Volume 1, Issue 6

7/2018

The Exchange

JOD

WWW.SWODXA.ORO

SouthWest Ohio DX Association

2018 Officers

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Club Call : W8EX

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The Prez says..... Tom, NR8Z

I'm writing this on the eve of Field Day. The weather forecast is trying to dampen my enthusiasm for my annual 1B Battery effort but I'm not going to let it get in the way. After a few nice weather years this might be a wet one. I just returned from a few days on Cape Cod where I spent some time on 40 and 20 meters working DX QRP. It's amazing what 5 watts, simple antennas (R5 vertical and end-fed half wave) plus being on the East Coast can do. For solar fluxes in the low 70s signals were pretty solid into Europe and Asia.

The 2018 Hamvention® is now in the history books and DARA is making great progress optimizing the new location. Speaking of rain, we didn't let it get in the way of the DX Dinner® or DX Forum. The committee did a wonderful job again on the DX Dinner and Forum. We had a little extra elbow room and everyone seemed to enjoy the fellowship. The club awarded the DXpedition of the Year Award® to 3C0L and 3C1L, the DXpeditioner of the Year Award® to Stan Vatev. LZ1GC and a Lifetime Achievement

Award to Dave Collingham, K3LR(SK). The DX Forum appeared well attended to my inexpert eye and the talks were informative. The



DX Dinner and DX Forum are fundamental to our club but are pulled off by less than half of the members of SWODXA, please consider volunteering next year.

Thanks to a great tip from Dave, K8DV, we got a very nice mention in the "Monday Morning Memo" from the Highland Amateur Radio Association. It contains information on the amateur radio goings on in Southern Ohio. If you don't subscribe, you can by dropping a note to highlandara@yahoo.com.

Note, there won't be a club meeting in July or August as we take our summer break. So, make plans to join us the second Thursday in September at Marion's Piazza in West Chester.

Tom NR8Z

So...whaddya think?

This is the 6th edition of "the exchange" which means our newsletter has survived one year! I hope you have found it informative, entertain-

ing and beneficial. If so, great. If not, why not? Let me know...I have created an easier way for you to submit your thoughts, ideas, articles etc. Just go to https://www.swodxa.org/newsletters/ and scroll to the bottom of the page. You can just enter your info there and hit Submit. I will receive it and it will appear in YOUR newsletter.

Looking forward to another year...Volume 2, Issue 1 in September! Bill-AJ8B

Interview with Sergio-LU7YS of LU8YE—Radio Club de los Andes

I have worked LU8YE many times and have worked most of the members of this club as well. There are three characteristics to this group of talented amateurs—They are all excellent operators, they have excellent signals and they have outstanding QSL cards! Please visit their qrz.com webpage and look at the excellent pictures. You can contact them at lu8ye@hotmail.com.

AJ8B: How did you first get interested in amateur radio? LU8YE: I started listening radio amateurs when I was 13 years old (1977) in the 40 meter band in AM with a tube broadcast receiver

AJ8B: When did you get on the air?

<u>LU8YE</u>: The first QSOs were in 1978 when I did the course to obtain the license of the Radio Club in my city, in 80 meters AM

AJ8E: How was the Radio Club de Los Andes formed? LU8YE: The Radio Club de los Andes was formed in 1985 due to the interest generated by the installation of a VHF repeater on the Chapelco mountain

AJ8B: The is a beautiful picture of the valley on the LU8YE QRZ.com webpage. It would appear that you have excellent take off angles in all directions. What is propagation like for you?

LU8YE: The location of the Radio Club is quite good, we have a low noise level and in general we have no difficulties to contact everyone, of course we are at 40° south latitude and that is the point that complicates us, the furthest from the line of Ecuador the propagation conditions are less favorable

<u>AJ8B</u>: You are an extremely accomplished contester. Any secret to your success that you can share?

LU8YE: I think the passion for the activity, insistence and learning have helped me, fortunately I still have the same enthusiasm as in the beginning

AJ8E: Describe what your favorite band: LU8YE: 80 meters is my favorite band for DX contacts in CW, from Argentina we are few HAM's in this band and I have very good possibilities from here, I am always in band every day, anyway, each and every



one of the bands excites me, each one has its particularity, difficulty and benefit

<u>AJ8B</u>: What advice do you have for those of us trying to break pileups to work DX?

LU8YE: You always have to try to understand how the operator of that DX station works, you have to be patient and find the right strategy, although there is always some luck for you to listen to us, know how to locate us on the correct frequency and call at the right time it is indicated





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Owned and Operated since 1996 by fellow ham Scott Neader KA9FOX

Interview with Sergio-LU7YS of LU8YE—Radio Club de los Andes (cont.)

AJ8B: Any QSLing hints?

LU8YE: LoTW is the answer, stop accumulating boxes and boxes of cards and stop spending money on shipments

<u>AJ8B</u>: What coaching/advice would you give new amateurs?

<u>LU8YE</u>: Listen and listen, pay attention to how those who stand out, respect the rules and participate in the most contests, a lot of radio and passion are the secret

AJ8E: You have open invitations to join the team for a weekend contest, hotel accommodations listed on the website as well as beautiful pictures of the surrounding area. Have you gotten many visiting hams?

