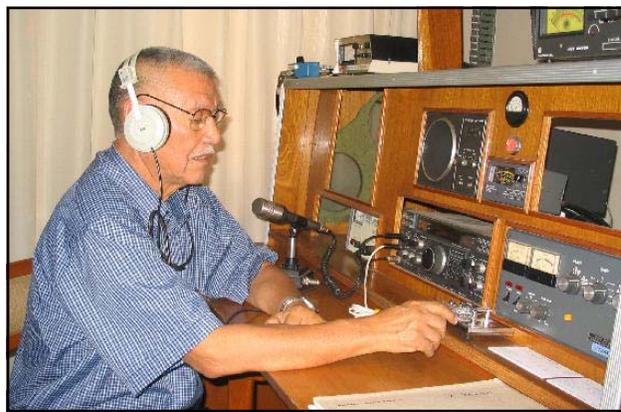
In the end, we totaled about 4700 contacts, well below our total in Guatemala. We managed more multipliers, but not as many as we had hoped, due to low totals on 160 and 80. But, because gringo contacts count 3 points, we eclipsed 8 million points. As of this writing we may have made the top 10 in the world - a better showing, than expected. Guess others suffered from some of the same only fair conditions. Of course, it helps to be transmitting from a continent where most of your contacts are worth more.

Monday was teardown day. Sadly, we packed everything up. One casualty was my 746. The front end was blown out by RF that was too much for the receiver to take.

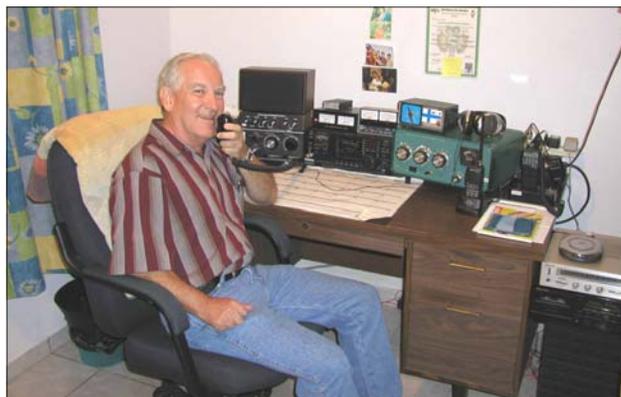
On our last night, a festive barbeque, hosted by Modesto, **CP6UH**, at his beautiful home, and attended by many of our new friends from the Santa Cruz Radio Club, made for a great ending to an eventful week. Now, once again, it's "wait 'til next year!"



On our last night in Santa Cruz, we were honored by a barbeque at the home of Modesto, **CP6UH**.



Modesto, **CP6UH**, at the controls of CP6AA.



Our host Ray, **CP6RR**, is a native Minnesotan. He and his wife Doris currently call Santa Cruz their home.

2004 CQWW DX CW Contest from CP6CW

Contest Results and Reflections by Ron, NØAT



The contest strategy, which we employed, was more straightforward than last year at TGØAA. Since almost all QSOs are 3 pointers, we didn't have to try to avoid U.S. stations in order to maximize our score. Our pre-contest propagation analysis was provided to us by Carl, K9LA, again. For the most part, we tried to be on the band that was open to Europe. The stateside stations would always show up, and we would put them in the log. But keeping focused on Europe provided for maximizing multipliers on the run station.

At sunrise, this strategy worked well for us. Since the southern hemisphere is in summer, the days are longer. We had two hours of Europe before sunrise in the states. Ten meters was wide open to Europe Sunday, and the 2-hour window really helped.

We operated Multi-Single. As you know, Multi-Single allows a second transmitter to be used to work multipliers. This year, we had the ACØX internet packet node to help us find multipliers. And, this year, we tried to work the multiplier station harder. We knew from past experience, that the final score would depend on how well we dug out the multipliers.

Some pile ups were easy to break. It seemed as though any path over the south was easy, but, although northern paths were there, we had difficulty with the pileups. We missed

zone 2 on 20 meters, because we couldn't break the US pile up.

