



Busting The Pileup

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N4XL



Really?!?

Myths



To bust a huge pile up you need:

- ▶ An amplifier
- ▶ A 70 foot tower
- ▶ A friend with an amplifier and 70 foot tower
- ▶ Luck

Truths



You can bust a pile up with:

- ▶ 100 watts (some regularly do it with 5)
- ▶ A decent antenna –
wire, beam or vertical
- ▶ Experience

Thoughts...



"With experience comes knowledge and cunning. I can't stand here and tell you the secrets, as many of them are second nature to me now."

-- KROY/5

"The best of the best gained their winning edge practicing the basics over and over in numerous forgettable events, often using inadequate radios and second-rate antennas. Discovering how to overcome such obstacles are lessons never forgotten."

-- NCJ Profile of N6RO

Standard Things to do...

- ▶ Listen for where DX is listening
- ▶ Use band scope
- ▶ Split VFO's
- ▶ Get a good antenna(s)
- ▶ Get an amplifier
- ▶ Time your call for quieter periods

Exploring Other Thoughts...

- ▶ Know your stations limits
- ▶ Know your rig
- ▶ Antenna options
- ▶ Logging software aids
- ▶ Additional operating skills

Station Limits

You Gotta Hear 'em
To Work 'em

***If all you can hear is silence
when the uproar stops then
leave and try later***

Station Limits -

Not trying is sometimes faster

If they are a common call or multiplier and/or only two or three people calling then

- ▶ Shut up and let other guy go first
- ▶ If you are both on the same freq or have the same signal strength, or if the DX op is not highly skilled fighting for it only results in many “Again?” requests

Station Limits -

DX University – Using Propagation to Your Advantage

- ▶ Calling DX when conditions to your area are poor doesn't usually make sense
- ▶ Not calling requires discipline
- ▶ Calling when you can just hear the signal "in there" is tempting but... "dangerous" and possibly embarrassing... if you are actually called and can't hear the reply.

Station Limits -

Not trying at all

If he's in AF, only \$5 or so, and only answering EU often it is not worth wasting time. You only cause QRM

- ▶ You are on the side of his beam so much weaker to him than EU is
- ▶ But hey... You never know. Try a couple of times. You might get lucky.

Station Limits - Contest situation

Big pile up and you have a modest station

- ▶ Look at “Mult is worth X.X Q’s” ratio
- ▶ Is it Saturday? Is he likely to still be there tomorrow and hungry for Q’s?

Station Limits

K1AR Contesting Tip #60

- ▶ ***Don't ever get so intimidated by the size of a pileup that you simply tune by the station without calling.*** We all have a story or two about the time we broke through a pileup without a clue how our station pulled it off. Here's the answer: operating skill! ... ***If you don't at least try to call them, you absolutely won't work them!***

Know Your Rig

If you can't hear the DX say your call
through the QRM you can't work
them

***Practice actually using your rig to
fight QRM on pileups before you
need those skills for real***

Know Your Rig

RX adjustments for best IMD and dynamic range

- ▶ No noise blanker
- ▶ No preamps – especially on low bands
- ▶ No RX DSP processing
- ▶ Use narrow roofing and IF filters. Max out filter load in your rig
- ▶ Use RF gain
- ▶ Fast AGC or even turn it off

Know Your Rig

- ▶ Filter use – You gotta hear him to work him
 - ▶ **500 to 2,500 Hz response works good for SSB**
 - ▶ **Lower CW tones work better**
 - ▶ Ear can hear a 30 Hz tone difference better at 500 hz than it can at 800.
 - ▶ Easier to differentiate between many signals on the same band.
- ▶ Experiment with RX equalization – Formant pass works for me
- ▶ APF (SAF) can make signal pop out of the mess

Know Your Rig

TX adjustments

K3WWP - Working DX- Tips

- ▶ **Be sure your signal is as clean and crisp as possible and your keying is as close to perfect as possible.** DX stations often mention that it is not always the strongest signal that is easiest to copy in a pileup, but often a weaker clean signal with perfect keying is easier to copy. **If you have a memory keyer, use that to send your call.** It is possible to get nervous when trying for some rare DX, and be sloppy sending even our own call

Know Your Rig

TX adjustments

- ▶ SSB - Use Contest audio
 - ▶ High freq's count (500 to 2,000 Hz).
That is place to focus
 - ▶ Heil element and/or TX equalization
- ▶ **Get a DXer or Contester to critique you – not a Rag Chewer. They often don't like contest audio and steer you wrong.**
- ▶ Use Speech Processor – Don't overdrive it though