<u>LU8YE</u>: We received many Hams from Argentina and Chile, they have visited us from Italy, Netherlands and

USA, Patagonia is magical and attracts many people from all over the world, we want the Ham's to discover

this wonderful place and our culture that It stands out for friendship and affection

<u>AJ8B</u>: I have been fortunate enough to work many of the club members and they all have paintings from

Georg Miciu on their QSL cards. What is the local connection to this talented artist?

LU8YE: Georg as well as being a great artist is a fan-

tastic and humble person, when we have asked him for images of his works for the QSL cards he has put all his collection at disposal, in his youth his study partner was Ham and he has very good memories of amateur radio

AJ8E: Thanks for taking the time to answer my questions. Is there anything you would like to share with us? LU8YE: Our small Radio Club we have built with effort, passion and love, we invite the HAM of the world to visit our city in the wonderful Patagonia and they can access our radio station and enjoy our dinners with delicious homemade meals with great Argentine wines, It is without doubt a tempting offer!





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DX QRP By Kevin, W8KJ

Kevin manages a QRP blog at www.cincinnatiqrp.blogspot.com

Many QRP operators are "shack" challenged... Not able to have a typical amateur radio station and antenna at home. Some may have CCR's, condo or apartment restrictions. Why not try "portable operation"?

The relative ease of setting up a QRP station in a park, on a trail, hill top, bike or pedestrian mobile – is an attractive or only option. Many QRP groups are formed based on one of these methods of operating. Many periodic contests are held throughout the four seasons of the year for "outdoor" operators. Much satisfaction and fun can be had by setting up on a picnic table, throw a wire into a nearby tree, and working other stations on your favorite band. A complete QRP station can be packed into a small container or bag, including rig, power source, antenna, tuner, key/microphone and logging supplies... Check the web - search "portable QRP" for more info.....

Additional info: Here is a short list of QRP friendly companies and suppliers:

Full transceivers -kit and ready to operate – Elecraft

Yaesu

Single band and mode kits

Small Wonders Labs

Ramsey Hendricks Orpme

Parts and accessories:

Debco (local) Ramsey Hendricks

Antique Electronic Supply

Elecraft

This is a very small listing of kit and parts suppliers. As usual, an internet search will give you many more options. Popular QRP HF frequencies: 7.030 14.060 21.060

Clublog.org Milestone—500 **MILLION QSOS!** Thanks to Bernie, W3UR, and the Daily DX

Posted on May 29, 2018 by Michael Wells

I'm thrilled to report to you that the half-billion mark has been passed, on 28 May 2018! The 500 millionth QSO was uploaded by W4PG, who uploaded a QSO with ZL1BQD on 17m (FT8). Congratulations in equal parts to Robert, W4PG and Roly, ZL1BQD. Here are the milestones I've recorded:

October 2009: 10 million QSOs February 2010: 20 million QSOs August 2010: 30 million QSOs September 2012: 100 million QSOs June 2013: 170 million QSOs June 2015: 300 million QSOs May 2018: 500 million QSOs



A very special thank you to everyone who has uploaded a log; every single upload has helped make Club Log's records more representative, especially when it comes to analyzing trends and the most-wanted lists. A thousand thanks..., no, a million – no, *half-a-billion* thanks! 73, Michael G7VJR

The summer season is upon us, with the heat and longer days. Like most lower bands, 60m is not as good in the summer. So, it might be a good time to start thinking about rebuilding our present antennas or thinking about a good receive one like a beverage or a loop. But that will all change this fall so a little band rest might do us all some good.

With high noise and no or few sunspots, there is lower activity. I just sent my 60m DX Newsletter out and not a lot to report in it. It will be that way until fall when the DXPedition activity picks up for the fall and winter seasons. KH1, Baker Island, will be operating the 60 meter band and are supposed to wage a good effort on the band. Let's hope we can work them for ATNO. With our low power and summertime lower conditions, it may be a challenge to get them in the log. Be sure all is working well and think about how you can improve your receive signals.

There is still activity on 5.357 FT8, so if you need something to do put out a CQ.

As we all know now, DARA's Hamvention was a big success. Did it rain? Well sure, it's Dayton. With all this behind us we can settle down to our local summer activities.

Janet and I will attend HamRadio in Friedrichshafen, Germany. It will our fourth trip to the largest ham convention in Europe. Everyone brags that it's the best show and cleanest they have ever been to. We would highly recommend it! Stay in Europe for a few extra days for a family vacation or to operate from another entity.



This year I have been asked by Mindi, our DX Dinner chairperson, to present the DXPeditioner of the Year award to Stan LZ1GC since he was not in Dayton. We might do it at the IOTA forum and then retire to the beer garden. Hi

ATNO Baker Island: KH1/KH7Z June 27 to July 7. Leader Don N1DG, told me that they will give 60m a big try after a few days on the air. I would think they will be on FT8 on 5.357. With such low band conditions this could be a tough one to work.

