

Guide to HF

PART 3 HOW TO WORK DX...

If you read Parts 1 and 2 of the 'Guide to HF Operating' by Ian Poole, G3YWX, in the March and April issues of RadCom, you may be ready to discover the joys of HF DXing. In this two-part article, Colin Dollery gives us the benefit of his half-century of 'DXperience' with some tips on how to work DX – and some light-hearted warnings on how not to do it!

Right: Two QSLs from Macquarie Island almost 50 years apart. Note that signal reports were more accurate in the old days!

Below: G3GAF is very lucky to have a purpose-built shack, the result of a house extension. The builders left a brick out of the wall high up in the shack to allow entry for the cables to antennas and let the operator bury about 20 metres of copper water pipe in the foundations as an earth system.

In these days of risk management this article must begin with a health warning. DXing may seriously damage your health. It's not just that dazed look in the morning when you have been up half the night trying to work DX on 80 metres or even those countless warmed-up meals when you thought you might just work VK0MM on Macquarie Island if you hung on for another half hour. No it's worse than that. Let me give an example.

It's the winter of 1949, in bed in Lincoln is a teenager recovering from pneumonia. His life may have been saved by an early sulphur drug, M&B 693. The teenager is a ham and his pride and joy is a very long-wire antenna stretching over a neighbouring farmer's field to a distant tree. Outside a gale is blowing and it has just begun to snow. The teenager's mother comes up to his bedroom to report that the long-wire is down, the rope over the tree across the field has snapped. Despite the strident protests of his parents this foolish teenager rises from his bed, dresses and crosses the field in the snow to throw stones and ropes over

the tree to haul his antenna back up. Now I am sure that none of you good readers would want to have such a stupid son, but that's what you might land yourself with if you have a DXer in the family. As you may have guessed I and my parents survived the incident.

I ought also to confess I am not a big DXer like the late Al Slater, G3FXB, but I have worked all the current DXCC countries save two (Scarborough Reef and Desecheo Island) both of which are uninhabited. My DXCC (No 1988) is dated August 6th 1954, perhaps I should update it? So what follows is an irreverent account of over 50 years of DXing. Let's start with the antenna.

ANTENNAS

Most hams who take up DXing spend a thousand pounds or two on a fancy transceiver and a tenth of that, or less, on an antenna. Wrong priority folks, big iron in the shack is of little use if you are a wimp in the sky. Attach your dipole to the chimney not the gutter, get a rope over the top of that tree, not to a low branch, reach for the sky!

If you are in very restricted location a multi-band vertical is the best, but it has two problems. First it scatters your scarce RF power in every direction and second it acts as a good receive antenna for powerful local European stations, that you might rather not hear so well when you are trying to fish out some weak DX. But it's a lot better than nothing. If you have the space, a dipole or two with the wire running north-south (most

DX is east-west). But do buy some decent quality antenna wire and even more important some good quality coaxial cable (from someone like Henry Westlake). The cheap coax intended for TV reception is very lossy.

Use good quality rope from a yacht chandler to suspend your dipole not polypropylene from the DIY stores. Polypropylene rope abrades quickly over tree branches and disintegrates in strong sunlight. Use a pulley on the end of the rope and a counter-weight (I use plastic orange juice jars full of water) to tension the antenna. That way the tugging of a tree in a gale will not destroy your antenna. Remember that tree bark keeps growing and will quite quickly entrap your rope. I have several good pieces of rope stuck in trees that I forgot to keep running back and forward to keep a tunnel in the bark.

If you are feeling grand a rotary dipole or quad loop makes a remarkably good and fairly inconspicuous DX antenna and they are not too big on 21 and 28MHz. Once you graduate to a tower and a multi-element rotary beam you no longer need advice from me. Low band DXing (1.8 and 3.5MHz) is another story, big antennas and lots of real estate are needed for consistent DXing on those bands.

TRANSCIVER

Assuming the transmitter works all you might want as an extra is that it has a speech processor to give your signal more punch. The receiver is much more critical. It must allow split operation, ie the ability to listen to the DX transmit frequency and to the stations he is working 5 to 20kHz away. It should have good strong signal performance and if you intend to work on the low bands (1.8, 3.5 and 7MHz) a built-in attenuator is handy. Most transceivers come with 2.4kHz SSB filters but I have replaced mine with 1.8kHz filters from International Radio (see 'Websearch' below). If you going to do a lot of CW work 250Hz filters will help.



Operating

There are some excellent used rigs available going right back to the TS-940 that was my main DX rig for years. Late models of the FT-1000MP are as good as the current FT-1000 MkV and Field models. But if you buy a used rig privately take a great deal of care (see below).