Antenna Options

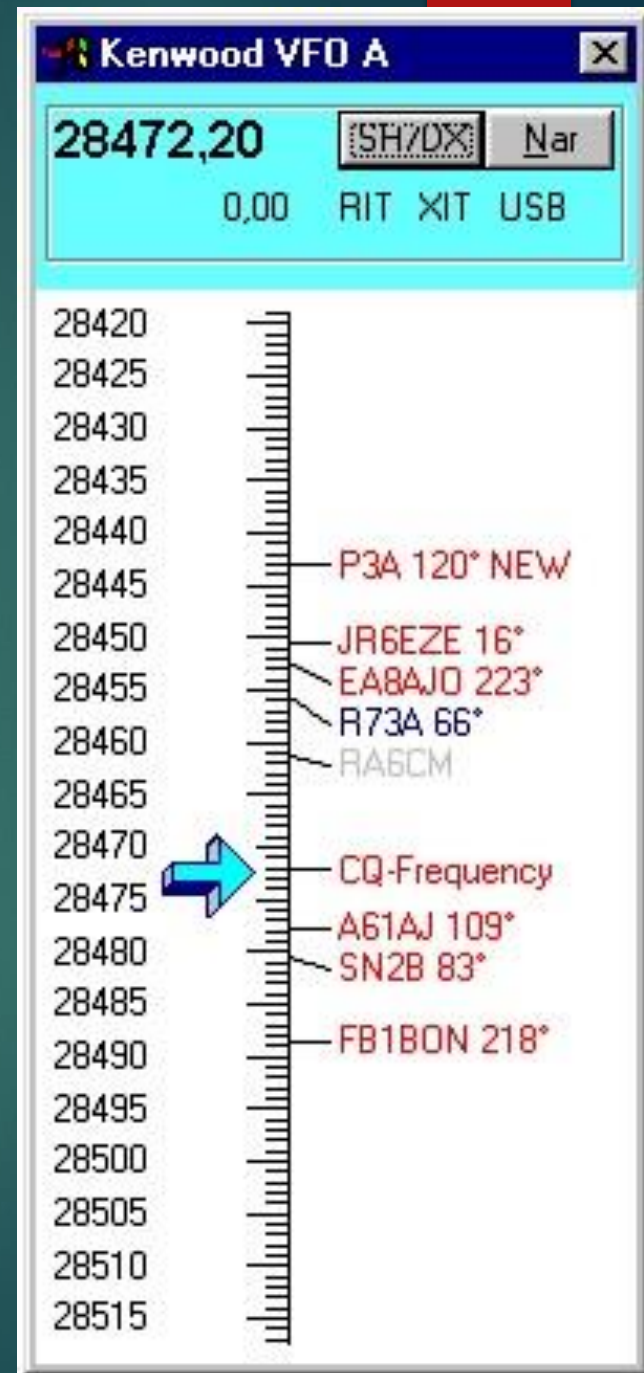
- ▶ ***Two or more antennas per band***
 - ▶ ***You do understand about Take Off angles and HFTA, don't you?***
- ▶ Fast antenna switching capability
- ▶ Receive antennas to reduce QRM and improve S/N ratio
 - ▶ K9AY Loops, Flags, etc. fit in small lots
 - ▶ Try Dipoles, Verticals, Beams or BOG as a receive antenna.

N1MM aids

▶ Spots

- ▶ Pre-Filter so only get from your region
- ▶ Post-Filter so only show mults

**Never trust spotted call signs –
Always verify them !**



N1MM aids

Mult & Q window

Mults & Qs		Bands & Modes				
	160	80	40	20	15	10
Mults	0	2	2	1	1	0
Qs	0	16	12	25	2	0
Total Qs	0	17	14	26	2	0

Call	Dir ^	Freq	S/N	Spotter	Mode
R8TT	025° #	14012.6	06dB	M0VSE-#	CW
RM2D	030° #	14024.2	22dB	VE2WUJ-#	CW
LY2PX	035° #	14015.0	05dB	W3UA-#	CW
EW8OM	035° #	14030.2	04dB	ON6ZQ-#	CW
UT8AS	038° #	14019.6	02dB	DK0TE-#	CW
SQ5LNU	040° #	14015.9	05dB	G4MKP-#	CW
YO2GL	043° #	14014.8	14dB	EA5WUJ-#	CW
YO4SI	043° #	21018.6	07dB	F5RRS-#	CW

N1MM aids

Mult & Q window

- ▶ DX University –

 - How to Gain an Advantage in a Pileup –

 - The appearance of a rare DX station on the ham bands usually results in a pileup of DXers calling the DX station in an attempt to add a band-mode counter to his or her DX total

- ▶ ***Set Available Mults & Q's filter to only show mults***

- ▶ Keep an eye on them. If S&P jump using keyboard shortcuts

N1MM aids

Mult & Q window

Available - 6 Mults 55 Qs of 66 total spots

Mults Only Bands & Modes

	160	80	40	20	15	10
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N1MM aids

Neat Tips...