The 60m website is: www.60metersonline.com If you know anyone who wants to be added to this newsletter or be removed, if you have any 60m news to share, or if you are going on a DXpedition and plan a 60m operation, please let me know at w8gex@aol.com Thanks, Joe W8GEX



Countdown to

W4DXCC

September 21st – 22nd , 2018 Mainstay Hotel and Conference Center, Pigeon Forge, TN

W4DXCC is a DX and Contest Convention held in Pigeon Forge, TN and it's our 14th year. If you're a DXer, Contester or just an active ham you should attend this year.

The attendees enjoy the fellowship of other hams and share experiences. They meet old friends and make new ones. Once you attend you will be back every year. Representatives from Top equipment manufacturers will be on hand to demo new equipment and answer your questions One on One. It's an Easy drive from 2/3rds of the country.

This will be the most informative and relaxed DX and Contest convention you have ever attended, not to mention the many great prize drawings.

Radio BootCamp

This year convention attendees can attend a day long Radio BootCamp training session on Friday. Experienced hams teach new and old hams about building shacks and antennas, learn how to operate better while DXing and Contesting. There is something for every ham, New and Old.

It's time to make your hotel reservations

- Call the Mainstay convention hotel at 865-428-8350 to book your room, ASK for SEDCO special rates
- After May 1st Go Online or Call to order tickets.

For More Details Visit us at www.W4DXCC.COM



DXDinner Report By Dinner Chairperson & Club Secretary — Mindi, KC8CKW

The 2018 DXDinner®, the 33rd annual event, has come and gone and could be considered our most successful ever! The only real negative was that ticket sales were down to 349. Over the past 7 dinners, we had averaged 397. However, we had raised the ticket price and removed the discount for tables of 10 so the economic impact of a reduction in sales was not as great as it could have been. Raffle tickets sales were off about 10%. It could have been worse except for the tremendous effort of Pat Yockey!



Keynote Speaker K4MQG

The Marriott surprised us by moving two of the screens from the sides to the front corner. This freed up space along the sides. We removed 4 tables that would not be needed. With the reduced number of tickets sold and the screen adjustment, it did not have that crowded feeling that we have been accustomed to! The food was

good, and the speakers paid attention to the time! The keynote speaker, K4MQG – Gary Dixon – was entertaining and well received. The CQ Hall of Fame awards were presented to LZ1SA – Krassy Petkov, and KH7U – Kimo Chun. Both recipients were humbled by the honor and gave eloquent (and short) acceptance speeches. The DXPedition of the Year was awarded to the 3COL and 3C1L, Annobon and Equatorial Guinea. Stan, LZ1GC, received the DXPeditioner of the Year award. Kevin, W8KJ, accepted the award for Stan. Joe, W8GEX, presented it to him at Friedrichshafen, Germany. A special award of recognition was given posthumously to K3LP, Dave Collingham. Jay, K4ZLE accepted the award on behalf of the Collingham family. The biggest area of improvement was in the awarding and

distribution of prizes. Each year we receive many smaller prizes (50+) and each year we are told that the dinner is too long. This year, Richard, KC8RP, put together prize packages of almost equal amounts to address both issues. You could say that there were 3 GRAND prize winners and 11 GREAT prize winners!

The major prize winners were: Yaesu FTDX3000 – W8KJ – Kevin; Icom 7300 – N8BR; Yaesu FT450 – WX0E. The remaining 11 prize packages were won by K4GGB, N7TWS, NV5F, K1BG, VE2GX, W2ARP, AB4GE, KB1UGK, K0NM, N2WAA, and KG5VK

The big announcement at the DXDinner was made by AB5EB. Roy said that the Island Radio Expedtion Foundation (IREF) would be presenting their IOTA DXPeditioner of the Year Award during the 2019 dinner. AB5EB took a minute to describe IREF and the significance of the



award. He also offered kind words about SWODXA and the DXDinner.

Overall, it was a very successful dinner. Thanks to all who helped make this such a great success! Congrats go to: KC8CKW, W8KJ, Pat Yockey, W8GEX, KC8RP, K8JBL, W8RKO, NR8Z, K8CAA, K8WWA, K4ZLE, K4SV, and AJ8B



N2OO Inducting KH7U in to the CQ Hall of Fame



N2OO Inducting LZ1SA in to the CQ Hall of Fame



YL3GM accepting the DXPedition of the Year® Plaque from Tom, NR8Z

Youth DX Adventure Update By Jim, AB8YK

The Dave Kalter Youth DX Adventure is in final preparations for their July 19-24 trip to the Curacao PJ2T station. A team of 4 youth and parent plus team leaders Jim Storms (AB8YK) and Ron Doyle (N8VAR) are set to arrive in the afternoon of the 19th with a possibility of being QRV that evening. The HF operating modes will be voice and CW. It is possible they will pop up on ft8 but that has not fully determined.



There is to be a major concentration of the youth operating with the old guys filling in when breaks are needed. We have applied for the call sign PJ2Y but have not received permission as yet. Hopefully that will happen. If not then we will operate as PJ2T due to CEPT rules and our team having a Canadian youth team member. Keep an eye on our website for operating frequencies. More information is available at our <u>www.qsl.net/n6jrl</u> website. Many thanks to all our sponsors both individual, clubs and companies.

