

## How to Work a DXpedition

The DX Code of Conduct is a list of practices that will help everyone derive more enjoyment from DXing, particularly as it relates to DXpeditions and the pileups that result when demand exceeds supply. The suggestions in the Code are really rules that, if followed by all, would result in more orderly pileups, faster and more QSOs, and more fun for everyone. But they do not tell you ways of getting in the DX station's log.

Many readers of this magazine are highly experienced hams who have a KW amp and a monobander for each band. . If that's you, you do not need to read this. You can have a QSO any time you want two minutes after turning on your rig. That said, you are welcome to read on and you may find a hint or two you might have forgotten.

However, most of us don't have a KW and have less than optimal antennas. We do the best we can with what we can fit into our location. Most of the guys who join the fray have 100 watts and a dipole. They get stomped on by the guys with KWs. So this story is more about how to get a contact if you operate under such a handicap. It is also intended as a quick primer for the ham who is just getting into DX, particularly if you have heard of a DXpedition and want a contact some exotic QTH.

Another motivation for the Code is that we older guys realize that all of us will eventually be replaced with younger hams. We want to improve our hobby and we want new operators to learn good, effective, ethical operating practices when they get started.

There are two aspects to contacting a DXpedition, or any DX station for that matter. Part is [strategy](#) and part is [tactics](#).

### Strategy

**Your station** - Arguably the first part of strategy is developing the best station you can afford and erecting the best antennas you can, given the limitations of your budget and QTH. Many hams are newcomers to DXing, are on a limited budget or, to be frank, just have a lower commitment to the hobby. They are just not going to be as well-equipped or even be able to spend the amount of time others will. But they can still get into the log. Recognize your limitations but look for opportunities to improve your station.

It may sound funny but the most important thing is your ability to hear the DX. Having enough power and the transmitting right antenna for him to hear you is in second place. You can't work 'em if you can't hear 'em, so work on receiving antennas first.

When you can afford better equipment or want to get clever about antennas, your chances will improve. But at whatever level you are, you can have success. I have a 100 watt station in W6 land where there are about 5 entities within 2,000 miles or so: W, VE, XE, KH6, and KL7. Whoopee doo. Everything else is harder. I live in a community with CC&Rs and I have stealth verticals that get erected where I think no one can see them, like at sundown. I have a 20 meter Moxon antenna, a wire beam. It's a great antenna design but mine is inside, up in the attic. That's pretty pitiful by some standards, but I work my share of DX and, and so can you.

I know guys who have “worked the world” and now for an additional challenge, now do it again, but with handicaps. One guy uses only 100 watts and wire antennas. Another guy I know already has over 100 entities working just QRP, and he lives in New Mexico!

A DXpedition may work 10,000 unique stations, perhaps 50,000, and a large number of those guys don't have stations that are as good as yours. They got in the log and so you can.

You should certainly learn to use the SPLIT feature in your transceiver. Read your transceiver's manual and practice a bit. It is absolutely essential as most stations that attract a pileup will be operating SPLIT. You should be able to use it without even thinking about it.

**Propagation** – We are at the mercy of the sun. Propagation is based upon what the sun is doing to our ionosphere. We have zero ability to control it. What we can do is understand what it is doing at any a point in time and try to figure out if it is creating opportunities for us, or whether it is creating barriers to success. It's doing something but how do you know what the effect is on you?

Absent some kind of significant solar event, propagation always favors someone. Don't fight it if it favors someone else. Wait until it works for you. There are some wonderful propagation programs that are easy to find on the Internet and some of the better ones are free. Find one and learn how to use it. Check out the resources at [http://www.ccdxc.org/dx\\_helps.htm](http://www.ccdxc.org/dx_helps.htm)

By study, you can find the best times when you can best hear the DX and he can hear you. There will be periods, perhaps short openings that favor you. Not only does it help, but beginning to understanding propagation will add greatly to your enjoyment of our hobby. There will always be mysteries but there will be fewer of them and you can learn about when the advantages will favor you.

The VOACAP tool is on the Internet and available to predict likely openings between any two points on Earth on times and bands. Check out <http://www.voacap.com/prediction.html> You can enter the DX QTH and your QTH and get a prediction graph. Try it out. It may show that an opening for YOU is only on one band and for a short period of time. That is when you should be there and be ready.

