HF Contesting - Good Practices, Interpretations and Suggestions

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This "white paper" is a set of discussions about common situations encountered in HF contesting. The questions and responses here are not intended to apply to VHF+ contesting because there are many differences in the way HF and VHF+ contests are conducted.

Before looking to this "white paper", however, many questions can be answered by a careful reading of the contest rules. Start there or ask the contest administrator - they will be glad to tell you how you should operate in their contest. General and specific rules for all ARRL contests can be found at http://www.arrl.org/contests. The CQ Contest Handbook and CQ WW CD-ROM also contain an annotated set of CQ rules.

The suggestions made here are <u>only suggestions</u> about best practices, as compiled by the seasoned operators who make up the ARRL Contest Advisory Committee. They are <u>not</u> mandatory and the individual contest operator is free to accept or reject their wisdom. Generally, rejecting these suggestions will not result in a penalty by a contest sponsor. In all cases, contest rules take precedence over the suggestions - **read the rules**. The goal is to provide guidance and advice, especially for new contesters, that helps define where the "good arrow" points, to encourage contest operation that advances the spirit and integrity of the sport.

Please address your comments and suggestions about this "white paper" to the ARRL Contest Advisory Committee member from your Division.

Thanks and 73
The ARRL Contest Advisory Committee

1) Pre-Contest

a)   Schedules

Question 1: What is a pre-contest schedule?

Question 2: Can I plan a schedule with my friend on Bouvet to meet me at 7005 during the contest?

Question 3: I'm going to P5 for the contest - can I let everybody know when I'm going to be operating?

Question 4: I heard two stations make arrangements during the contest to meet on 14225 at 1330Z - can they do that?

Definition - A pre-contest schedule consists of information that is exchanged or published before the contest to allow QSOs to be planned at a specific time and frequency.

Let's start with the last question - during any contest, it is perfectly acceptable to say, "I'll meet you on frequency X at time Y" as long as it is done via the radio and according to the contest rules. This form of scheduling is OK because it requires the same skills, antennas and equipment used in the rest of the contest. Going "outside" the contest bands and modes to arrange or solicit QSOs during the contest is usually explicitly prohibited by the contest rules. Contest rules may also explicitly prohibit certain practices, such as the use of non-amateur means to solicit or arrange contacts.

Prearranging contacts and advertising specific operating times and frequencies shown to be of questionable value, before the contest is discouraged. The reason these practices are discouraged is that they bypass the skills of knowing how to tune, judge propagation, and listen. In general, if by announcing your information, another contester can tune to a specific frequency at a specific time and work you, your information is too detailed.

Mentioning frequencies on 160 meters is also somewhat of a special case due to unaligned frequency allocations and the need to avoid BC and commercial interference.

This is by no means a cut-and-dried issue and there are many aspects of strategy that fall into such gray areas. In these situations, ask yourself if by exchanging the information you give yourself an advantage over another operator in a way that doesn't depend on radio skills. If yes, then you probably shouldn't do it. Judging the potential advantage is up to you.

Is any kind of scheduling OK? Sure - it's a convention during DX contests to check 160 "on the hour," for example. Making a pre-contest band plan to schedule your operating time is also a great idea. Having a list of sunrise and sunset times around the world can help you be sure not to miss a short opening on the low bands, as well.

b) Club and Team Support

Situation 1: One of my club members is going to KP1 for the contest and we're planning on making a big effort to work him on all bands.

Situation 2: Before the contest, we all agreed to start the contest on 40 meters to make sure we work each other.

Are these OK? What kind of support is unreasonable?

First, meeting on the air during a contest to arrange strategy, compare multipliers, or organize contacts places all participants in the Assisted category in ARRL and most other contests.

Rooting for your club members and teammates during a contest is natural and enjoyable. Recognizing club member calls out of a big pileup is a lot of fun, too! By all means, get on the bands and work your buddies. Just don't stop with them! This sort of thing becomes undesirable when you ONLY work your friends or club members. Don't exclude contacts with other stations.