Using LOTW for WAZ

After working HSOZIV in early May for my final needed zone, I excitedly waited for the LOTW confirmation and then looked forward to applying for my WAZ—finally! My to my disappointment, LOTW only showed 39 confirmed Zones. Zone 23 was NOT confirmed. A quick search of LOTW showed 10 QSOs Confirmed with JT—What was the problem? I probably should have done some research, but, I instantly sent an email to the WAZ program coordinator, John—

KC5LK. John indicated that this is a common misconception. Just because the DXCC desk and LOTW confirm a QSO doesn't make it qualified for WAZ! Since those stations that I had worked over the years did NOT fill out all of their information including their Zone, they would not count for LOTW/WAZ. News to me...

John was easy to work with and explained that they had a solution—a Hybrid process. I just needed to print off the 39 QSOs for the LOTW confirmed 39 Zone and include one of the JT QSL cards to get credit for zone 23. That was done and the certificate is on its way! From KC5LK directly "The biggest thing for your readers to remember is that just because a card or LoTW QSL is good for any of the other awards that LoTW supports does not make it okay for WAZ because that pesky Zone Number that may be missing or incorrect.

By selecting the "LoTW-WAZ info" tab on my website www.kc5lk.com your readers can find some general information about changes to the WAZ application, how to request an update to your WAZ account in LoTW, merging your callsigns, new application forms, and links to the LoTW FAQ on the ARRL website. The page was developed using Firefox and has been tested using Chrome, IE 11 and Edge and the download links do work but I have had several report that because the files are quite small they were not aware that a download had occurred.



DXers have a choice! Get a free two week trial of The Daily DX and The Weekly DX and decide for yourself which one best fits your needs for informing you of all the DX news! Send an email to <u>bernie@dailydx.com</u> or go to <u>www.dailydx.com</u>.

The Daily DX 3025 Hobbs Road Glenwood, Maryland 21738 Phone: 410-489-6518



Highland Amateur Radio Association

We met John, W8KIW, at the Milford Hamfest. He provided some information that I know you would be interested in.

The Highland Amateur Radio Association is centered around Hillsboro, OH. There were MANY members in attendance at the Milford Hamfest. I was able to chat with John, W8KIW, the information officer for the club as well as a good operator and all around good guy!

This is a VERY active group with over 100 members! The Highland club had 28 graduates in their last licensing class and 21 in the prior class! SWODXA may be making a presentation some month to the group to expose the members to SWODXA as well as to (potentially) recruit some new members!

The Highland group helps these new hams by lending them equipment until they can acquire something for themselves. If you have equipment that is in working order and you would like to donate it, let me know and I will get in contact with John.

John is also the author of a weekly "Monday

Morning Memo" that lists various ham activities in SW and Central Ohio. To subscribe, and I really recommend it, just send an email to **highlandara@yahoo.com** requesting to be added to the mailing list.



SWODXA visits the Milford Hamfest

K8DV invited us to have an information table...who could refuse?

The Milford Hamfest was held on Saturday, June 16th at the Clermont County Fairgrounds. This was a new venue and the attendees seemed to appreciate the move. SWODXA had a booth and we generated a lot of interest in DX and the club. Even hams not interested in HF stopped by to check out our slideshow showing all of the DXPeditions that we have helped to fund since 2012.

We had a member stop by that none of us had ever met: K4YJ, Dwight and his XYL K3YJ – Eileen. They moved to the Lucasville area from the Southeast where they had been members of the SEDXA. Seemed a natural fit for them to join SWODXA. They have not attended a meeting due to the 90-minute drive, but, are planning to attend the 2019 DXDinner and meet everyone.

Eighteen club members stopped by and spent time around the booth – W8GEX, W8CAA, KC8RP, N8AA, K4ZLE, W8MRL, K8WWA, W8RES, AB8YK, K8LEE, K8FL,

The Milford Hamfest was held on Saturday, June N9RC, K8DV, K8CMO and the ultimate raffle ticket sellhe Clermont County Fairgrounds. This was a new ing machine – Pat, K3YJ, K4YJ, K8CR, and AJ8B.

> I am planning on attending the Georgetown, OH Hamfest in November and setting up an informational booth if anyone else is interested?



Baker Island Propagation Forecast

Thanks to Bernie, W3UR—The Daily DX for permission to reprint



Propagation Forecasts:

The 2018 DXpedition to Baker Island occurs during the declining side of the solar cycle where propagation is usually much, much worse, nearing the bottom

(https://www.swpc.noaa.gov/products/solar-cycle-

progression). In addition, there are limited hours of darkness in some Northern Hemisphere locations. However, this is the when our permit is valid and we are planning to maximize the time we are available to work to propagation challenged areas. For instance, stations will be on 20 meters 24 hours a day.

First, thanks to Stu, K6TU, we have imbedded his tools in our website where you can run forecasts specific to your grid square and station properties. Please visit <u>http://www.baker2018.net/pages/propagation.html</u> to see when and on what bands to look for us. We have also run these forecasts by geographic area to know when we should be listening for you. The forecasts are grim. However, stations on the Equator report working EU in June/July is one of the better times. During noon, local time, we don't expect to hear any signals. We will mostly likely take our main meals during that time, and rest up, for a long night of productive QSOs.

