

# DX'ing & How To Do It

But really,

DX'ing Hints and Techniques

Brazenly Plagiarized

From the Books of W9KNI

**TURN YOUR RADIO  
ON!**

**YOU WILL NEVER WORK ANYBODY  
IF  
YOUR RADIO IS NOT TURNED ON!**

# The First 100

Location

Antenna

Power

Receiver

Operator Skills

Practical Knowledge

# FCC Required Mental Health Warning

- DX'ing is addictive and may be hazardous to your health!
- Family obligations first
- Work obligations as well
- There are other things in life besides DX.
- But, not many!

# First Things

- What are the band conditions? How can you tell?
- What paths are open? Long/short or skewed?
- Think about morning/evening 'gray-lines'
- Solar flux, A-index and K-index?
- Where is antenna pointed? Get a good map.
- Tune up transmitter AND linear
- Who's on? What 'rare ones' active?
- Keep track of active dxpeditions (NG3K web site)
- Spotting network(s)/clusters?
- Note UTC DATE AND TIME!

# Basic Listening

- Wear your headphones! Weak signals are, well, weak!
- Always have your AVC/AGC on.
- Use a 'communications grade' headphone.
- Have a comfortable chair.
- Pen and paper ready?
- UTC time and date noted?
- Learn what your radio can do. Filters, DSP, RF vs AF controls, AVC/AGC settings, VFO vs RIT

# The Three Basic Facts

- The DX station has to actually be on the air.
  - He calls CQ, or
  - He answers someone else's CQ.
  - The trick is to be the first to hear his CQ, or the first to hear the end of his first QSO.
- The earlier you catch them, the less the competition for their attention.
- It's a poor practice to tune for pileups or depend on the packet cluster.

# Identify Every Signal You Hear

- Not necessarily by call sign.
- What is he saying?
- How strong is he?
- Who is he talking to? Does he say a call sign?
- How 'rushed' or excited does he sound?
- How does the signal 'sound'? Flutter? Quiver? Is it a polar path?
- How fast are the exchanges?
- Keep a 'frequency list'



Now, listen, listen, listen, listen...

Slowly

Carefully

Top to bottom

Then, do it again....

# Pile-Up Technique-1

- Listen.
- How is he operating?
- Timing and Rhythm
- Who is he working?
- What path (long, short, skewed?)
- Where is he listening?
- Match your style to his
- How big is the pile-up? What are your chances?
- Phonetics: ITU vs 'something special'

# Basic Equipment

- The most important equipment you have is---- what's between your ears.
- Must have two VFO's---A and B
- Must be able to 'zero-beat' a frequency
- Must have a good CW filter(s) (Yes, you HAVE to learn CW!)
- Nice to have break-in (QSK) capability
- Can you get parts/service

# Equipment for the First 100

- Keyer—with a memory if possible.
- Headset with microphone.
- Digital clock
- Foot switch (for SSB mainly)
- Logging software that tracks DXCC
- Computer and internet connection
- Antenna vs Linear

# Basic Operating Techniques

- If he is operating simplex:
  - Zero beat his frequency exactly.
  - Hit A=B to move transmitter to that freq.
  - Now 'unlink' the transmitter and the receiver so that moving the receiver does NOT move your transmit frequency!
- Make sure, very sure, he is NOT operating split! If he is, make sure of your VFO settings!
- When should YOU call CQ?

- If he is operating split frequency:
  - Life is now more complex!
  - Where is he listening? Up or down, how far?  
UP2KC is NOT a Russian call sign!
  - Does he move slightly after every contact?
  - Is he really running TWO pile-ups, 1 up & 1 down?
  - Does he always hesitate and call the strongest signal?
  - Is he giving any other clues or instructions?
  - Have you got a way to hear or see both the DX and the pileup to spot where you should call?

# The Intermediate Level of Listening

- Identifying the DX signal:
  - Polar flutter, auroral buzz, Doppler shifts
  - Chirp
  - Hand sent CW
  - CW using a 'bug'
  - Unusually slow English speech or unusual name.
  - Accent
  - Excited speech!
  - Mention of QSL'ing, especially via buro or manager

- You hear a pile-up, but not the DX station:
  - If the pile-up is spread out, the DX is probably operating split frequency.
  - The ‘traffic cops’ can be useful. They are sure to be on his frequency.
  - Who is being worked? If nobody from your ‘area’ is being worked, well....
  - Check a spotting network, the split might be spotted there.
  - Big pile-up, and you’re a little pistol? Tough!  
Now skill and timing are really important.



