# INDEXA

Helping to Make DX Happen Since 1983

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**A 501(c)(3) non-profit organization for the enhancement of amateur radio, worldwide peace, and friendship**




**Franz, DJ9ZB, doing what he loved; working the pileup and handing out QSOs.**

# A Tribute to Franz Langner, DJ9ZB

Franz served as either an INDEXA director or officer for over 35 years. His advice and council, his experience, and his knowledge were invaluable. He leaves a void, but over and above that, Franz leaves a legacy of how to do things right. During his DX activities he handed out hundreds of thousands of QSOs, traveled the world over, assisted with humanitarian projects, and was a member of the DX Hall of Fame.
Franz was a people person and a giver. He saw light though darkness and always found hope when others saw despair. He could find humor in the face of adversity, and at the radio, he had the endurance of an Olympian.

Thousands knew Franz and regarded him as their friend and he was indeed a friend to everyone. If you asked Franz for help or a favor, he would reply with his favorite word, “Sure.”

Franz, the years will now come and go without you. But know this, my friend, we will never forget you.

Ralph - K0IR

**inside...** ***In this Issue we cover Tips and Techniques to Enhance Your Operating and DXing Skills, Hamvention Recap and DXpedition Updates***

# Tips and Techniques
## To Enhance Your Operating and DXing Skills

In February of 2022, I asked a group of well known DXers, contesters, and highly respected amateurs a simple question: If you could give one of your fellow hams some advice as to how they could improve their station or operating success and enjoyment, what would it be? The response I received was overwhelming and I will share it here. Because of the volume of the responses, I suggest you print these pages, save them, and share them with your friends or club members; courtesy of INDEXA (www.INDEXA.org) . The amateur operators listed below took the time to give you some hints, inspiration, and ideas. Be sure to thank them next time you work them.

**5B4AQC/DK6SP, AD1C, DV5PO/ZL4PO, EI6FR, EY8MM, G3OZF, G4IRN, K0AD, K0MD, K1TTT, K1ZZ, K5ZD, K9CT, K9ZO, KO8SCA, N0AT, OH2BH, SP2LNW, TA7I, TZ4AM, V57JP, VE3DZ, VE3EJ, VK2GR, W0GJ, W1JR, W2GD, WB9Z, & ZL2KE**

**Enjoy the read. Ralph Fedor – K0IR**

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**From Nodir– EY8MM**

Most of my life I've lived in an ordinary apartment and there was never room for large antennas. From the very beginning of my amateur radio career, I have always been attracted to the low bands. While still in high school, I often spent entire nights on 80 meters. To achieve my desired results, I began to study books on antennas that can be installed in temporary locations. I could not install large and expensive antennas, as I could only install them for a short time to work CQ WW competitions or to work a rare DXpedition. All my antennas had to be simple, efficient and easy to install. As a rule, these were made up of one or two masts, and wire elements. A big plus for these antennas is that they are very cheap.

I tried to adapt and make the most effective antennas for 160 or 80 meters based on my local conditions. Sometimes it was a tall mast, a tree, a building or some other structure. And sometimes, I had to put up my own mast. So about a dozen antennas appeared in my arsenal, which can be made in almost any conditions. To do this, I had to read many books, and consult with radio amateur friends. By trial and error, I chose antennas that were most efficient for me.

I have now worked or 300 DXCC countries on 160 and 80 meters, all done with simple wire antennas. But besides working these countries, there was a lot of pleasure from experimenting with antennas and having a good time in the field with my radio amateur friends.

*(Continued on Page 3…)*

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**Editor & Publisher**
Steve Molo, KI4KWR
13063 Oliver Lane
Madison, AL 35756 USA

**Distribution & Circulation**
Hal Turley, W8HC
2309 Lincoln Avenue
Saint Albans, WV 25177 USA
secretary@indexa.org

Membership applications are available at:
www.indexa.org/application.html

INDEXA

Address general correspondence to President Bob Schenck, N2OO, at n2oo@comcast.net.

*From the Editor:*

If you have an article that you would like to share with INDEXA please pass along and I will certainly place it in the Fall Issue. We have CY0S Sable Island DXpedition just awaiting dates from the authorities in charge and Bouvet is coming up shortly after. Support these DXpeditions and any upcoming DXpeditions in 2023.

73,
Steve KI4KWR

**From Randy - K5ZD**

**If I could only give you one piece of advice, it would be…** to get on HF, with whatever radio and antenna you can, and experience the thrill of hearing and working stations that are far away. Amateur radio has many fascinating aspects, but using the ionosphere to communicate around the world is where the magic can be truly experienced.

**From Werner - V51JP**

No 1 is keep your station simple and know how your gear works. Know how to set up split and know how to manipulate your rig to do what you expect it to do.


No 2 is take your time. Don't expect winning your first contest. Use a few contests to learn the ropes, send in your log and if you have a feeling you completely fluffed it send your log as a check log.

No 3 a good antenna is the best HF amplifier there is.

No 4 living in southern Africa presents its own special challenges to getting heard in a pileup. All antennas in the northern hemisphere point east - west during contests. You need to get into the cluster somehow, without spotting yourself. Once you are in the cluster others will notice and come hunting for that multiplier. So ask the first few qsos to spot you.

No 5 listen listen listen. Adhere to the amateur radio code of conduct and the DX code of conduct to the letter. Listen to the disciplined way most american stations call you during a pileup versus the absolute chaos that ensues when Spanish or Italian stations call you in a pileup. Decide which operator you want to be.

No 6 take it easy. This is a hobby. Never forget that. If you can’t get through to a rare DXCC don’t get frustrated. Try and try again. Try another band, try another timeslot.

No 7 use the internet to help you. There are brilliant propagation prediction programs out there. Use all the info to your disposal to get info about contests and DXpeditions. Read up on what is expected in terms of exchange, frequencies, modes etc.

No 8 NEVER EVER run out of coffee.

**From Jim - AD1C**

My main piece of advice would be to try to LISTEN every day, in the morning before work and in the evening after work, if possible. Just like a camera won't take a picture when it's sitting in a closet, your radio won't make a QSO unless you're in front of it.

Second, operate contests! It will help you become proficient with short exchanges as well as up your code speed. Listen to how the contest operator at the other end handles pileups. If a local is running a pileup, see if you can hear the DX they are working, who they come back to, and why. Was the DX louder? Did they call slightly off frequency? Did they time it "just right"? These are all techniques that you can observe, learn and practice yourself.

**From Dave - K1ZZ**

Don't spend a lot of money for a high-end HF transceiver if you can't have an antenna to match.