Remember, these are predictions – like climate versus weather. Climate is what you expect, weather is what you get. Keep an ear on the bands – you might catch an opening. Check the daily space weather forecast - <u>http://sunspotwatch.com</u>

Our network of worldwide pilots will also report how well we are being heard in your area to keep us abreast of propagation.

Our permit restricts our antennas to 43 ft vertical antennas. We won't get the gain of a Yagi, nor the directionality. We will be using Steppirs and special design antennas to take advantage of the salt water ground. One of the antenna designs has been adapted by AA7JV from the recent 3B7A operation.

We will be using FT8 to find openings we might not hear, and to serve as a beacon. When we find an opening, we will put as many radios/modes/ops on as we can.

Our group helped develop the latest WSJT-X software to incorporate a DXpedition fox/hound ode. Please download version 1.9.0 before we are QRV around 27 June. This may expand the bands we are able to use at this point in the solar cycle. We've also put a "how to use the new FT8" primer on our site. You can view it and our planned operating frequencies at

https://www.baker2018.net/pages/plan.html It will help those new to the mode to quickly master the new version.

As previously mentioned, we will stay on 20 meters continuously and jump to other bands from one of the other 7 operating positions. Our 15 operators will rotate on and off in 3 hour shifts. We have one goal, maximize the number of ATNO QSOs with this 5th most wanted entity.

All our equipment has arrived at the departure point. Our permit has been issued. Our callsign is set, KH1/KH7Z. All our plans for the past 11 months have led to this month! We are excited, and trust you are too.

We are nearing the start of the operation, as the ops leave for Pago-Pago within the next two weeks. We still could still use your donation at this time. <u>http://www.baker2018.net/pages/donate.html</u>

Thank you in advance for your support.

The Baker Island 2018 Team



CWops Update—Tools for Learning CW It CAN be done! — AJ8B, Bill #1567

We haven't had to learn Morse code to obtain licenses since July 2007. Before then, the International Telecommunication Union (ITU) required an assessment of Morse code proficiency to be part of the global amateur radio licensing procedure.

Many of us feared that with the advent of the "No Code" requirement in 2007, CW would start to fade as a medium for communication. However, in reviewing the number of logs submitted for the CQWW CW contest since 2007, we learn that while amateur radio licenses have increased 10.7%, log submission has increased *EIGHTY-TWO* percent! SSB Log submission also increased but by only 49.5% in the same time frame. Something was going on!

You need only to listen to the bottom end of most of the HF bands to realize that far from being dead, Morse code is alive and well and being used by increasing numbers of hams.

But why?

Morse code gets through

The answer is simple – Morse code gets through when SSB fails. This isn't just the die-hard CW fans speaking, it is a well-known, demonstrable fact. Digital modes such as FT8 are now competing with CW as the low sunspot alternative, but, there are still opportunities to work DX using CW.

Hams around the world work distant rare countries every day using CW and 100W or less plus basic wire antennas when single side band (SSB) signals from those parts of the world are virtually inaudible. A CW signal can have more than a 10-20 dB advantage over a SSB signal. Why?

An SSB signal will usually occupy about 2.5 KHz. An FM signal will take up about 10 KHz, but a CW QSO can take place in a bandwidth of about 300 Hz. As you are only listening to a single tone in a narrow bandwidth, it is a lot easier to filter out QRM and electrical interference. This is vitally important in urban areas and with compromise antennas, which are more prone to picking up noise from nearby electrical wiring, power line transmission (PLT) and a host of other pieces of equipment.

Most DXpeditions put a lot of emphasis on CW as an operating mode. And while it may be possible to work them on SSB you may find Morse code easier.

Our own Ron, W8ILC, has worked more than 370 countries using CW on the HF bands!

So what other reasons could you have for learning CW?



 Beacons use Morse to identify themselves – find out

what countries you can hear on the 10m band and others.

- Simple CW transmitters can be made quite easily.
 SSB transceivers are usually more complex to build.
- CW is more efficient than SSB, AM or FM. So you can often get away with less effective antennas or lower power levels to make your contacts. This means you are less likely to cause interference and you can still work DX with "stealthy" antennas.
- It involves no accent or pronunciation problems, and is a widely-understood international language.
- It is fun to learn and use CW!

So now that you are interested, how can you get start

There is a group called CWOps (<u>http://</u><u>www.cwops.org/cwacademy.html</u>) that was founded in 2009 with the intent of fostering the art of CW. More recently, they formed the CW Academy (CWA - http:// www.cwops.org/cwacademy2.html). CWA uses a unique teaching method coupled with Skype and volunteer teachers to mentor students in their quest to learn CW. There are three 16 week sessions each year that utilize a curriculum to ensure that the courses are standardized and effective.

CWA now has a new SKED page (http:// n8fq.org/sked/index.php?board=cwacademy) up and running and being actively used by CW Academy students, Advisors and CWops members. This is where students can go to arrange on the air CW QSOs with other CWA students and Advisors and CWops members. This web page will accommodate all levels of users – new, inexperienced or experienced in making QSOs, and allow them to leave messages requesting a QSO. The messages are 'real-time' and can be seen by all. Anyone can go the web site and create a new account which will then allow them to enter and respond to messages.