The only time there's a problem with supporting your friends and club members is when actions are taken by an organization or individual to influence the competitive environment to the exclusive advantage of a participating organization or individual. Having a strategy session before the contest is also a good idea - it makes the contest more enjoyable for everyone and helps new operators learn the ropes. Just don't stray over the line into making pre-contest schedules or ONLY working your associates. A good way to approach this type of operating is that the activity should benefit all of the stations operating on the band or mode. If your plan is advantageous to only one station or to one club or team, you've probably carried things too far.

2) Post-Contest

a) Contact Confirmation

Question 1: I'm not sure KX1ABC QSLed my information at the end of our contact. Is it OK for me to contact him and see if he logged me OK?

Question 2: WX0ZZZ sent me an email after the contest asking if my QTH was really XX - what should I say?

Definition: Post-contest contact confirmation consists of making inquiries prior to the log submission deadline to determine the correctness or presence of QSOs or QSO data in the log.

The simple answer to both of these questions is that the contest is over at the time the rules say it's over. Any information in your log at the end of the contest is what should go to the contest sponsors. If your information is wrong, so be it - everyone makes mistakes. If someone asks you to confirm a QSO or information in the exchange, you should politely decline. After the log submission deadline, you can discuss anything you want, of course.

If you're not sure about that QSO with KX1ABC, the time to make sure is during the contest. For example, if you're not sure your call was copied correctly, here's how to get it right:

    KX1ABC: CQ Test
    W1AW and pileup: W1PK2NAWKD71X
    KX1ABC: W1 599 VT
    W1AW: W1AW (repeat your call until KX1ABC responds correctly)
    KX1ABC: W1AW 59 VT
    W1AW: KX1ABC Roger 59 CT
    KX1ABC: Roger CQ Test

If you were calling CQ and the other station didn't QSL before tuning away, the safest thing for you to do is just not log the QSO. They are obliged to acknowledge receiving your information.

Follow-up question: If I send in the log with a bad call or exchange, won't the other guy be unfairly penalized?

In all but for a very few contests, the other station will NOT be penalized for your mistakes in copying their call or exchange. An exception would be if you bust the other station's call so badly that it can't be established you made a QSO. This happens from time to time and there's nothing to be done about it except to work on your accuracy.

Follow-up question: I don't want to be penalized. Should I remove the QSO from my log?

Removing the QSO from your log virtually guarantees that the other station will unfairly receive a "Not In Log (NIL)" penalty because the log checkers will find no QSO in your log with the other station. To be fair, you should leave all completed QSOs in your log and accept whatever penalties your mistakes might incur.

b) Log Manipulation

Definition - Editing the log after the contest is over.

Question 1: I'm pretty sure I made some typos during the contest - can I correct them?

Question 2: I see that I worked W1AW on four bands, but logged WA1W on the fifth with the same exchange. I should correct the call, right?

Question 3: My friend uses software to go through his log looking for bad calls and stuff. Is that OK?

It's possible to "sanitize" a log after the contest, but as with confirming contacts, the correct answer is that the contest is over at the time the rules say it's over.

Examples of post-contest log manipulation include editing times, correcting band changes, checking calls against the call book, checking against packet spots, looking through logs from

other contesters, confirming calls and exchanges with your buddies, reading DX and contesting reflectors for news about rare calls, and even posting questions like, "did anyone get QSL info for that VQØ?"

There are wide ranging opinions about the acceptability of editing your log after the contest. The most conservative and always acceptable answer is that no editing of any sort is permissible. Some feel you have until the log submission deadline to do anything you want to the log. Most contesters would agree that if you made a note during the contest about an error, it's OK to fix it afterwards. Furthermore, it is generally OK to make a quick pass through the log immediately after the contest looking for "obvious" typos such as entering CT as CTT or changing 'o' to '0' - in fact, most logging software does such a check before creating the final log file. Correcting syntax errors reported by a log acceptance robot, such as improper dates or multiplier abbreviations is also acceptable. Once you step over the line into making changes to what you think you "should" have logged, that's going too far.