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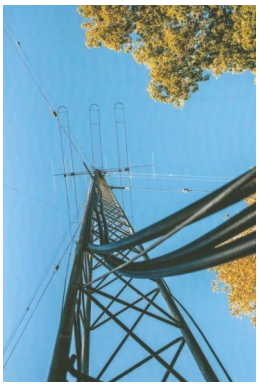

**From Ralph - K9ZO**

If you don't have much of a station you can still make a lot of DX contacts.

1.) Get on the air, but balance your other responsibilities – spouse, kids, job. Get on the air, every day, and a lot.

2.) Learn propagation. Once you find the right bands and peaks you will be able to get through when the signals are stronger. Learn that there are daily and annual cycles of all the bands.

3.) Follow the sun in your mind. Know when sunrise and sunset are in different parts of the world. Use the sunrise and sunset times. I often use Alexa to find darkness "Alexa, what time is it in Tokyo?" " Alexa, what time is sunset in Tokyo." With my big antenna on 80 I know I can get them an hour before sunset in the winter. If you have normal antennas you want to focus on 10 minutes before and after sunset. Pay attention to who is getting through, just a state or two away makes a difference.

4.) Improve your CW by listening to pileups. This will help you see the pattern the DX station is using to work people.

5.) When calling a DX station on SSB, wait and listen until it gets quieter. On CW slightly move your VFO, pause, and send your call. Do something that will distinguish you – clear sending, waiting until the din dies down, being slightly off frequency. You don't have to be the loudest, just the smartest. Listen to what the guys who are getting through are doing.

6.) Improve your antenna as much as you can. If you are using a vertical, keep adding radials. If you have a wire antenna up 20 feet, figure out how to get it to 30 feet.

7.) You don't need to spend a lot of money on a fancy rig. Most of the recent ones are very good and you don't need a lot of extra features. Just have fun and gradually become more professional.

8.) Sorry to say, but much of the activity has migrated to FT8 and it doesn't take much to work DX, so give it a try.

9.) Operate near sunrise and sunset. For years and years this was difficult for me because I had to get to work, pick up kids, stay late at work, help out with dinner, get to a second job. These are magic times and you should be on for them. The weekends are more competitive, but there is activity.

10.) Use your time in the radio shack to learn more about the countries you contact. You may not have the station for a long rag chew with DX, but you can enjoy finding out about other places in the world.

11.) Use QRZ.com to find out about the DX station you are working.

12.) DXSummit is vital for keeping track of activity.

13.) Immediately use software for logging, a database for all contacts, and upload to LOTW to save time and money, and be able to focus on working countries you need. You don't need all the features to get started.

14.) Use resources such as PSK Reporter to find out what is being heard on the bands.

15.) Dabble in contests. You will improve your operating ability and find stations that may not be too active during the week. Contests bring out the big stations, so you will have a chance to work lots of DX. N1MM+ is the standard program.

16.) I use the CW OPs weekly CWTs as a way to quantify improvements. After I moved and had to rebuild from scratch I used an off center fed dipole at the beginning. It was low and only as high as I could throw a wrench over tree branches. I made some contacts, got my speed up, smoothed out the back and forth QSO procedure. Then I put up an inverted vee and my contacts increased. Eventually I got up a tower and it became a challenge to see what I could do. Use 3830.com to record your scores. Mine became a biography.

17.) Buy things only once. Everything is expensive these days, but if you get good quality it will last and you will save time and money. For example, Scotch 33 and 88 tape is expensive, but wonderful. I've taken tape off that was 25 years old and it was still pliable. Don't scrimp. It will cost you more.

18.) Find out who in your area is doing the things you want to do. You will not impose if you ask to visit their shack and ask for direction. Introduce yourself at club meetings. Once people hear you on the air they know you are interested.

19.) You need some test equipment. A $5.00 VOM will work for troubleshooting, as will the $100 SWR and Power Meter.

20.) Find any number of online DX newsletters and seek out the DXpeditions.

21.) Stay away from compromise antennas.

22.) Experiment – lay wires on the ground for receiving. See what is better than what you are now using.

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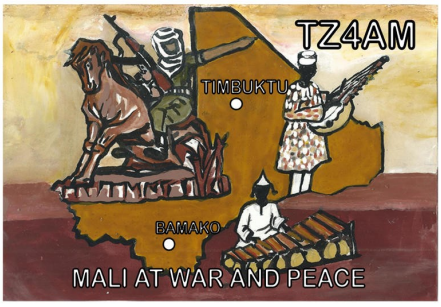



**From Jeff - TZ4AM**
In terms of my own operations from Mali, there are a few things that would make it possible to work more stations and to work stations that do not have 4 over 4s available.

**Always:** Call off frequency. Even if the DX station is working simplex, call slightly up or slightly down so that you are not drowning out his reply.

**Listen:** I have directional antennas on all bands from 30m and above, so when I call for NA, or SA, it's because I have the antenna pointed in that direction and am listening for stations, including weak stations from that **region**. I don't want to spend a lot of time trying to get a weak call only to find that it is a station from Europe, which is weak only because it is off the back of the antenna. If I'm calling CQ JA, HL or VK or ZL is OK, but HA or WA is not. At the end, I will call CQ EU or CQ NA for those stations who have patiently waited.

**Never:** If I say "UP" or "UP1", the one frequency NOT TO CALL ON is up exactly 1000 hZ up. There will be ten stations calling on that frequency and empty space above that. If you're QRP or weak compared to others calling, go to the top of the pile up and call slightly higher, and there's a good chance you'll be answered.

**Don't tailend.** My QTH is an urban neighborhood with lots of noise, so I have trouble getting call signs of weak stations and I actually am interested in my real RST. Tailenders interfere with both of these goals. Sometimes it takes 2 mins to get the call sign of a weak station because of people calling on top.

**Patience:** If I say QRX or QRX 5, I will come back on. If you wait and call immediately as I get back on, you have a good chance of being heard and answered.

**From Scott - K0MD**

Do an annual evaluation of your radio station including strengths, weaknesses, successes and disappointments. Write down a few goals (1-5) that you hope to accomplish in the next year. I do this annually in November/December. Nothing has proven more effective at raising my DXCC totals, improving my station and helping me with contesting.

**From Joe - W1JR**
**Intro:** DX is one of the most exciting activities within Ham Radio. To participate as a beginner (newbie), it doesn't require any expensive equipment or antennas. A simple low power (100 Watts or less) transceiver and a simple antenna are all you need.