There are three other tools that are available for helping you on your CW journey. The first is a website that is used to emphasize the CWA curriculum. This website presents random words and phrases from that current character group you are working on. You can vary the speed and tone to help. You can also paste text phrases, or an entire file and it can create a file that can be listened to later. This website is located at <u>http://</u> morsecode.scphillips.com/jtranslator.html

NR8Z hits the Air on Field Day

Tom, NR8Z, set up at Caesar's Creek Campground, site 131 again this year for Field Day. According to Tom, it went "Pretty well I think. I made more Qs than in the past and 10 meters was open from time to time. Had a couple of curious folks come by as well. Weather was great too !"

How did you or you club do? Submit it for the next issue!



CWops Update—(cont.)

The second tool, Morse Runner, simulates the WPX-type contest where you must copy and enter callsigns and serial numbers. The creator, VE3NEA, also adds all kinds of artifacts to the audio, such as ORM, ORN, LIDS, QSB and so on. It gives you a taste of a real contest environment. You can control all of the attributes varying the session from easy to difficult. The third tool, RufzXP, is a great training program for copying callsigns. It starts you at a selected speed and keeps incrementally increasing the speed, if you copy each callsign correctly, but reduces the speed incrementally as you begin making errors. In other words, it consistently pushes your envelope to your "breaking" point. To download RufzXP, go to http:// www.rufzxp.net/ and download it. Matthias and Alessandro have created a very nice training tool. The web page also gives a nice explanation of RufzXP and an easy to follow "how to use it" guideline. Essentially, once you've got the program downloaded, you enter your callsign and a starting speed and then just start copying and entering callsigns, one after another. After a certain amount of time has elapsed, it will stop and display how you did. I recommend downloading it, setting it up, playing with it, and discovering how to make it work for you.

Used in combination with Morse Runner, RufzXP provides an excellent warmup just before starting a serious contest effort. But, equally important, it provides great training opportunities for those who are trying to increase their CW skills, especially with a view toward contesting.

A final thought on making slower speed CW QSOs was sent along to me by Forest - K4FTP. "Hang out around 7.114 +/-, which is the SKCC elmer frequency. Another way would be to make contacts with those who are doing SOTA or WWFF/POTA activations. Those ops doing activations are always hunting for contacts and are more than willing to slow down for chasers. Furthermore, many activators are new to CW and are running slower speeds to begin with. I have made a few WWFF/POTA CW contacts in the past week, and it's formulaic OSOs. Hear the CQ, reply with your call. They answer back with your call, RST, and the park number (great way to practice numbers!). You respond with their RST and a TU with a 73 and a 44. QSO done! It's good to remember that activators are usually running QRP. Resources to find out where activations are happening include:

SOTAWatch - <u>http://www.sotawatch.org/spots.php</u> WWFF - <u>http://smartwwff.cqgma.net/</u>



The Little Pistols Guild to HF Propagation—Part 4 Elements of Propagation

By Robert Brown, NM7M

This is part 4 of our series. K9LA, Carl, contacted the family of Robert Brown, NM7M (SK), and I received their gracious permission to reprint this excellent technical discussion. Thanks to the Brown family and to Carl for this.

HE SAID HE WAS GOINE TO LOOK FOR THE SOLAR WIND HILL OK FOR THE SOLAR WIND

There's no need to tell the Little Pistol what goes to make up HF propagation as LP has been practicing that already. Thus, LP knows signals are brought back to earth, hop after hop, by ionospheric refraction. More to the point, as far as the LP's DXing goes, is to show more about how ionospheric hops take place and the factors which influence them. Some of the factors are right here at ground level — signal loss and polarization changes with ground reflections — while others are at higher altitudes, up in the regions that go to make up the ionosphere.

Now the Little Pistol's RF leaves ground level as expanding waves, the vertical distribution of signal intensity depending on the type of antenna the LP is using and the ground surface nearby. The usual representation of antenna patterns, both vertically and horizontally, gives the signal strength in various directions, along ray paths which are perpendicular to the advancing wave fronts. At thispoint antennas and their patterns are not our concern; rather, it's the ray paths of RF through the ionosphere and how they're affected in going through or approaching regions of the ionosphere.

To begin that discussion, the Little Pistol needs to understand that ionospheric refraction depends on the reradiation of RF by the electrons that go to make up the ionosphere. In the simplest terms, radiation by the LP's antenna results from oscillatory or accelerated motions of electrons in his antenna. As the RF waves expand outward and encounter free electrons in the ionosphere, they're set in motion at the same frequency by the electric field E associated with the wave. Like the electrons in the LP's antenna, the free electrons radiate RF because of their oscillatory motions. In short, ionospheric electrons reradiate RFpassing by, resulting in an advancing wave front whose direction depends on the spatial distribution of the electrons. Now if the density of free electrons in the ionosphere did not vary with height, there'd be no refraction, i.e., no bending or change of the ray directions that describe the advance of the RF wave front. There's an optical counter- part to that; light advancing in a straight line in going through a transparent substance with a constant index of refraction. In the ionospheric case, the electron density increases with altitude and unless the frequency of signals is too high, the RF is continuously (but not constantly) refracted back toward earth.