- ▶ Change Freq just by typing it in
 - ▶ DX was simplex on 7057 and says “Now listening 7238 and this frequency.”
 - ▶ **Type “7238”, CTRL-ENTER and you are now split with XMIT VFO instantly on 7238**
- ▶ CW Offset
 - ▶ Everyone who clicks on a spot lands on the same exact freq.
 - ▶ **Can tell N1MM to apply a random offset to spots so you aren't in the mass of people**

N1MM aids

Tips...

- ▶ If use a voice keyer trim all silent parts at start and stop of voice message
 - ▶ best control of exactly when call inserted
 - ▶ Sometimes 0.2 seconds does matter
 - ▶ The ear will naturally latch on to the first thing it can clearly hear
 - ▶ Want XMTR off as soon as call is done so can hear DX come back to you
 - ▶ Voice message to give call sign **ONLY ONCE**. Push F key twice if want your call twice.

N1MM aids

Neat Tip...

- ▶ Populate the log entry window with call and exchange. If exchange is a number and you don't get through, CTRL-U increases number by 1.

Operating Skills

BE FLEXIBLE!!

There is no “formula”

What works one time may not
the next

Operating Skills

Phonetics

- ▶ **Use standard** – Many foreign stations barely know enough English for a contest type QSO
- ▶ Know alternate numbers in that countries language
- ▶ If trouble getting message through, **use different** phonetics
 - ▶ For Europeans having trouble with Lima I've found London works well
 - ▶ For Japanese Tokyo often works if Tango doesn't
 - ▶ For Spanish speaking Santiago works when Sierra doesn't

Operating Skills

K1AR Contesting Tip #23

- ▶ **Try varying the phonetics** you use in pileup calling. Sometimes a different word will help differentiate your call from the others. Sharp, piercing words are usually more effective. For example, GERMANY is probably better than GULF, or consider DENMARK instead of DELTA ...

Operating Skills

K1AR Contesting Tip #15

SOUND EXCITED!!

There are many factors to consider when trying to break a big pileup in a contest. One aspect sometimes forgotten is the way you call a station. If you sound like you really want to work someone (without getting carried away), you're more likely to beat the majority of stations that call with a more "laid-back" approach

Operating Skills

DX University Tip – N7NG

How To Gain An Advantage In A Pile-up

- ▶ Another way of gaining an edge is to **take advantage of others' errors**... Every operator who feels he absolutely must comment about something on the DX station's frequency ("he's listening UP. UP, UP" etc.) can be another plus for you. **The more guys who are transmitting on the DX frequency, the more who AREN'T transmitting in the pileup... Moreover, when the DX is covered with QRM, the fewer people will actually call.** I have always made it a point to call – in the pileup – during these times, even if I temporarily can't hear the DX station.

Operating Skills

DX University Tip – Faulty Timing, N7NG

Only Send Your Call Once

Normally, the DX station says something like “TU UP,” and a caller responds by sending his callsign, and [perhaps] the DX station responds to him. On occasion though, the caller might decide to send his callsign more than once. Often when he does this, **the DX op apparently expecting only one call, starts responding while the caller is still transmitting.** Since the caller hadn’t completed his call, there is considerable time-wasting confusion.

Operating Skills

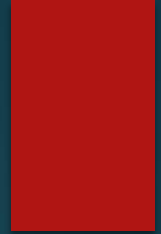
DX University Tip – N7NG

Encore Performance: What Are You Listening For?

...DX station is on CW, and he is saying “up.” What does that mean? With a small pileup on CW, “up” generally means up about 1 kHz. With a large pileup, though, saying “up” might mean many things. ***With a large pile, the DX op will need to spread his listening range in order to hear anyone in the mess, so he can't be just listening “Up 1”***

Operating Skills

DX University Tip – N7NG



... for the week or so just before the big DX contests, many of the stations setting up for the contest will check out their equipment by working as many folks as possible. At these times they may also operate on the WARC bands (30, 17, 12) which are not available for operation in the contest itself. They often stay at their locations for a few days after contests also...