**Radio Gear:** Low cost transceivers for the HF bands (1.8-30 MHz) are readily available especially used. A simple end-fed half-wave antenna (available from ARRL and many other sources), long wires, dipoles and simple vertical antennas are sufficient to get started hearing and working DX. Power amplifiers, towers, rotors, and gain antennas are not required for DX'ing but will make it easier to make contacts as your skill improves.

Most modern transceivers offer built in features that allow the operator to improve RF selectivity as well as receive and transmit audio enhancements. Built in antenna tuners and CW keyers are often included. You just have to purchase a key for CW operation.

Other external transceiver accessories are readily available such as earphones, microphones, speakers, panadapters, key paddles, antennas and power amplifiers which can enhance station operability. These are often advertised on the Internet, in catalogs such as DX Engineering, Ham Radio Outlet and in magazines such as QST, CQ Magazine etc. Product Reviews are also helpful. Accessories are often demonstrated at Ham gatherings.

*(Continued on Page 6…)*

**Antennas**: One common expression is that y**ou can never have enough antennas.**
**Antennas give you the most bang for the buck**. If you use the same antenna for receiving and transmitting, a 1.0 dB antenna gain improvement yields a 2.0 dB system improvement, 1.0 dB on transmit and 1.0 dB on receive.
Directional antennas such a Yagi beam really improve results. Not only do they increase your signal by up to several dBs in the desired direction but they also decrease undesirable signals and local noise.

**DX Clusters:** It helps to know what's happening in the DX world. The ARRL and "The Daily DX" bulletin as well as many free publications such as OPDX, 465 DX List, DX World, DXNL, and DX News can also be very helpful. **They tell you what DX stations are available, when and where.**

**HF Propagation:** Knowledge of Radio Propagation is very beneficial for DX'ers. The Daily DX has a daily propagation update written by W3LPL. The ARRL has weekly propagation bulletins. For more timely propagation information you can check the **SWPC** (Space Weather Prediction Center) website which gives hourly statistics of solar activity. HTTP://DX.QSL.Net/Propagation is another good site for timely solar indices.

Understanding these data help us predict how the ionosphere is being affected by solar radiation and hence radio propagation. For good radio propagation the A index should be below 10, the K index below 4, solar wind below 400 km/s, solar flux greater than 100 and sunspots greater than 25. These are only guideline numbers since all of them can vary considerably on a daily and even hourly basis.

If you see mention of a CME (Coronal Mass Ejection) it is an important warning signal. It means that the Sun has sent many high energy particles towards the Earth. In other words, disturbed propagation may occur within 48-72 hours.

Generally speaking when radio propagation is optimum 20 meters is usually the prime go-to DX band. It is most often usable during local daylight hours. When radio propagation is good the bands above 20 meters may also be useable. The 30/40 meter bands and below are usually optimum during local darkness. Also listen for propagation beacons such as the NCDXF/IARU International Beacon Transmissions on 14.100 MHz and other HF frequencies and bands.

**DX Modes:** DX can be found on SSB, CW or one of the many digital modes. Nowadays SSB seems to be the most popular DX mode especially on 20 meters between 14.15 and 14.35 MHz. CW is ideal for weaker stations between 14.0 and 14.07 MHz if you are proficient using Morse code. The newer digital modes such as **WSJT** (Weak Signal JT) originated by Joe Taylor, K1JT are found at 14.074 MHz and other HF frequencies. These modes are gaining popularity and are great for weak signals and smaller stations.
At first, operating and working DX can be a challenge. It helps to have a copy of "The ARRL DXCC List" which is inexpensive and available from ARRL. It lists all the available 340 entities (countries) worldwide and their prefix call signs. For example USA uses the prefix letters A, K, N and W while the UK uses the letters G, M or the number 2. DXpeditions sometimes have special easily identifiable prefixes such as 3Y0 and FT5 from rare Sub Antarctica islands. Knowledge of the most popular entity call signs is very helpful and is quickly acquired.

**Logging contacts:** Logging contacts accurately is very important. The inexpensive ARRL "Amateur Radio Station Log" is highly recommended. As a minimum, make sure you always log call sign, date, time, frequency and mode of operation.
For accurate time and date, DX'ers universally use GMT (Greenwich Mean Time), also known as UTC (Universal Time Central). It is often abbreviated as "Z" time such as 05:00Z. It is very accurate based on astronomy and originates in Greenwich, UK. For reference, NY City EST is 5 hours (-5) behind GMT.
As one becomes more skilled working DX there are various electronic logs and other important logging info sources such the ARRL **LOTW** (Log Book of the World), **ClubLog** and **QRZ.com**.

*(Continued on Page 7…)*

**Personal Computers (PC)**: Modern communications is now being enhanced by using a personal computer (PC). Many local features such as time and programs for computer logging especially for contests are available. The **WSJT** digital modes can now operate with most transceivers using a PC to decode and transmit several different digital formats such as the **FT4** and **FT8** modes.

At the same time a PC can be used to access the **DX Clusters** on the Internet such a **"DX Summit**" and "**DXHeat**". Both are great sources for up to the minute DX info. DX Clusters are generally worldwide so you can instantly see what DX stations are active anywhere in the world and their frequency.

**DX Jargon:** On phone operation Phonetics are used. They are carefully selected words representing the English alphabet. It is helpful to learn DX jargon such as 73 (best wishes) and 88 (love and kisses). Up means transmit above the frequency you are listening on and TU means thank you (end of contact). Use of "Q" signals is universal such as QSY (change frequency), QSL (confirmation), QRM (Interference), QTH (location), QRV (are you ready?), QRT (stop sending), QRX (wait a moment), and QRS (slow down on CW) to name a few.

**Operating:** It goes without saying that **you must observe the frequency, band limits and modes permitted by your operating license**. Operating skills for working DX are very important and can be quickly acquired. It is best at first to **Listen, Listen, Listen** and follow instructions from the DX station. Many DX stations, especially the rarer entities on a DXpedition do not listen on their own frequency but usually listen up a Kilohertz or more depending on the mode of operation.

Listening can help determine where to transmit. Timing is very important when calling DX stations. Study the **DX Code of Conduct.** It gives lots of operating tips. Calling out of turn or directly on the DX frequency is generally frowned upon and can result in being called a "Lid" (poor operator).