It should be noted that statement applies whether the ray path is ascending ordescending through the ionosphere and results from the fact that the electron density increases with altitude above the earth. A crude way of saying the same thing is that RF is always being bent away from regions of higher electron density. The optical counterpart, involving a medium of atoms and molecules with bound electrons, is just the opposite, light always being bent toward regions of higher index of refraction.

Returning to the ionosphere, Little Pistol has enough experience to know that hops are not always the same, say day and night or at different times of the year, or even in the course of a solar cycle. But that's all anecdotal information and what the LP needs is something more quantitative to go on, what factors affect the numbers that are associated with the ionosphere.

The place to start, of course, is with the vertical profile of the electron density, so many electrons per cubic meter, as a function of height above ground. Two such profiles are shown in Figure 4.1, one for daytime conditions at the maximum of a solar cycle and the other at the minimum. Of importance to the Little Pistol are the heights of the various regions — from below 100 km to above 300 km for the D-, E-, F1- and F2-regions, respectively —and the magnitudes of various electron densities,





Elements of Propagation (cont.)

from a thousand electrons per cubic centimeter down in the D-region to a few million electrons per cubic centimeter at the F-region peak. Those profiles apply during daytime conditions at mid-latitudes. At night, the F1and F2-regions coalesce, the E-region density falls and the D-region disappears. Different profiles are found in the polar and equatorial regions but they need not concern the Little Pistol at this point. And looking at those profiles, it might be added that LP's experience is primarily with the hops below the F-region peak. That's because the LP has been prudent, using operating frequencies which did not penetrate the F-peak and, as a result, the hop lengths of the LP's RF were determined by the radiation angle of the RF and the height of the highest ionospheric region called into play.

But one cannot control all the RF radiated by antennas so some high-angle rays from LP's antenna might penetrate the F-region peak and venture into the topside of the ionosphere. That brings up the idea of critical frequencies, the highest frequencies which are returned by the ionosphere when probed by RF at vertical incidence. Thattechnique, ionospheric sounding, was used in the late 1920s to explore the main features of the ionosphere, the various regions and their critical frequencies, say foE, foF1 and foF2.

In that regard, theoretical considerations show that if RF is sent vertically upward to- ward a region with a number density of N electrons per cubic meter, the highest frequencyfc (in MHz) that is returned from that level as an echo is given by the following equation $fc = (9 \cdot E-6) \cdot SQRT(N)$

With that as a guide, ionospheric sounders probed the electron density overhead by directing RF pulses vertically upward and simultaneously sweeping the sounder frequency from about 0.5-20 MHz. The time of flight of echoes was displayed on the Y-axis of an oscilloscope and the instantaneous frequency on the X-axis. When a critical frequency is exceeded, say for the E-region, the RF pulses pass through it toward the next region, and is shown by a sudden increase in the time for an echo to return as the RF pulses go on to higher altitudes. As the technique was developed, the various regions of the ionosphere were established, along with representative values of critical frequencies and altitudes. For example, the E-region is present during daylight hours and the critical frequency foFE ranges from 0.5 MHz to 4.5 MHz, depending on local time and latitude. And the F1-region is also present during daylight and its critical frequency foF1 ranges similarly from about 0.5 MHz to 6 MHz. The F2- region is more important for LP's DXing but its critical frequencies are quite variable and do not show any simple relation to the degree of solar illumination.

To go on, as the sounding technique was perfected, geographic mapping of the critical frequencies was begun and expanded after WWII to show on a global scale how illumination affects the ionosphere, with the time of day and the seasons. In addition, vertical soundings were carried out during different phases of solar cycles and that dimension was added to the database of ionospheric characteristics. Toillustrate those points, consider Figures 4.2 and 4.3 which show global maps of the F2- region, with contours of the critical frequency foF2 in MHz, at two levels of solar activity. Figure 4.2 shows the foF2 map for 0600 UTC at



Figure 4.2 Global foF2 map for 0600 UTC, March 1976. (SSN=12)

the spring equinox of 1976 when the sunspot number was 12 and Figure 4.3 gives a similar map for 1979 when the sunspot number was 137. For that time of day, the subsolar point is on the geographic equator at 90 degs East longitude and the illuminated portion of the earth is between 0 and 180 degs E while that in darkness is between 180 degs E and 360 degs E..

It is of importance to note the foF2 map lacks symmetry about the geographic equator even though solar illumination issymmetrical at the equinox. In addition, it is of interest to see that F2-region critical frequencies do not drop to vanishingly small values in the dark regions beyond the sunset terminator, lyingat 180 deg East longitude. Both the lack of symmetry of the foF2 map across the equator and the presence of ionization in the dark ionosphere result from geomagnetic control of the ionosphere and will be discussed in a later section.

As noted above, the E-region is present during daylight hours and examples of the latitude and local time variations of its critical frequency foFE are shown in Figure 4.4, the up- per portion of the figure for the equinox and the lower portion for the summer solstice when the subsolar point is at 23.5 degs N latitude.

Elements of Propagation (cont.)





spheric regions is obtained from the study of ionograms. Height information, however, turns out to be more complicated as finding the true height above ground at which an RF pulse is returned depends on having a knowledge of the electron density profile. However, a virtual height of a region may be obtained by calculating the distance a pulse would travel at the speed of light in avacuum in half the time for a pulse to return to ground level. These distinctions will become clearer when actual ray paths are worked out from ionospheric profiles.