COMPUTER

This is the place to economise. Try to borrow or beg an old discarded 486 computer. Many households seem to have one. Offer to relieve them of the old 15in monitor at the same time. You need a machine with at least two serial ports (for the transceiver and the packet) but the processor speed is immaterial and 32MB of memory is quite adequate (16MB will do). I run the computer under DOS as I use *Turbolog* as the main logging program and *CT* for contests. Both are very stable in a pure DOS environment. You can create a DOS partition with *Partition Magic* if you want to keep the Windows set-up that is probably already on the machine. Use *PQBoot* to switch between partitions.

HANDS-FREE

Have you dreamed about one of those gleaming chrome and gun-metal grey desk mics you see in the ads? Forget it, no real DXer uses them. You *must* have a headset with a boom microphone (Heil headsets are excellent but pricey) and a footswitch



(Radiospares) to operate the rig. My first boom headset was home-made using a piece of coat hanger wire glued to the left hand earpiece and a Tandy microphone insert taped to the boom end. It worked OK but did not look pretty. You can see from the photo of my shack that I use the cheapest version of the Heil headset, the BM-10.

PACKET RADIO

For DXing nowadays you must have packet radio to connect to the DX Cluster. My packet station didn't cost much and consists of an old Pye MX290 PMR transceiver modified for 70MHz and a second-hand PK-88

controller. The antenna is a home built 3-element Yagi mounted vertically.

BUYING USED KIT

Much of my station was built using second hand purchases found in the Members' Ads section of *RadCom*. I've met some lovely people and got some excellent bargains. But I have also come across one crook and learnt, sadly, that possession of an amateur callsign does not always guarantee that someone's morals can be distinguished from those of a used car salesman. The worst case was when someone cashed my cheque but made no attempt to supply the goods despite multiple letters (including from the RSGB). In another case the gear had a fairly serious fault that looking back on it I think the vendor knew about.

So take care. Don't buy unseen. Take a friend who is more expert than you are. Test every function. Ask for a formal declaration of known faults and don't buy if the vendor cannot produce the receipts from when he purchased the equipment. But if you buy well this is the way to build a good station cheaply. ♦

Left: An extract from G3GAF's log for March 1952. Those two KG6s were on Guam Island (now KH2), and there's a couple of KL7s and a W6. Now can you see why I was so fond of that very long wire across the field?

NEXT MONTH:
Colin Dollery
brings more tips
on how to snag
the rare DX
and, yes, how
not to do it.

WEB SEARCH

International Radio (narrow filters)
Turbolog station logging program
CT contest logging program
Heil headsets and boom microphone

www.QTH.com/inrad
www.turbolog.de
www.K1EA.com
www.heilsound.com

...AND HOW NOT TO

Aaaaaaah!

aaah! This means that the owner of the signal has (a) a big linear he is tuning, (b) laryngitis and (c) is too mean to buy a dummy load. When you buy a linear amplifier, and as a budding DXer most likely one day you will, buy an oil-filled dummy load from a firm like MFJ at the same time. Even with a dummy load don't tune on a DX frequency. I once worked a very weak east coast US station who suddenly became S9+. That was when he switched from his dummy load to his beam!

The DXer

in question has hit the wrong button on his rig while trying to transmit split and has instead blotted out the DX (yes, I know: I've done it).

Oops...

The originator of the 'goo' in question has just worked Central America on 50MHz and is using a general packet cluster announcement to advise his friend across town of his achievement.

Bingoo!

Bingoo!

Loofers

Lack Of Off Switch

LOOFerS (LOOFerS). This refers not to the equipment but the operator. LOOFerS have a genetic defect that makes them unable to stop repeating their callsign incessantly in a pile-up. They rarely work anything but often prevent others doing so.

Not In Log (NIL). You sat up for hours, called repeatedly and at last you got him. Your return envelope flutters through the letter box but instead of a nice picture QSL

NIL

from a rare Pacific island there is your own card with a handwritten scrawl across it "Not In log". What went wrong?

You may have worked a pirate. They are common at the time of well-advertised DXpeditions. I am suspicious of unusually loud signals from a southeasterly direction, particularly when I do not expect propagation from the area indicated by the callsign. Or the DX may simply not have got your call. Did you give your call twice, slowly, with standard phonetics when he came back with only two letters of your call?

He may not have been working you at all! Some DX operators are terrific in the way that they will ward off the megawatt breakers to pull out the full callsign of a weak station, but others give up easily which simply encourages the aforementioned.

Sadly, DX stations sometimes make logging errors (we all do). I once worked a very rare station. I know it was a good QSO, there was little QRM and I recognised the operator's voice. But it still came back NIL. Grin and bear it.

Jamming

Jamming. Deliberate

Jamming is jamming with a continuous carrier, playing music etc, is on the increase. You will never descend to that, but what do you do when you are jammed or, more likely, the DX station you are trying to work is jammed? The answer is to ignore it and try to continue with the QSO. The jammer is hoping he will provoke you and if he succeeds he has won. Don't let him. Keep quiet and pretend he is not there.