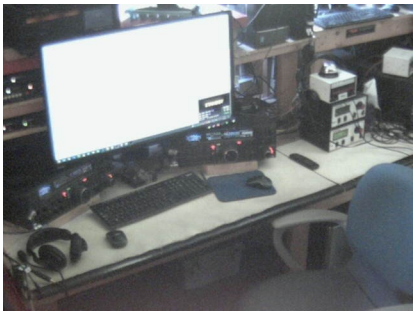
Here is another suggestion. When you hear a rare DXpedition, try to work them as soon as possible. Sometimes they may unexpectedly go QRT. DXpeditions do not like dupes (duplicate contacts) on the same band and mode. Also many rare DX stations and especially DXpeditions often post their log on **Clublog**, **LOTW** or some other location on the Internet so it's possible to verify that you are in the log.

**Summary:** DX'ing is great fun. Generally speaking the use of English is almost universal both on SSB and CW. International borders don't matter. Politics is verboten in Ham Radio and therefore almost non-existent. Sometimes multilingual DX'ers practice their language skills especially Hams from normally non-English speaking countries. DX'ing is also a great place to enhance your knowledge of culture and geography worldwide as well as making new friends.

Hopefully this write up will help DX'ers, especially newbies.

**From Dave - K1TTT**

My single best suggestion is to not bother reading all the stuff on the internet to try to figure out how to operate, get on the air and learn by doing!



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**From Ron– N0AT**

One suggestion I have is to make your operating environment more comfortable. I replaced my Heil Pro-Set earpads with Krone Kalpasmos Cooling-Gel earpad cushions. They are available on Amazon for $25.

**From Alan - VK2GR Thoughts From Down Under**
From south eastern New South Wales almost everywhere is DX, even Perth in Western Australia is 3,200km, while Auckland, New Zealand is 2,200Km and New York a whapping 16,000km.
**Let's ask at three important questions.**

**Why are the HF bands mostly empty mid-week?**
Comparing weekend activity with contests in progress is vastly different to the bands during the week. Do not rely on the DX reflector to tell you when stations are on the HF bands. Turning back the calendar to pre-Internet, say the 1970s, the way to engage in a DX QSO was to tune the bands and listen, find an interesting DX station, wait for the QSO to end then put your call-sign out, or find a clear spot on the band and call CQ.

Unfortunately, the Internet, email, DX reflectors and smart phone apps have changed the radio operating behavior. Please get on and call CQ whenever you enter the radio room, you would be surprised who may reply. When you do call CW, call for long enough to be noticed and possibly check RBN to see if you have been spotted before changing bands.

Some of the CW clubs are turning the tide a little by encouraging mid-week activity events, e.g. SKCC and CWOps with the CWT mini tests.

**Can you have too many antennas?**
My answer is no, that's why I moved from Sydney to a quiet radio friendly rural property.

While we all need a radio transceiver and possibly a linear amplifier, it is the antenna that does the heavy lifting.

My personal choice is to have a resonant antenna for each band. When operating as H44MA in the Solomon Islands, my choice was for segmented inverted-vee antennas that by bridging insulators would allow the antenna to become resonant on another band. When operating as P29CW in Papua New Guinea, my choice again was the inverted-vee, mainly because only one high point support is required. This time I cut the dipoles for each band and connected them together at the BALUN, on the top of a bamboo pole, i.e. an inverted-vee version of a fan dipole.

In regards to good DX antennas, while Yagi and Quad antennas are great performers, not everyone has the flexible building codes or funds to allow them to be erected. Quarter wave vertical antennas work well for DX if they have a good ground or have elevated radials.

I have used the simple Half Square and Bobtail Curtain antennas on 20m and 40m with great success. These are good DX antennas and can easily be constructed from telescopic squid poles and copper wire. It is also easy to use these in field day settings or erect the antennas on a weekend at home and take them down at the end of your operating period.

If you can only have one antenna for DX, what would it be? For me, it would be an 80m dipole with 450 ohm open wire feedline and a balanced tuner or a G5RV antenna.

A word about the BALUN or UNIN. While these are commercially available, it is just as easy to make you own. There is more than ample, easy to find information on the Internet or in antenna books.

*(Continued on Page 9…)*

A word about tuners, try to get your antennas resonant on your operating frequency without an antenna tuner. An antenna tuner next to the radio is very good at presenting an acceptable load for the transmitter, however we do not necessarily know what is going on along the feedline or at the antenna; a good SWR at the radio does not always mean a good performing antenna.

Understanding how antennas work and learning how to build and test them is extremely interesting and possibly the most important and rewarding aspect of amateur radio. While it is possible to work DX on commercial multi-band antennas, do not believe all the specifications. It is easily possible to build your own antennas that are equal or outperform commercial antennas. Start searching on the Internet, dig out the ARRL Antenna Handbook, go to the hardware store for some copper wire and start experimenting; the results can be very rewarding. An antenna analyzer will help you get the antenna where you want it on the band.

**Do you understand HF and MF band propagation?**
To work DX successfully, it is important to understand how the ionosphere assists HF and MF radio waves to propagate around the world and what bands will be open at what time of the day. All bands are time of day dependent with the low bands of 160m and 80m only have short DX windows open near sunset and sunrise times.
My operating challenge is the 160m band, trying to make contacts to EU stations; from eastern Australia it is possible on 160m to work EU at my sunrise for 10 to 30 minutes on some days and at certain times of the year, in the VK the summer. The 80m and 40m bands are more reliable for work DX with much longer operational windows.
Having a good understanding to the Gray-Line throughout the year gives me and understanding of what DX is possible.
To improve your propagation understanding, do some reading on the ionosphere, HF propagation and the Gray-Line.

**From Al - K0AD**

Most of my operating these days is HF Contesting. Here are five simple things I do before each contest to increase my enjoyment. First, I set a goal. Am I going to do a full time or part time effort? Based on this decision, I look up my past results for that contest on 3830 Scores to see what a reasonable score might be for me. Once I decide on a goal, I configure my contest logger (i.e. N1MM Plus) and enter hourly goals into the program so I can see how I am doing during the contest. The second thing I do is to call up last year's log (usually the Cabrillo file) and look for patterns. What bands worked best for me and when? When and where was I successful in running? When did I take my breaks? And so on. The third thing I do is to make sure everything is working on each band and mode I plan to operate. Using N1MM Plus, I switch to each contest band (and mode) and make sure the radio, antenna switch, amplifier, external antenna tuner, and band decoders all automatically switch to the correct band. I then sign my call every 30 Khz or so (in the contest bands) to make sure there are no SWR glitches. Fourth, I do a quick scan of the latest contest rules to see if anything has changed. Finally,…..I relax. If there is time to take a pre-contest nap before a big contest, I do it. In any case, I start listening about 10-15 minutes before the contest starts to get a feel for the bands.