Reviewing your log is completely appropriate to help improve your operating accuracy and look for ways to improve strategy - in the NEXT contest. In fact, many top operators regularly review their logs and even record parts of contests in order to review and improve their operating practices. For example, when you get your log-checking report, you can go back to review busted calls and see what the other station really sent. This is an excellent way to discover where your weak spots are. A quick scan of last year's log will refresh your memory about when and where you worked those rare multipliers, too!

c) Claimed Categories

Definition - Choosing the category in which a log is submitted to the contest sponsors.

Question 1: I operated on all-bands, but I found out I would be the 20-meter band winner in my state. Can I submit a single-band log?

Question 2: I operated on 80-meters most of the time, but did some operating during the day for fun. Do I have to submit an All-Band log?

Check the contest rules to review any restrictions on operating that may affect the category in which you can submit your log. If there are no such restrictions, then feel free to submit your log in any category for which your operations met the rules. It's required that you "upgrade" your category during the contest if you broadened your method of operation during the contest - low to high power, decided to use spots, etc. (See section 7.)

Looking through the contest records and setting your sights on one is a great motivator during the contest. You might be surprised at what records can be set even with modest stations!

The second question has an easy answer if the contest sponsor uses the Cabrillo format. Send in your log in the 80-meter single-band category. The other QSOs will be used during the log-checking process, but won't be counted towards your score, nor will they cause penalties for

your or those you contacted. If you aren't sending in a Cabrillo log, send email to the sponsors and ask them what to do. Then do it.

3) Operation During the Contest

a) Signal Quality

There's no legitimate reason for poor signal quality in or out of a contest, so we don't feel the need to discuss that, but say you come across a contester with a clicky or splattering signal. You should definitely let them know in a quick way - "U HV KLIX" or "You are splattering" or "You have a spur on …" First, be SURE it's not your receiver being overloaded - turn on the attenuator or add a filter. Don't be judgmental or give them a hard time about it, just let them know, make the contact and move on. If you hear them again later and they still have the problem, you can mention it again or send them an email after the contest. If they don't want to clean up their signal, there's nothing you can do about it, except maybe not work them!

You can avoid having a bad signal by engaging in a pre-contest checkout with a friend. Set up your station just as it will be during the contest, including voice keyers, amplifiers, and computers. Run through all the bands at full power listening to each other's signal for distortion, splatter, and spurs. This is the time to learn that you have RF feedback on 20-meters - not in the middle of the first hour of the contest! Note the level settings that sound best and learn what your meters act like at these settings. Resist the temptation to push your station "just a little harder" during the contest.

b) Contest Rule and License Regulation Compliance

Not much wiggle room here, either. You're bound by your license to operate within your country's regulations and you are obligated by your log submission to operate within the rules of the contest.

It's <u>definitely</u> not OK to call a DX station that's operating, say, outside the US phone band and ask them to listen in the US band. Before you jump to conclusions, U.S. stations operating in IARU Region II from west of latitude 130 W or south of latitude 20 N may use 7075 - 7100 kHz on phone. This includes nearly all of Alaska and all of the U.S. Pacific and Caribbean possessions.

c) Station Identification

Question 1: Do I have to send the other station's call with mine during the contact?

Question 2: How often do I have to ID when I'm running (CQ-ing)?

Start by reading the rules to see what is specifically required in the exchange. If you are search-and-pouncing, the consensus is that you only need give your call when you call the CQ-ing station. However, if there is any question about who you were calling, such as when two stations are operating close together, give the other station's call with yours. E.g. If W1AW and W1BB

are competing for a frequency (maybe because they can't hear each other due to skip) and you call W1AW, respond with "W1AW you are 59 in California, W6AM." This prevents errors and log-checking penalties. Note that some contests, such as the North American Sprint, <u>require</u> both stations to give their call as part of the exchange.

If you are CQing and have a lot of stations calling, the temptation is great to save time by not IDing with every contact, thus improving your rate at the expense of others having to wait. The practice is largely confined to non-U.S. operations that are likely to have bigger pileups, so it's not likely to be an issue for domestic stations. Technically, this is illegal in the U.S. according to FCC rules, including for non-mainland stations in KH6, KL7, and other U.S. possessions. It doesn't seem to hurt many of the top contesters to give their calls with each QSO and many agree that it maintains pileup order. Nevertheless, other top operators may only ID every two or three contacts. So there is some dispute on the subject. Most agree, however, that not IDing for longer periods is both counterproductive and rude, forcing other contesters to wait until the station IDs. It also leads to logging errors resulting from a "busted spot" when the callers *assume* that they know the call. Interestingly, a CQing DX station receives calls from stations who almost NEVER say who they are calling, while the DX station, if he signs each time, ALWAYS says both calls!