Conditions from Bolivia were certainly different than in Minnesota. I liked the over the South Pole 10 meter opening at 1:30am local time. There was a Europe opening to the southwest in the early morning, that we didn't take advantage of.

And 40 meters was a strange band. As I said previously, it's summer in Bolivia, so I wasn't expecting much out of 40 meters. The first day was a wash, because we didn't discover the beam pointing backwards, until Sunday morning. Boy, the LUs were easy to work, when we thought we were pointed at Europe! Sunday afternoon, about 3pm local, Vlad was on the multiplier station. He asked if we thought it a good idea to check 40 meters. Well, the sun is still almost directly overhead, the locals are just returning from their siestas. Vlad checked 40 meters, and in a few minutes he put HSØ into the log!

Of course, 80 and 160 meters were disappointing. But, you have to remember it's summer down there. And, we were operating from a club station, at a very noisy location. 80 meters turned into a multiplier band, and 160 meters was a bust. We did manage to work K3LR on topband. The only other 160 meter contest QSO was with a local ham.



Vlad is on the run station, while Tony patiently waits for his turn at the pileup.

We never got a chance to learn the propagation anomalies from CP6. QSOs outside of the contest were very limited. The bulk of our gear didn't arrive until Thursday, and we didn't have access to the facility at night, except during the contest, plus the night that Bill and I got locked in.

And there was the 40 meter beam built backwards. After it fell down a few years ago, the locals rebuilt it. But they had only an English instruction manual. What's the Spanish word for front? What's the Spanish word for back? The 40 meter rotor, with 300 degrees of rotation, is now south-centered, with the dead zone right into the states.

Also, during the first day, the rotor boxes for the tribanders were mislabeled. When the mult station turned the beam to work someone in Asia, the run station would lose propagation to Europe. The second day went much smoother.

The pileups were difficult to manage, at times. It's helpful if the stations spread out a bit. We should have tried split a bit more. QSO rates were generally at 120, with a few hours of low rates the first night. Maximum QSO rates were just shy of 300/hour.

Modesto, **CP6UH**, the club president, operated for about 3 hours. He was getting the hang of it. It's nice to see him so very interested in CW contesting. Most of the other locals don't operate CW.

Summary of CP6CW 2004 CQWW CW:

Band	QSOs	Points	Zones	Countries
160m:	2	3	2	2
80m:	36	88	16	34
40m:	826	2417	32	99
20m:	857	2456	34	116
15m:	1867	5466	33	127
10m:	1136	3315	31	100
Totals:	4724	13745	148	478

Claimed score: 8,604,370



Bill on the run station.



Tony on the run station, and Modesto listening-in.



Tom runnin' 'em.



We're Doomed!

The following is an actual radio conversation, which took place between a US Navy ship and Canadian authorities off the coast of Newfoundland. This conversation was released by naval operations on 10-10-1995:

Canadians: "Please divert your course 15 degrees to the south, to avoid a collision."

Americans: "Recommend you divert your course 15 degrees to the north to avoid a collision."

Canadians: "Negative. You will have to divert your course 15 degrees to the south to avoid a collision."

Americans: "This is the captain of a US Navy ship. I say, again, divert YOUR course!"

Canadians: "No, I say, again, you divert YOUR course."

Americans: "This is the aircraft carrier US Lincoln, the second largest ship in the United States Atlantic Fleet. We are accompanied with three destroyers, three cruisers, and numerous support vessels. I DEMAND that you change your course 15 degrees north. I say, again, that's one-five degrees north, or counter measures will be under taken to ensure the safety of this ship."

Canadians: "This is a lighthouse. Your call."



Andaman Islands 2004 VU4RBI & VU4NRO

Congratulations to the following TCDXA members for reaching **Top of the Honor Roll**, by working the recent VU4 DXpedition:

Bob Bruner, WØEK, Albany

Tim Blank, NØTB, Byron

Glenn Johnson, WØGJ, Bemidji

Jeff May, WØXV, Brookhaven, MS



Answers to **DX Quiz** (on page 15):

The "Terrible Ts" were:

TJ - Cameroon TL - Central Africa TN - Congo

TR - Gabon TT - Chad TU - Ivory Coast

TY - Benin TZ - Mali