**From Yuri - VE3DZ**

Improve your antennas first. If you are using wires, consider a single tower, even small TV type one, with a Tribander. You would be surprised by the results! Try to use verticals (even shorted ones) for lower bands instead of dipoles and Vees. You may even load your small tower on all low bands using switched matching system at the bottom of it. Radials may be short and of any configuration.

*(Continued on Page 10…)*

**From Jerry - WB9Z**

If you don't have any receiving antennas get some. Try a beverage(s), or beverage on the ground (BOG). A short vertical beverage array of two or more verticals may work well.

If you don't even have room for these, try a RX loop antenna. I am intrigued by the low band RX antenna being planned for the 3Y0J DXpedition. It is designed by LZ1AQ, there is plenty of info online including YouTube on the LZ1AQ loop.

FT8 & PSK Reporter are great tools for checking propagation. When I operate FT8 I always have a PSK Reporter window up. I like a separate radio running on FT8 and one on CW/SSB. Even a small radio like an IC-7300 with multiband vertical works well for this. I like using the RBN network also to check propagation, but you have to CQ a few times first before the worldwide skimmers pick you up.

**From John - VE3EJ**

- Spend a greater percentage of money on antennas rather than fancy radios.
- Take time to try and locate/fix noise sources.
- Use a band scope to identify trends and best frequencies when operating split.
- On CW, call a little off frequency. Avoid being zero beat with the masses.
- Study propagation and figure out the optimum time for you to call on a given band.
- Understand “bent path” and check long path routes.
- Tailor your CW speed to match the DX station.
- Don’t give up when the band goes out. It may come back!
- Stay up to date with DX bulletins.
- Listen a lot/transmit less.
- Work with a good logging program that helps with identifying the stations you need.
- Install proper filters on packet network to reduce the amount of data coming down the pipe so you can focus on what is important to you.
- Invest in a comfortable set of headphones. Invest in a comfortable operating chair.

**From Craig - K9CT**

My suggestion doesn't cost anything but time. Practice, practice and practice your operating skills. Contesting is a great way to work on your ability to copy calls the first time and make quick contacts. Listen to top operators and try to copy their techniques. You will find that working DX with these skills will get them in the log quicker.

**From Steve - ZL2KE**

10 meters often opens to DX prior to a geomagnetic storm. When such a solar event is forecast, listen for the beacons or put out a CQ. I first noticed these 10m openings about 40 years ago (when the solar cycle was far from high) and I had DX pile-ups on an otherwise dead band.

*(Continued on Page 11…)*

**From Don - G3OZF**

Save money and build many of your antennas. Simple single-band verticals cost a few $$.
Commercial trap verticals don't work as well. You can even home brew mono-band yagis.

Don't feel the need to always have the latest transceiver – spend the money on better antennas instead. Most "New" transceivers are limited improvements on earlier ones.

A linear amplifier is often more expensive than getting the same gain from a well-designed home-brew antenna. Of course, having both is even better!

Use contests to hone the effectiveness of your station. They improve your operating style, and allow you to compare yourself and your equipment with others with similar stations.

Spend a few $$ on integrating your station with your logging computer – including frequency tracking (CAT) and antenna selection.

You can build remote switch boxes for antenna selection a lot cheaper than you can buy them.

Don't skimp on good coax to feed your antennas – particularly at the higher frequencies. Much of your antenna gain and power can get lost in poor coaxial feedlines.

If you plan to play with building antennas, buy an antenna vector analyzer – it will repay the investment handsomely.

On telephony (eg SSB) spend time setting up your transceiver audio – take reports and recordings from others to optimise your audio quality. Most microphones need a lot of bass cut and treble boost to work effectively. Experiment until it's optimized.
If you plan to work contests, take time to listen to the leading stations – learn from their operating style – minimum words, and maximum QSO speed. Work to emulate this.

Remember that QRP operation can be great fun. 5-10 W output is plenty for a lot of rewarding operating. It just puts the focus on optimizing your antenna.

On LF bands, remember that receiving antennas are important – but keep them away from transmitting antennas. An area for lots of experimentation!

Put some thought into ergonomics in the shack – positioning all your radio equipment and ancillary stuff in the best way for minimum effort will pay off if you plan to spend extended periods "In the seat."

Finally: join your national radio society. Amateur radio needs a loud voice to protect its spectrum. By joining your national society you are also supporting IARU, which represents amateur radio in man regulatory forums globally. Without that voice, we cannot protect our spectrum.

*(Continued on Page 12…)*

**From Lester - DV5PO/ZL4PO**

TURN THE RIG ON whenever you are in the shack. Even if you have no time, set up to scan whatever band may be active.

If you have time, CALL CQ. If you are a CW operator like me, and get no response, check the Reverse Beacon Network (RBN) to see if you were getting out. That will tell you so much about propagation too. http://www.reversebeacon.net/srch.php

One of the big problems we seem to share these days is LACK OF TIME. So, if you are like me, spend less time on Facebook ham radio groups etc, and create more actual operating time.

We are so spoilt for choice with all the different digital modes available these days. Having so many modes has led to our downfall in some ways. My rig (Icom IC-7600) can encode and decode RTTY and PSK31, but there is little activity on these modes generally. Many have shifted up the band to FT8, so we don't communicate, that's my choice.

Maybe I should follow my own advice, truth is, we live in a modern world with lots of distractions, so we have to deliberately make time for ham radio.

And I am no different. A good friend if mine, Morrie Cookson VK2BIG (now SK), once said to me, 'As we get older, we need to redefine our life direction. If you have too many directions, you spread yourself so thin on the ground as to become ineffective. Transparent.

I think he was right.

Being a balanced and active ham is not easy. So many interesting and time consuming distractions.

So, for me, the first step is always turn the rig on, and have a tune around.

**From John - G4IRN**

My first simple tip would be - **Listen**!!

So much can be learnt from listening to others operate, listening to bands opening and closing, listening to everything and anything! Unless you are lucky enough to have an Elmer, the do's and don'ts of amateur radio are often leant the hard way, on the air. Avoid procedural mistakes and get to grips with band characteristics by **listening** to others.

Listening is particularly important when trying to work a DXpedition - listen to stations that make a QSO: what split are they using? What instructions is the operator giving? What is the operating rhythm?

Thinking more specifically about working a DXpedition and/or contesting - my advice would be '**keep every transmission as brief as possible**'. Everyone wants to work as many QSOs as possible, sending 73's or your call-sign when the other guy has already sent it is superfluous.
Calling a contest station or DXpedition: **Send your call-sign once only.** The run operator will be smart enough to read it first time; if he doesn't he will ask for a repeat.