Propagation can be excellent along the greyline that occurs between areas of light and dark at sunrise and sunset. A good program is **DX Atlas** at <http://www.dxatlas.com> It is particularly useful in looking at how the greyline moves with time.

Some DXpedition websites also have propagation maps. See one example at <http://www.dxfriends.com/SouthernSudan2011/propagation.php> This will be of assistance to those who are just learning propagation and, truthfully, it's easier if someone else has done the “data setup” work for you.

Another way to see what propagation is doing at the moment is to look at the DX cluster spots in the Internet. There a number of free Internet sites such as DX Summit at <http://www.dxsummit.fi/> and DX Watch at [www.dxwatch.com](http://www.dxwatch.com) I am fond of DX Monitor at <http://www.ve3sun.com> It's costs \$40

but it has a LOT of special features that will make your life easier. You can try it free for 30 days to see if it's worth it to you.

Another good way to check propagation is to remember the first article of the DX Code:

**"I will listen, and listen, and then listen again before calling"**

The first assumption is that you can hear the DX station well enough to be sure he is your target. Believe it or not, there has been evidence of stations calling a DX station they cannot hear. We have all heard a DX call a station that we can also hear, and he keeps blithely calling, not realizing he could be in the log if he just said, "5NN TU." Go figure!

The DX is probably working split so all you have to do is tune up a few kHz from his frequency and tune around and see who you can hear calling him. Write down some of the prefixes you hear and you can get a good idea about who hears the DX other than you. Then listen to the DX and see who he calls. If you are a W4 and you hear him calling W4s, you are in luck. If you are a W6 and all you can hear are W4s and W5s, you probably aren't going to break through the wall. If all he is calling stations in a different part of the world and you may have to wait.

Sometimes you will find that a station in the middle of the Pacific that you can hear perfectly well is working nothing but European or Japanese stations. It may well be that even though you can hear him, you are off the edge of his beam. He will not likely hear you until he turns his beam your direction. Until then, you might as well be "Whistling Dixie."

If you are on the East Coast and all of Europe is on the air and they have stronger signals than you, you will have a tough time climbing that wall. Similarly, on the West Coast sometimes it can seem as if every JA with a license is on the air. They will drown you if they are your competition. So don't bother. It's frustrating and that's not the way to have fun with our hobby. Time to wait. Your time will come.

The DXpedition should be studying the same propagation information too. There are three areas in the world to look at, Europe, the Far East, and North America. That's where 80% of the hams are. It is likely that two of these will be easy for them. If they are preparing properly, they will be looking for times and bands when there will be opening to the one area that is not easy. That may be you. If you are looking at the data they are, you will know when they will be looking for you. Many DXpedition websites have published a band-plan on frequencies they intend to use. See an example at <http://www.t32c.com/Frequencies>

I go to C6 annually and between 2200 and 2300 there is an opening to JA on 17 meters. So when I start hearing them, I start saying, "JA only" because I know it won't last long. I can work the Europeans QRP about any time, so they are courteous and are quiet for a while. A well-run

DXpedition will realize similar brief openings and they will try to capitalize on them, perhaps to your benefit. But when that happens and you are not a JA, go get a cup of coffee or a beer and wait for your turn.

Just in regular operating, a European DX station may be calling, "CQ W6 W7" because he knows that there ought to be an opening, however short, and he wants to capitalize on it. We W6s know that on 40 meters in the winter that there is an excellent Long Path opening to Europe over the Pacific, up the Indian Ocean, and into Europe. It starts our bout sunrise and lasts for only a half-hour, but it sure can be fun.

I worked Zimbabwe recently on 20 meters where the station there, quite intelligently, had turned his beam "the other way" and we had a great Long Path QSO. I worked him with 10 watts! In this case he was the smart one and I benefited. In other situations, you can be smart about propagation and you can benefit from this knowledge and make a contact when your pals are still complaining.



## Tactics

**The first week** – When the DXpedition gets on the air, the first week is generally mayhem on any band because all of the big guns are out trying to get in the log. It's easy to hear dozens of stations calling and may one hundred others you can't hear that are your competition. If the DXpedition is going to last two weeks, as is common, you might want to wait for the second week.