And that brings us to a more detailed representation of the main structure of the ionosphere, from the ground to just below the peak of the F2-region, in Figure 4.5. Ionospheric profiles like that involve a combination of electron densities derived from critical frequency data and heights of the peaks and ledges from studies of ionograms. Of particular importance is that the data are



Figure 4.4 Map of foFE, March and June 1958

It is seen that foFE goes to small values beyond the terminator which separates regions in sunlight and those in darkness.

Information on the critical frequencies of the iono-



Figure 4.5 Ionospheric structure for daytime conditions at mid-latitude

brought together in a smooth fashion using mathematical models. The lack of discontinuities or sudden changes in electron density makes it possible to follow ray paths through the ionosphere without having any abnormal kinks or sudden deviations in ray directions.

Earlier it was mentioned that ionospheric hops are not always the same, changing for a number of reasons. Now, having seen close up what an ionospheric profile looks like, it's clear that hops may differ because of changes in critical frequencies and even heights of the regions, say the F-region peak.

DXDinner Pics Thanks to Dave, K4SV

Elements of Propagation (cont.)

Changes with solar activity, in the course of a solar cycle, are one cause and Figure 4.6 shows how foFE, foF1 and foF2 at midday vary with sunspot number. Taking 11 MHz as the value for foF2 when the sunspot number is 180 and 6 MHz for foF2 for a sunspot number of 20, the expression given earlier relating critical frequency and electron density shows that the electron densities between the extremes differs by a factor of about 3.4.

When we get to tracing ray paths through the ionosphere, it will become apparent how hop lengths differ for those two extremes. But that is in the abstract and the Little Pistol needs to know more practical things, say what is the sunspot number and just where that value fits in the solar cycle in progress. So at this point we need to look into the means that LP can employ to obtain solar data.

SouthWest Ohio DX Association (SWODXA) DX Donation Policy

The mission of SWODXA is to support DXing and major DXpeditions by providing funding. A funding request from the organizers of a planned DXpedition should be directed to the DX committee by filling out an online funding request. (http://ai8b.com/application-for-dxpedition-grant/).

The DX Grant committee will determine how well the DXpedition plans meet key considerations (see below). If the DX Grant committee recommends supporting the DXpedition in question, a recommended funding amount is determined based on the criteria below. The chairman of the committee will make a recommendation at the general meeting on the donation.

DXpedition destination	Website with logos of club sponsors
Ranking on the ClubLog Most Wanted Survey	QSLs with logos of club sponsors
Online logs and pilot stations	Logistics and transportation costs
Number of operators and their credentials	Number of stations on the air
LoTW log submissions	Bands, modes and duration of operation

Factors Affecting a DXpedition Funding Request Approval

To join SWODXA, go to http://swodxa.org/member.htm

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SouthWest Oh	in DX Association

SouthWest Ohio DX Association (SWODXA) Club Fact Sheet

Who We Are: *SWODXA* is comprised of active DX'ers and contesters with a deep passion for all aspects of Amateur Radio. We welcome everyone who is interested in joining our club to please contact us. *SWODXA* members are active in all facets of DX and Contesting. We also travel to, and fund various DXpeditions all over the world. *SWODXA* sponsors the annual DX Dinner held on the Friday evening of Hamvention weekend in Dayton, Ohio. In addition, *SWODXA* members moderate the Hamvention DX Forum. *SWODXA* is proud sponsor of the prestigious *DXPedition of the Year Award*.

DX Donation Policy: The policy supports major DXpeditions that meet our requirements for financial sponsorship. Details are available on the website at: https://www.swodxa.org/dx-grant-application/ and elsewhere in this newsletter

Club History: The Southwest Ohio DX Association (SWODXA) is one of the country's premier amateur radio clubs. Though loosely formed in mid-1977, the club had its first formal organizational meeting in August of 1981 where Frank Schwob, W80K (sk), was elected our first President. While organized primarily as a DX club, SWODXA members are active in all aspects of our hobby.

Requirements for Membership: We welcome all hams who have an interest in DXing. It doesn't matter whether you're a newcomer, or an old-timer to DXing; everyone is welcome! Visit <u>http://swodxa.org/member.htm</u>

Meetings: The club meets on the second Thursday or each month alternating locations between at Marions Piazza on Kingsridge Dr. in Dayton, OH or Marions Piazza in West Chester. (Check the website) Members gather early in the private room for dinner and then a short business agenda at 6:30 PM, followed by a program. If you enjoy a night out on the town with friends, you'll enjoy this get together. Meeting attendance is NOT a requirement for membership.

Club Officers: Four presiding officers and the past president (or past VP) make up the Board of Directors The current roster of officers are: President Tom Inglin, NR8Z; Vice President Kevin Jones, W8KJ; Secretary Mindi Jones, KC8CKW, and Treasurer Mike Suhar, W8RKO.

Website: We maintain websites at <u>www.swodxa.org</u> and <u>www.swodxaevents.org</u> managed by Bill, AJ8B. These sites provide information about a variety of subjects related to the club and DXing.