*(Continued on Page 13…)*

**From Ozkan - TA7I**

-First of all, although amateur radio seems to be a hobby, it is necessary to make it a way of life if possible, and it is very important to make it as valuable as possible and to try to integrate. It is an advanced form of standard rather than a hobby.
-Our new friends should keep their radio conversations for a long time. They should not end the QSO by just giving a signal report. If they need name and city information, they should give station information and get it. This is a training for Morse employees. They need to increase their ear fullness. The same is required for SSB.
-If we consider the competition as a whole in a 48-hour competition, we need to create short, short sections in this integrity. This will keep us vigorous and standing. For example, we should set short goals by dividing the competition in our minds. I need to work this much in 1 hour or I have to have this many goals in different bands in 1 hour. Then we should plan the other time for different goals.

- Considering that we spend a lot of time at our stations, it seems important to reach sdr-based software and monitor monitoring standards for tx-rx. This is fun.
-I did an experiment recently and found it very useful. I used my radio for tx, but I used an internet sdr monitor station for rx. The stations do not reach me over hf, but the sdr monitor reaches the station, so I listened via sdr monitor. I had the opportunity to talk to many different countries. The station could hear me but my weak antenna couldn't hear it. It was pretty fun.

-I don't think that a very high watt is required in an HF system. Of course, an advantage is the amplifier. But the problems that high watts will bring should be considered. 100w standard. The important thing is that we have a resonant antenna for listening and transmitting. Keeping the antenna system high is a huge advantage.

**From Declan - EI6FR**

Speaking with the last 35 years DXing from a small suburban QTH, 10m tower, small beam and dipoles and 400 watts output but still managing 10 Band DXCC, WAZ, and DXCC, whole ball of wax; I would only offer that the biggest tool you can develop is dogged persistence and an iron ass. Just determine to sit in that seat for as long as it takes to work that DXpedition, sleep can wait, food can wait. It helps of course, if you can arrange work around DX chasing so sometimes you might have to decide between DXing goals or career goals, but DX Is.....

**From Slaw - SP2LNW**

Operating (mostly in contests)

- When in the S&P mode, I sort spots on the bandmap by heading (less antenna turning).
- Check for early band openings (less crowded).
- Be on the band until its final close.
- In the meantime check for mults on other bands.
- When calling DX in a pileup be sure not to do it at zero beat (+/- 50 – 70 Hz).
- I use the CQ text: TEST SP2LNW or TEST SP2LNW SP2LNW, it’s enough for RBN and Ops
- Always try to make RUNs in a constant repetitive rhythm.
- My left hand switches my RX antennas; the external keyer is in parallel with computer CW.

*(Continued on Page 14…)*

**From Glenn - W0GJ**
Simple tip: Get it up high!

**Return on investment:**

ANY transceiver 20 years old or newer and a "medium" 1000-1200 watt amp for rigs. Anything more, the cost rises exponentially.

**Antennas:**

1. Like the article below, higher is better. Run HFTA for your QTH to see what is optimum. It might surprise you!
2. 2-elements for a beam add 4.5 dB over a single element (dipole). Each additional element only adds .8-.9 dB of gain. 2-el beams are the most cost effective.
3. The most efficient beam is a mono-multi band beam, monoband elements on a boom. Traps are lossy.
4. Inverted-V? Make it horizontal for 6-8 dB gain, and get it up high for a total of 10-15 dB improvement over a low inverted-V.
5. Just about ANY inverted-V, and certainly any dipole, is better than a vertical. Some of the top MWA contesters only use wires…..in trees!
6. Low band verticals: LOTS of radials. No one ever complained of too many.
7. ANY Beverage is better than no Beverage for listening on the low bands.

**Operating:**

FOLLOW THE GRAYLINE. Study MUF maps and listen to the NCDXF Beacons.

**Pileups:**

1. Be in synch with the operator.
2. Be unique in the pileup, LISTEN and plant just ahead of where he'll listen next.
3. The more listening and learning the operator's pattern, the faster you'll be in the log. You don't hear the good operators, they are in and gone. The poor operators are all over the place calling and calling.

Remember your "family bandwidth!" Family FIRST, Radio second. Divorce is more expensive than antennas or the latest radios! I have a talk called "Is 3 dB Worth a Divorce?"

**From John - W2GD/P40W**

1.) Set yourself up for success with the best equipment and antennas that fit your budget.
2.) Set realistic expectations on what you can achieve with the radio resources available to you.
3.) Don't get stuck in analysis paralysis ... try something that isn't perfect but may work for you.
4.) There are literally hundreds of wire antenna designs that perform well - success is not dependent upon a huge antenna and Yagis.
5.) In today's internet world plan for computer interfacing for many reasons.
6.) Secure the license level that provides the operating privileges necessary to meet your goals.
7.) Don't live in a vacuum ... ask questions. It takes time for beginners to learn and understand technology and practical solutions to common problems.
8.) Connect with others who share your interests and passions. Share your experiences.
9.) Use Google - research questions that interest you. The world of YouTube videos opens so many doors today.
10.) Support the ARRL - the US organization that is looking after your amateur radio interests behind the scenes.

*(Continued on Page 15…)*

**From Adrian - KO8SCA**

I believe that efficiently using the latest computer tools developed in the last 20 years could make any amateur radio operator a better DX hunter.
These computer software programs or websites are free tools that anyone could use with very little effort.
Of course getting a bigger antenna, a more powerful amplifier or a more sensitive radio will help you in the pileups but I believe that in DX-ing just like in other fields, knowledge is power. Knowing where the DX station is and it's TX frequency before the pileups are starting, gives you an edge that will allow you to get the station in the log even with modest equipment.
Here are 5 tools that I use almost every time I hunt DX. I will use the 3Y0J callsign of the upcoming Bouvet Island DXpedition, as an example to show the procedures on using these tools.

DX Summit website:
Go to: www.dxsummit.fi and type in 3Y0J in the "Search" box at the top right of the page. This will filter the many postings of the DX Summit website to show only the ones related to the 3Y0J DXpedition giving you the opportunity to be quickly in the know of what the exact DXpedition TX frequency is or when there is a band change.