4) Interacting with other contesters

a) Confirming and Logging QSOs

Question: I accidentally QSLed information from a calling station before I really had it. They're gone and will get a penalty if I delete it from my log! What if they QSY before I'm really sure I got all the information?

You are required to submit an accurate log. If you're not sure you copied the information, it shouldn't go in the log. If this is caused by your contact leaving too soon, that's their fault. If the problem is caused by your prematurely confirming that you received the information, you should leave the information in your log at the risk of taking the penalty--after all, it's your fault. (See section 2.a as well.) If you lose the contact due to a logging error that simply falls into the category of "stuff happens" and there's nothing either of you can do about it. Strive to minimize these errors and everyone will be better off; that's the best you can do.

Follow-up question: I use Super-Check-Partial (a database of active contest calls) and I'm pretty sure that I see the station's call in the database. Should I log the QSO?

The simple answer is that you log what you heard, not what a database tells you that you might have heard. If you didn't hear it, don't log it. Databases can be helpful during a QSO, but it's easy to lose sight of what contesting is all about--a test of your operating ability.

b) Interference

Question 1: How close is too close to other contesters?

Question 2: Do I have to move if I'm crowding another contester?

Question 3: How hard should I try to find out if the frequency is occupied?

Question 4: I was operating on 21.240 for an hour and suddenly this other station claims they were there first!

Don't succumb to the "all's fair in love, war, and contesting" disease. It's not OK to steal someone else's frequency or to push them off of a frequency by intentionally calling CQ too close to them so that they'll move. Bottom line - if you think you can call CQ on a frequency and work other stations, you're entitled to try. It's a matter of how much tolerance you have for QRM and whether other stations can hear you. Too close and you're likely to spend more energy dealing with interference than making QSOs. Don't expect a perfectly clear channel. Tune higher in the band to find less-congested frequencies.

Here's a tip - during the larger CW contests, you'll often find activity "above 100", such as above 7.100, 14.100, 21.100 MHz and so forth. Skip over the digital signals and you may be pleasantly surprised to find another cluster of activity. (U.S. stations are limited to 200 watts in Novice bands below 28 MHz.)

To find out if the frequency is in use send "?" or "QRL?" on CW and ask "Is the frequency in use?" on phone. If you don't get a response in a couple of seconds, have at it. If someone is really on the frequency, you'll find out. If a CW QSO is ongoing, your query may be responded to with just a "dit" if the other operator is trying copy an exchange. Be aggressive, but don't be a jerk about it.

Remember propagation changes and sometimes the other guy really *was* there first. Maybe you were off the back of their beam and they moved the antenna. You'll just have to figure out how to get along - either move or be prepared to call CQ on top of the other station. (See section 4.e.) Remember - if you're not making QSOs, you're losing the contest.

c) Moving stations from band to band

Question 1: Is it OK for me to ask a station, that I need on another band, to move to that band even if they are running a pileup?

Question 2: When is it not OK for me to ask for a QSY?

Answer - You are perfectly within your rights to ask a station to move to another band, even if there is a huge pileup. However, the station running the pileup is in control and has no obligation to move. If the answer is yes, be prepared to change bands and work the station quickly and efficiently. Know how to QSY quickly - in literally seconds - to the frequency the station specifies or have a QSY frequency already picked out to suggest. If the answer is no, move on. You might come back later and ask during a slower period. If the station is "moved" by another caller, you can QSY to the new frequency, too, and give the station a call - they may decide to

work a few callers before returning to the original frequency. In any event, be ready and able to QSY at any time without fumbling.

Follow-up question: "If I move a station from one band to another, what happens when I come back to my CQ frequency and another station is calling there? I was only gone for less than a minute!"

Sorry, pal, you lose! If you vacate the frequency and do not respond to frequency-in-use queries, be prepared to find a new frequency.