By week two they will already have logged 10,000 or 20,000 of your competitors. Then those guys will be gone and it will be easier for you to break through. Note that this tactic assumes that propagation holds up. If there is good propagation in week one, even though the pileup may be huge, give it a try anyway. Sometimes LUCK beats all other considerations.

You also ought to look at band plans carefully. Maybe there is an awesome pileup on 20 meters, but you can get through on the less popular bands like 17 meters or 30 meters, just to give a couple of examples. A few of the "mighty" DXpeditions are operating with many stations all operating at the same time. One upcoming one has 11 stations planned, most with amps and good antennas. Hard to believe you can't find SOME band to work them on. That's completely different than trying to contact one guy who is in Malawi with a 100 watts and a vertical antenna.

Of course, the first step is to listen. Once you have determined that current propagation makes a QSO more likely, how do you get heard? The trick is to listen carefully to the QSX slot. That's the SPLIT slot where the DX station is listening and where you need to be transmitting. Maybe it's only 3

or 4 kHz wide. You can tell who he is working, assuming you can hear that station too, by listening careful for a "5NN TU." Spend ten minutes following his pattern.

Plan A - One popular tactic relates to that "5NN TU." If you hear it, you know where he is listening. You can move your transmit VFO to that frequency and start calling as soon as the DX station says, "TU DX0DX UP." This tactic works unless 20 other clever guys are doing exactly what you are doing on the same frequency. Then you will be buried and only the loudest station will get through. Then it's time for Plan B

Plan B - Perhaps he is listening to one frequency until he works everyone he can hear on that frequency. Then he moves up or down to a new one. Perhaps he is regularly tuning UP through the slot and then DOWN or maybe he goes UP and when he gets to the top, goes back down and starts tuning UP again. If you can detect a pattern, say he is working up, when you hear a "5NN TU," move up 400 or so Hz and send your call sign. If you have been crafty enough to figure out the pattern correctly, you will get in the log.

It is also important to listen to the DX stations rhythm. After each QSO maybe he sends the same thing, like "TU DX0DX UP" every time. If he does, it's stupid to call until he finishes. Sometimes, particularly if he has already heard another station on his receiving frequency, he MAY just send "TU." If he does that and you have found the right transmit frequency, calling quickly when everyone else is still listening for "TU DX0DX UP" will give you a two second jump on the others.

Another way of saying this is, "TIMING IS EVERYTHING." Well, it may not be everything, but calling at exactly the same time the rest of the stations in the pileup are calling is self-defeating. Your job is to "stand out." There is going to be a slot somewhere between calling too early and calling too late. It can get subtle, which is why you need to study it.

Whatever, remember he cannot listen for you at the same time he is transmitting. This plain fact is ignored or forgotten by the IDIOT continuous callers whose behavior psychologists are all trying to understand. Perhaps they were dropped on their heads when they were babies. Avoid the frequency of a continuous caller because he is bad QRM for you.

Another tactic is to call at a code speed that is slower than everyone else. If everyone is sending at 25 or 30 wpm and you, try calling at 15 wpm. You stand out from the crowd and he might pick up most of your call when the others have finished ripping through theirs. You still have to do that when you have scouted the right frequency, but this tactic can work. Admittedly it is easier with a call like W6SJ than it is with a call like KB9XYZ. Then again, maybe not. Your call will take up more time to send and maybe you WILL stand out even more in a momentary silence.

The point about these tactics is that you need to be shrewd. Being smarter than the crowd is just as effective as being louder. It certainly is more satisfying when you are successful.

There are lots of other tactics that are effective that have been found and used by competent DXers. Assume what you have read is just to get you thinking about the process. When it's time to expand your education, you can go to our page. There is a lot of very useful information there. Start out by downloading ON4UN and ON4WW's book. You can find a link at <http://dx-code.org/publications.html>

For two additional short and valuable guides, I highly recommend ZL2IFB's excellent website <http://www.g4ifb.com/html/dxing.html#PileupTips>

When you manage to get through the pileup and into the log, remember this last item in the DX Code of Conduct :

**I will be thankful if and when I do make a contact.**



Finally, please review the DX Code of Conduct in its entirety so as to avoid doing things that are counter-productive to your own efforts and that diminish the enjoyment of others.

**Good luck and Happy DXing.**