Reverse Beacon Network (RBN):
If you are a CW operator you could find out exactly the moment the DX station or the DXpedition shows up, even before other hams post details on the DX Summit, allowing you to send your call before everyone else shows up.
This tool also allows you to check how well YOUR OWN signal is received around the world. Go to your radio, find a clear frequency and just send a CQ. Watch the RBN and in a few minutes you can see where in the world your signal is heard.
Go to: http://www.reversebeacon.net/ and then click on the "dx spots" menu -> "spot search" option and type “3Y0J”

DX maps:
www.dxmaps.com
The DXmaps.com website is a real-time QSO map that answers the question (among many other details): Are people in my area working the DX? If you are located in W6 area and W2 hams are working the DX, maybe the propagation is not open for you yet and you have to be in standby. If others in your area are working the DX and you are not, perhaps it is time to see what you are doing wrong. Maybe there is some trouble with your equipment or maybe you forgot to adjust some filters or your attenuation is ON or perhaps your antenna has a defective or high loss connector etc.

DX World:
https://www.dx-world.net/
This website publishes details about anything DX related. Why is this important for your DX hunting? Having all the details about a particular DX operation could give you an edge. How? It will answer questions like: Is the DX a holiday style operation or is it a full blown operating team? How many radios and antennas? Is the DX using a wire antenna or multiple beams? Is this a QRP or a full power 1.5Kw operation? How long will that DX be active: a day, a week, a month etc ? All these details will help you understand the chances you have to successfully work that particular DX entity with the equipment and resources you own.

Announced DX Operations:
https://www.ng3k.com/misc/adxo.html
This website is an extensive DX calendar. It allows you to know well in advance when a DXpedition is planned. If it is a rare location that perhaps gets activated once every 15 years, maybe it is best to make room in your personal calendar to make sure you will not miss it.

*(Continued on Page 16…)*

**From Philipp – 5B4AQC/DK6SP**

Hams are investing so much into their equipment but most of the time they end up in using garden chairs to sit in at the station:

Thus, my advice - invest the money to buy a comfortable chair as you will sit in there quite an amount of time as you invested into your radio gear and want to use it.

Always have an ergonomic footrest in an angle you like under the table. You may also arrange the foot-PTT stuck on the item.

Sitting hours and hours in the chair and giving your feet the chance to rest is a big bonus.

Invest in two good up-to-date monitors rather than using old monitors with a lower resolution.

Again, you will spend quite an amount at the radio station as you invested so much into your radio gear and end up looking in non-comfortable monitors?

As good as stations in the cellar are, a bit of sunlight and a window to get some fresh air into the shack was and will never be bad.

**From Martti - OH2BH**

**IS WORKING DX THE GREATEST PASSION IN THE WORLD?**

This question is often asked when DXers gather, when they capture a new counter, or when they gain a new band point. And, when DXers meet their brothers, it looks like a greatest camaraderie ever imagined. Think about a bunch of hams going out on a DXpedition or multi contesting – there is nothing better on the planet.

But, can the title I gave this piece somehow be validated in the wider world? Who could be simultaneously enough of an outsider and yet be within our inner circle to swear by this claim, with **HER** hand on the Bible?

**Q**ueen of **R**adio **O**perations (QRO)

Ask this question as you look into the face of your QRO. Who is your QRO? Obviously your good lady who shares her life with you, 24/7. Try using plain language here, not DX. Ask her, the one you also love, "What is QRO?" I bet she will be lost! Try using, "What is QRL?" – not any better!

What I'm trying to illustrate here is that when it comes to the greatest hobby in the world, do not speak the same language in your home. Often your good lady hates your language as it sounds like science fiction. So, let me make the claim that you have the greatest passion in your household, but it is not shared by your good lady. So there must be something better on the planet.

In modern society the divorce rate is up around fifty percent or more, but among the holy DX brotherhood it measures sky high. We lose happiness at home at the same rate as we achieve it in the ham shack. The matter has been studied recently in the labs of the Northern Village, and we find the issues are easy and complex at the same time.

We DXers far too seldom take our ladies on a trip into this mystique of DX -- a trip that could give us time to share the happenings and our jargon by taking her into the shack and devoting time only to her. Take this trip on her terms and in a language that you both understand instead of QRO.

*(Continued on Page 17…)*

Once she knows the vocabulary, you may take your lady on a lakeside picnic bringing a small FTdx10 along with you. You may turn it on, but only for a little while – not for the whole evening. Have a sked lined up with another lady from another radio family. Let the two ladies speak on subjects they like; not on your subjects. Go home happy and make it a point to repeat this happiness more than once.

When the language and the radio are more established, you may extend your travelling to more distant lands – together – on her terms. At some locations, such as on ZF2BH, your radio hours can be extended. On DXpeditions, the situation is more complex. The latest I've learned is that Adrian, KO8SCA, takes his lady to the nearest civilized country in the vicinity of the DXpedition location (Cape Town?) for the duration of the DXpedition. But here we find ourselves approaching thin ice and rocky roads!

My point is that the high divorce rate is always caused by the fact that you do not share enough of your DX with your lady. Your second love becomes your first love and your dearest one is left alone without an understanding of your language and not appreciating that she is still your first love. When you say QRO next time – it should be self-evident that she is the Queen of your Radio Operations at all times.
I'm proud to be a DXer – aren't you??

NOTE: Please develop your lady/life related phrases to all the known Q-codes – it really works wonders. QRL = Radio Laziness on the beach with just you –- and an FTdx10!

**INDEXA exists to support DX. We hope you found this series from our international contributors useful, insightful, and informative.**
**Again, we invite you to share it with others.**
**We also invite your comments on what you would like to see in our future newsletters.**
**Explore the link below for more information on INDEXA.**

**INDEXA.ORG**

**INDEXA**

# INDEXA at Dayton Hamvention 2022


*WD5COV / NP4G / N2OO / N0FW and KO8SCA at the 3Y0J Bouvet Booth*


*INDEXA (N2OO and W8HC) presents the 2022 Dave Kalter Memorial Youth DX Adventure with a grant for their upcoming youth project in Curaçao.*

*Left to right: Don N6JRL, Ron N8VAR, Candace KE8MMS, Bob N2OO and Hal W8HC.*

*Candace is one of the lucky young hams going this year! Good luck all!*


*W8HC and N2OO at the INDEXA / WVDXA tent at Hamvention*

*W2ARP and N2OO man the INDEXA booth at the Dayton DX Dinner*

## CY0S—Sable Island News Update as of June 11

The Sable DXpedition dates have been set....Parks Canada have reserved those dates. March 20-29, 2023

The following are the assignments for the team members:

Team Leader: Murray WA4DAN | Operations Manager: Dan W4DKS | IT Managers: Jay K4ZLE and Bill K5DHY | Operator Schedules: Lou N2TU |