Related questions: "If I am operating as a single-band entry, can I QSO stations operating on other bands and ask them to work me on my entry band?"

Soliciting contacts away from your entry band places you in the all-band category. It's OK to work stations on other bands, just don't ask them to work you on your entry band - see 2.c - Claimed Categories.

d) Working split

It's quite unusual to hear a station working with a small split (1 or 2 kHz on CW, 2 to 5 kHz on phone) during a contest. Because the bands are usually so full during a contest, using the extra space for a pileup is not good sportsmanship. The idea of a contest is to test operator skill at copying, sending, and listening, so using a second frequency for the pileup is frowned on. Exception - in the case when extremely rare DX stations are active during contests, operating split is the only way they can maintain any rate.

If you're operating in the US phone band, it's perfectly OK to announce that you're listening outside the US phone band for DX stations – most often the case when operating in a DX contest on 40-meter SSB. Be aware that other US stations may listen on or near the same frequency. Listen carefully before picking a receive frequency. If stations respond, but the timing sounds "funny", ask to be sure they're responding to you. If you log a bunch of stations responding to

some other station transmitting on a different frequency, you'll get a bunch of NIL (Not In Log) penalties! The same holds true if you're DX, transmitting outside the US phone band and listening inside. Work split with care!

Working a 40 M SSB contest can be very difficult, as you need to generally operate split and listen to both the US and DX subbands. This is a good reason to have a radio that can receive two frequencies at once. You also need to practice setting your VFOs quickly, in order to respond to the DX station's instructions. Double-check which VFO you're using for transmit, as you can very easily forget which VFO you're transmitting on, and transmit outside the band on the DX station's frequency.

All stations have an obligation not to call on top of ongoing QSOs. For example, it's not uncommon for a DX station announce a listening frequency right on top of an ongoing domestic

QSO or net they are unable to hear. Domestic stations should always listen before making their call and avoid causing interference to other QSOs.

e) Operating with a second radio

There's nothing ethically challenging about using a second radio - quite the contrary! However, be aware that you are not guaranteed your run frequency while making QSOs on a second radio. If you vacate a run frequency to work a station on a different band and someone starts calling CQ on the vacant frequency, you're out of luck!

Using a second radio does not permit you to occupy a second frequency with transmissions made just to hold the frequency. (Remember that nearly every contest specifically prohibits simultaneous transmissions on more than one frequency.) If, for example, you start calling a multiplier with the second radio, don't call CQ endlessly on the first radio, ignoring callers until you work the multiplier. It prevents the use of the frequency by others, which is rude at best.

If you'd like to try a second radio, you don't need a top-of-the-line rig to do it. An old rig and a dipole or vertical will do a great job at finding multipliers or new stations to work. Put a switch in-line with your headphones so that you can listen to either radio or listen to one radio in each ear. Pretty soon, you'll get good at it, adding a few more QSOs or multipliers during each hour! (If you give it a try and want to get serious about "SO2R" - K8ND's SO2R Resources Web site is full of information - http://home.columbus.rr.com/jmaass/Radio/K8ND_SO2R.htm.)

5) **Interacting with non-contesters**

a) Interference

Question 1: How close should I operate to non-contesters?

Question 2: A non-contester is complaining about interference, but my signal is clean. What should I do?

Question 3: I didn't hear anybody before I started calling CQ, but a ragchewer claims he or she was there first!

Large contests can often fill up most or all of an HF band, particularly on phone. This often causes friction with non-contest operators. Like most situations, each side needs to engage in some give-and-take to keep the peace. Contesters need to make reasonable accommodations for non-contesters. Listen before you leap. Non-contest QSOs are more relaxed with longer pauses, so a couple of seconds of "dead air" doesn't mean the frequency is clear. Be reasonable and give the other station a break whenever you can.

Non-contesters need to recognize that large competitive events are a legitimate activity and that they may need to be flexible in their operating expectations. When responding to an interference

complaint, assuming you think you have a clean signal and are sufficiently far away from other QSOs, you might POLITELY ask if the station has the receiver noise blanker and preamp OFF or suggest that they use some front-end attenuation. Don't be rude about it or imply that they're poor operators you'll just cause more trouble. Person-to-person skills are often strained in situations like this.