Operating Skills

K1AR Contesting Tip #19 - Attitude

... something that can help your contest score nearly as much as a big signal...

focus and utter concentration. Whether you're trying to lift a heavy weight in a gym or push a few more QSOs out of your station, the key is **diligence and unabated attention to the task at hand**... If you apply the same techniques to contesting that you do in your other endeavor, your scores will climb--and without a single db of added signal strength

Operating Skills

CW

- ▶ The ear tends to follow a changing pitch.
- ▶ ***Tune frequency slightly while transmitting your call.***
- ▶ Good CW ops tend to use wider rig filters and use the filter between their ears. This idea doesn't work well if the DX op has a narrow filter.

Operating Skills

DX University Tip – N7NG

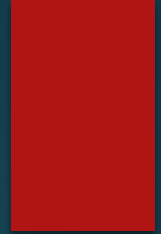


Will DX tune up or down while working a pileup?

- ▶ ...right-handed operators (most of us) ... tune with their left hand... it's far easier for me to tune the main knob counter-clockwise (to the "left") than clockwise, i.e., up in frequency...

Operating Skills

DX University Tip – N7NG



For guys who have never been on the other end, it's difficult to explain what it sounds like when you have 20 or more guys all calling on the same frequency at the same time. It is literally impossible to pick out a call or sometimes even a letter. ***Some DX operators will just sit there, waiting for repeated calls until they finally get one—and end up with one QSO every 2-3 minutes. The good ones will do something [else]. .***

Operating Skills

Understanding the Running Op

- ▶ ***What tools prove effective in breaking a pileup are often dictated by the experience of the running op***
 - ▶ Inexperienced ops are overwhelmed by the wall of noise and often reward tail enders or waiting for the rush to get over. Rate is low
 - ▶ Experienced will pick out a partial call and use that to keep rate up

Operating Skills

How Badly Do You Want The Q?

DX University Best Practices for
Courteous and Efficient DXing –

Rule #7

Respond only if the DX operator calls you. One letter or number of your call is NOT enough reason to call

Operating Skills

How Badly Do You Want The Q?

- ▶ You are listening and haven't called yet and you hear **"Who's the Four?" -- Jump in there**
- ▶ **"Who's the 5 Xray?" N4XL. I automatically do this if he didn't get an answer to his first try and repeats his request for the 5X.**
- ▶ **"Who's the 7 Whiskey?" If he says it a second time I wait two seconds and say N4XL**
- ▶ DX University – How We Will Operate - We will persist with a callsign, then QRZ or NIL. No exceptions. We will NOT call another station until we solicit another Q. Any deviation from this routine is a green light for DXers to call out of turn. -- **Don't believe this**

Operating Skills

How Badly Do You Want The Q?

Doing those things may get you black listed by the op and you'll have to leave and come back later—but, usually, if you do it with respect (i.e.: understanding the DX wants to keep rate up and you are really helping him get on that track) you will get an answer.

- ▶ DX University – How To Work Us - Reiterating, we will not work stations who are:
 - ▶ Calling out of turn when we are trying to work someone else
 - ▶ Calling out of the called area - study the pileup and wait for your turn
 - ▶ Calling with an obviously wrong partial callsign - use the time to study the pileup

Operating Skills

How Badly Do You Want The Q?

DX University – Helpful Hints # 59 - ***In the end, these apparent disruptions aren't nearly as bad as they seem to DXers.*** If the QSO rate is good, and the accuracy is high, the problem is primarily aesthetic, but it doesn't sound good to the sensitive ears of deserving DXers. This week's hint for DXers is to think about what is happening in these major pileups, try to understand why people do what they do. And, try very hard to disregard those factors that don't really affect your probability of getting in the DXpedition log. ***It is really to your advantage to devise a way around these situations while others are busy hand-wringing*** -- N7NG

Operating Skills

How Badly Do You Want The Q?

Spot Her

She might not be aware the band has opened to NA. Logging programs often tell you when you've been spotted. If she has been working EU for a while and sees a W4 spotted him she may switch and call NA. I sometimes spot, move on to work a couple more q's, and then check back to see what happened after my spot.

Operating Skills

Examples

Video of two ops running pileups. One very good, the other competent.

EJ7NET on Gola Island

<https://www.youtube.com/watch?v=P6Hn3jqCXS1>

8R1PY -2012

<https://www.youtube.com/watch?v=655ZhrA26as>

Operating Skills Tips...

Advice from

- ▶ HC8N
- ▶ K5TR

See external Microsoft Word file
“Contesting Wisdom” for the
advice

Summary



- ▶ Know your rig. Use it so you can hear the DX
- ▶ Be focused and aggressive
- ▶ Evaluate the skill level of the DX op and choose your tools with that in mind

Lastly, don't give up! Come back later when propagation has changed and try again



Thanks – and
Good Hunting!