Team Doctors: Glenn W0GJ and San K5YY | Antenna Design: Bob K4UEE and Dan W4DKS |

Transport to Halifax, NS: Pat N2IEN / EME Op: Lee WW2DX | Webmaster: Chaz W4GKF |

Transport Partners to Sable Island: Sable Aviation and Vision Air Services

This week the team submitted to the ARRL DXCC Desk the Parks Canada approval documents. The team is hoping to have the exact dates for the DXpedition soon. The fundraising continues to go well and the team is very appreciative of the worldwide support. Thank you! Website: https://t-rexsoftware.com/cy0s/index.htm

# Latest DXpedition News

# Bouvet Island 3Y0J

## 3Y0J DXpedition to Bouvet Island - Press Release #10

**Press Release #10 from 3Y0J team - 03 June 2022**

**3Y0J DXpedition to Bouvet Island , January 2023**


In late April we successfully conducted a 4-day vessel inspection in Brazil that ended with a very good result. The inspection was carried out by a 3rd party vessel inspector and covered more than 105 checkpoints. The vessel inspection focused on safety equipment, instruments, navigation, engines/machinery, deck, tenders, fuel&fluids, interior, and exterior. Marama is in very good condition and hence the overall feedback is positive. The vessel went through significant upgrades with regards to machinery and engines in 2021 and has since been tested for years, most lately during the previous Antarctica season. The inspection file resulted in a punch list of only a few minor items to be followed up, no major findings during the 4-day inspection.

The team is currently working on the final preparations for packing the container scheduled to be shipped from Oslo in early September. Preparing the packing and shipping the container is extremely time consuming and requires a focus on details as our more than 2 years of work now is being materialized into packing lists and labeling the equipment. Today we have finally decided our container will be shipped to Port Stanley, Falkland Island. In Port Stanley a local team of ham radio operators will assist us in receiving the container, conduct a container inspection and make sure all is OK before the team arrive in early January. To Bouvet the team will bring with us 6500 kg of equipment, which includes several tons of fuel and food. Our contract allows for 22 days on the island, but we have food for 30 days and a plan for rationing should we have to stay beyond 22 days.

At this stage all the operators have already paid their full deposit of their individual $20,000 operator fee. This is your insurance that we will do whatever we can to make this DXpedition a success. In a few weeks we will pay our 2nd vessel deposit to Marama. Ultimately this represents a huge undertaking for us financially as well a commitment to go to Bouvet and activate the rare #2 DXCC Bouvet island. With all the preparation and planning over the course of the last two years you can rely on our commitment and our determination to go onshore Bouvet in a zodiac 7 months from now.

Going to Bouvet would simply not be possibly without the support from the vendors, clubs, foundations, and individual sponsors. June 1st, we completed our budget update, and this shows we're still missing roughly $100,000 out of our $690,000 budget to be able to go to Bouvet. As we now prepare for the next vessel deposit, we need your support to close the gap. Please consider supporting us by donating upfront.

You can follow our plans from our website and the 3Y0J Facebook pages:
http://www.3y0j.no

https://www.facebook.com/groups/3093983840726129

Thank you, Oslo 3rd June 2022
Ken Opskar LA7GIA, Co-Leader
Rune Oye LA7THA, Co-Leader
Erwann Merrien LB1QI, Co-Leader

# Club Log DX Report

| Band | QSOs | % DX | Graph |
|---|---|---|---|
| 160M | 876 | 8.33 | |
| 80M | 24,495 | 14.91 | |
| 60M | 4,359 | 31.41 | |
| 40M | 111,286 | 19.47 | |
| 30M | 50,516 | 46.42 | |
| 20M | 227,698 | 44.92 | |
| 17M | 96,871 | 63.48 | |
| 15M | 122,805 | 63.52 | |
| 12M | 19,072 | 57.74 | |
| 10M | 39,215 | 38.96 | |
| 6M | 59,490 | 20.36 | |
| 4M | 595 | 13.78 | |
| 2M | 11,130 | 2.29 | |

| Mode | % Use | QSOs | Graph |
|---|---|---|---|
| FT8 | 70.41 | 544,419 | |
| CW | 13.35 | 103,235 | |
| SSB | 10.03 | 77,585 | |
| FT4 | 5.40 | 41,757 | |
| FM | 0.32 | 2,469 | |
| RTTY | 0.15 | 1,135 | |
| MFSK | 0.14 | 1,064 | |
| PSK | 0.07 | 574 | |
| MSK144 | 0.02 | 174 | |
| DYNAMIC | 0.02 | 160 | |
| DIGITALVOICE | 0.02 | 128 | |
| SSTV | 0.01 | 96 | |
| JT65 | 0.01 | 58 | |
| AM | 0.01 | 54 | |
| DSTAR | 0.01 | 52 | |
| All other | 0.03 | 270 | |

| Rank | Prefix | Entity Name |
|---|---|---|
| 1. | P5 | DPRK (NORTH KOREA) |
| 2. | 3Y/B | BOUVET ISLAND |
| 3. | FT5/W | CROZET ISLAND |
| 4. | BS7H | SCARBOROUGH REEF |
| 5. | CE0X | SAN FELIX ISLANDS |
| 6. | BV9P | PRATAS ISLAND |
| 7. | KH7K | KURE ISLAND |
| 8. | KH3 | JOHNSTON ISLAND |
| 9. | 3Y/P | PETER 1 ISLAND |
| 10. | FT5/X | KERGUELEN ISLAND |
| 11. | FT/G | GLORIOSO ISLAND |
| 12. | VK0M | MACQUARIE ISLAND |
| 13. | YV0 | AVES ISLAND |
| 14. | KH4 | MIDWAY ISLAND |
| 15. | ZS8 | PRINCE EDWARD & MARION ISLANDS |
| 16. | PY0S | SAINT PETER AND PAUL ROCKS |
| 17. | PY0T | TRINDADE & MARTIM VAZ ISLANDS |
| 18. | KP5 | DESECHEO ISLAND |
| 19. | VP8S | SOUTH SANDWICH ISLANDS |
| 20. | KH5 | PALMYRA & JARVIS ISLANDS |

CLUBLOG

This report is sent to the Club Log Google Group every 7 days. It's also available daily at 14:30Z from https://clublog.org/dxreport.html

It contains a summary of band conditions and activity, based on the data that you and other Club Log users have uploaded. If you have any suggestions or feedback on this report, please email Michael G7VJR at michael@g7vjr.org

**INDEXA is on Social Media and AmazonSmile as "International DX Association"**

***(Logos are active directly to webpages)***

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