# Intermediate Pile-Up Techniques

- Not necessarily zero-beat?
- Using a hand key or bug
- To tail-end or not to tail-end?
- The 'delayed' or 'timed' call
- Use of the spotting network
- Secondary paths
- How long is your call sign?
- Can't hear who he's working? Look down!

# The Second 100

Things are now going to get  
tougher.

So

You are going to have to get smarter

# Advanced Operating Techniques

- Use the DX Newsletters and Grapevine
- Join the local DX Club and make friends!
- Use your DX Club repeater to announce rather than the spotting network.
- Know when to change bands. Just because you hear Africa doesn't mean you would hear the Indian Ocean.
- Is he 'legit'? WFWL!
- Always be prepared to transmit NOW on the band you are listening on.

- Work every country on every mode and band you can. Think 5Band DXCC and 5Band WAZ
- Don't broadcast who you are calling!
- The 'rare one' wants to work his own DX, and you want to work him.
- Work him first, THEN spot him. (duh!)
- When to call CQ DX

- Use the spotting net work wisely
  - What areas are being spotted?
  - What else might be on?
  - What is the east coast hearing?
  - Has an ‘unannounced’ rare-one come on!

# Advanced Listening

- Know the secondary path & long path. Listen!
- Know where it is morning and evening. Listen!
- Figure out their operating habits Listen!
- Tune for the weak ones, not the strong ones. Dig for them, deeply, never skip a weak one. Listen!
- Know when to be on what band. Listen!
- Be up at odd hours. Look on 'closed' bands.
- Listen outside the DX bands.

- Listen close to loud signals. Real close!
- Consider, not all 'rare ones' WANT to work W's
- Consider, not all 'rare ones' WANT to work pile-ups, or even can work pile-ups.
- If it ain't on the wall, it's still a 'new one'.
- Know when they might be on! Yes, and Listen!
  - Friday in Middle East
  - National holidays
  - If possible, schedules with managers
  - Small or local contests a rare one might be in.



# Advanced Pile-up Techniques

- Know an operators habits and quirks—listen and learn.
- Find the clear frequency in the pile-up. How?  
Spectrum scope: finds pileups and holes.
- Timing, timing, timing. The ‘3 second delay’
- He said he’s going QRT.....but maybe not.
- What use is a contest? Contesters are crazy, but.....

# Advanced Equipment

- Location
  - “The ideal QTH is an island in the middle of a salt marsh atop a high plateau.”
  - Avoid CC&R’s
  - Find out about building and zoning regulations BEFORE you build or buy
- On antennas
  - Reliability is a key.
  - Availability for all DX bands
  - Low bands: Transmit verticals, receive horizontal

- If possible, check for noise levels.
- Find out who your power company's noise guy is, and put him on your Christmas Card list.
- Wire your headphone 'out of phase'.
- Keep a DXCC list, a WAZ list, a list of call sign prefixes, an ITU Zone list and a list of beam headings by prefix under glass on the desk.
- Get a keyer with programmable memory.
- Keep your records up to date.
- Learn key words in foreign languages.

# Above 300

Now thing get really tough!

# Things are different now.

- No matter how bad the QRM, how unruly the pile-up, how dumb the ‘traffic cops’, how bad the propagation—stick with it. Think!
- Have a network of buddies, work with them!
- Sometimes a rare DXpedition will have an unpublicized frequency on which they work ‘back home’. Find it.

# The Last Ten

- Sell your soul
- Prayer
- Bribery
- Spend LOTS of money
- Mount an invasion
- Wait, and wait, and wait.....
- And plan!

# K7VV's Want List

- CW only
  - 9N Nepal (my stupid move)
  - FR/G Glorioso Island (remote, and permission)
  - FR/T Tromelin Island (remote, and permission)
  - FT5Z Amsterdam & St. Paul Island (remote, and permission)
  - P5 North Korea (won't issue a license)
  - SV/A Mt. Athos (won't issue a license)
  - T5 Somalia (failed state, no licensing authority)
  - ZS8 Marion Island (remote, and permission)
  - Call any time, day or night. Do not spot first!