Realize that nobody owns a frequency. A ragchew in the middle of the contest band has every right to be there. Similarly, if a group has a regular schedule or net, it's a good idea for them to have a backup frequency or mode if the band is busier than expected.

b) Calling frequencies and nets

It's a good idea to avoid major net frequencies, such as the Maritime Net on 14.300 MHz. Be aware of any emergency communications declarations or where regional emergency nets might meet and give those frequencies a wide berth. Calling frequencies (QRP, SSTV, County Hunters, etc.) are often busy with non-contest activity, as well. To avoid unnecessary conflict, the savvy contester learns (and remembers) where non-contest activity is likely to be.

c) Band plans

Question 1: I heard W1AW working Europe on 40 phone, listening on 7010 kHz. Isn't that in violation of the Region I band plan?

Question 2: The ARRL Web site shows 7.040 MHz as the international RTTY calling frequency. Do I have to avoid it?

Question 3: Rules for an ARRL contest suggest frequencies from 14225 to 14275. Can I answer stations calling on 14290?

Band plans are just that - plans. They are designed for normal circumstances when band loading is much lighter than during a contest. During major contests, the bands will be very crowded, resulting in conditions that the band plan is not intended to address. Avoid willful interference and be as courteous as possible to non-contest QSOs within the limits of the contest rules and licensing regulations.

Calling frequencies are also intended to allow stations to find their peers under customary circumstances. During a contest, be aware of where the calling frequencies are, but if no contacts are going on there, you have every right to try and make contest QSOs.

6) Spotting and Use of Spots

a) Self-spotting

Self-spotting is the practice of announcing your own call and run frequency on the spotting network. A few contests have categories that allow self-spotting, but most don't. For example, ARRL contest rules specifically prohibit both self-spotting and requesting spotting by other

stations. It's a form of CQ-ing that does not take place on the amateur bands, just a step away from making phone calls to solicit contacts. Read the rules of the contest to find out if self-spotting is allowed.

b) Spotting of club members and associates

Question 1: One of our members is on from the Islets of Langerhans - should I spot him on the cluster?

Question 2: When I hear my own team members, how much spotting is too much?

This is commonly known as "cheerleading" and, while a natural impulse, should be kept in check. A good example of cheerleading is putting out a spot saying, "My buddy is on 21.014, please work him." Think of it this way, if you're trying to convey an advantage to one station over another by posting spots, that's unethical. If you spot your buddy with about the same frequency as any other station - no problem. Radiosporting should be about operator skill, not a popularity contest.

c) Busted spots

Be aware that a sizeable fraction of packet or network spots are "busted" or incorrect either because of poor typing or from miscopying the call sign. If you jump to the spot frequency and work the station without positively identifying them, you run the risk of getting a NIL (Not In Log) penalty. DX stations frequently move, too. If you log a station based on an old spot, you may log the wrong call! Be sure not to put out busted spots yourself!

d) Out-of-band spots

Don't be so quick to jump to a spot and start calling - it may be outside your authorized frequencies or on a non-contest mode. It's really easy to get sloppy (or tired) and forget that 21.195 MHz isn't authorized for US phone operators!

7) Soliciting QSOs - Single-band entries

Question 1: If I'm operating 40-meter single band, can I work stations on other bands?

Question 2: Can I ask a station on a different band to work me on my single-band frequency?

Question 3: Can I tell a station outside the contest that I'm operating the contest on my single-band?

The first question was answered above in 2c "Claimed Categories" - yes!

The answer to the second and third questions is a resounding no! "Operating" includes all methods of soliciting and making QSOs. If you are operating as a single-band entry, soliciting QSOs on a different band - either in or out of the contest - for your designated band is not OK.

This includes using different modes that are not part of your entry. For example, it's not OK during a CW contest for a 40-meter single-band entrant to ask phone stations to make CW contacts. Even in a multi-mode contest, such as the 10-Meter or IARU HF Championship, if you are going to submit a single-mode log, you may not solicit contacts using another mode.