

**Contest Advisory Committee
Semi-Annual Report**

**For the American Radio Relay League
Board of Directors Meeting**

July 2008

**Submitted by
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Summary

Since the January 2008 Board meeting, the CAC has received one task, which was to study Remote Operating. A tasking document was received on January 31, 2008 and has been completed. The final report on Remote Operating is attached.

There is no other formal business before the CAC.

In view of uncertainty in the contest community over ARRL's long-term position on CW Skimmer, and the impending need to publish rules for the 2009 contest year, the CAC requests a tasking on CW Skimmer as soon as possible. In the meantime, we will commence informal discussions on CW Skimmer.

CW Skimmer

Background - Software and hardware technology is now available to scan an entire band for CW signals. The software can decode multiple signals simultaneously, extract call signs, and send spots either to the local contest log program for display in its band map, or to a spotting network node for broadcast. This can take place automatically while the operator uses the same radio or another radio to call CQ or tune for new stations. It can also take place while the operator is in an "off time" break. Essentially, CW Skimmer is capable of providing nearly the same information as is currently provided by the spotting network, but without the help of another operator.

CW Skimmer has sparked intense controversy within the contest community, with some advocating for the technology to be allowed in all categories, some advocating for the technology to be allowed only in Assisted or Multi-Operator categories, and some advocating for a complete ban of the technology. Debate has been spirited and at times overwhelming in quantity. There has been much discussion about existing and possible rules affecting CW Skimmer. The contest community is now looking to the major contest sponsors, ARRL and CQ, to take a position on CW Skimmer and announce their rules.

The CQWW Contest Committee has already come to certain conclusions on the matter and is expected to announce their position in time for the Fall contest season. The ARRL Contest Branch has taken the position that 2008 rules, as published, will remain in effect for the IARU contest. The 2008 ARRL rules permit use of a CW Skimmer, co-located with all other station equipment, in all categories, including Single Operator. It will be allowed in the IARU contest, but participants will be required to disclose use in their score submissions to avoid being classified as Assisted or Multi-Operator. This ruling will give the Contest Branch and the CAC a valuable opportunity to observe the effects of CW Skimmer on live contest operation.

In view of the short time remaining before rules for the 2009 contest season must be published, the CAC requests a formal tasking on the subject as soon as possible.

Administrative Notes

I was appointed to serve as Chairman of the Contest Advisory Committee in January 2008. I would like to thank Ward Silver, NØAX, Northwestern Division Representative, for his outstanding tenure as Chairman of the CAC for the previous three years. Ward kept CAC on track and presided over its most productive period since I've been a member. Ward has also been an invaluable advisor to me as a new CAC Chair.

At about the same time I was appointed Chair, Tom Abernethy, W3TOM, was appointed CAC Board Liaison.

There have been no changes in CAC membership since January, 2008.

Respectfully submitted,
Dick Green
CAC Chair
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Contest Advisory Committee
July 1, 2008

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ARRL Contest Advisory Committee Report on Remote Operating

June 30, 2008

Executive Summary

Current ARRL contest rules permit remote operating. There is no explicit or implicit requirement for the operator to be at the same location as the station's radios and antennas.

CAC members unanimously agree that remote operating, as allowed under existing rules, has the potential to increase enjoyment and participation without changing the competitive balance. Existing rules prohibit certain forms of remote operating that might confer special advantages to participants, such as use of remote receivers or multiple remote stations.

Therefore, the CAC recommends that no changes be made to ARRL contest rules to restrict remote operating.

The CAC has concluded, however, that the legal aspects of remotely operating stations located outside the United States are not well understood and require additional study.

The following detailed report provides a description of our evaluation process, a discussion of the key issues, and specific responses to the scenarios and questions in the tasking on remote operating.

Evaluation Process

On January 31, 2008, the ARRL Contest Advisory Committee received a request from the Programs & Services Committee to study remote operating in contests sponsored by the ARRL. The request was received in the form of a tasking document. The CAC was invited to comment on several remote operating scenarios, along with any other scenarios it found to be pertinent, and to answer a number of specific questions.

The tasking document was submitted by the Chair to the CAC membership on February 2, 2008. Members were asked to reply with their individual responses to the tasking document prior to any general discussion or debate on the issues. This was done in order

to solicit each member's opinion prior to any influence the members may have been able to exert on each other. Members were free, however, to discuss remote operating off the CAC reflector with anyone they desired, and were free to solicit opinions from contesters in their respective Divisions.

All of the responses were consolidated into a single document, and the answers to the specific questions were compiled into a spreadsheet. The spreadsheet was used to tally the answers for a preliminary vote. These materials were provided to the members, and the question was then opened for general discussion and debate on the CAC reflector.

The preliminary responses and vote showed strong consensus among members of the CAC on all of the scenarios and questions. As a result, very little discussion or debate followed, other than an informal side discussion between a small number of members concerning the relationship between remote receivers and the CW Skimmer issue. It was decided not to pursue this line of inquiry until such time as the CAC is tasked with studying CW Skimmer and/or changes to the existing entry categories.

As it turned out, the CQWW Contest Committee was studying remote operating at the same time. Doug Grant, K1DG, a well-known contester, former CAC chair, and member of the CQWWCC, proposed that the two committees share information in order to enhance the possibility of a uniform position on the matter. With approval from ARRL HQ and CQ, K1DG was appointed liaison between the groups. K1DG kept the CAC Chair informed on the general position being discussed by the CQWWCC, and the Chair gave K1DG a copy of the CAC's preliminary results to summarize for the CQWWCC.

The two groups arrived at their preliminary assessments independently, yet were in broad agreement about all of the issues pertaining to remote operating.

While we do not believe it is necessary or desirable for all contests to have identical rules, we feel this type of communication with CQWWCC is valuable for ensuring that general operating rules do not differ radically between the two major contest sponsors. At a minimum, it is good to know what the other group is considering before finalizing our rules. In certain highly controversial cases, such as the inevitable decisions that will have to be made concerning CW Skimmer, it will be helpful for the CAC and CQWWCC to communicate with each other. In fact, informal discussions on that topic have already taken place.

Discussion of Remote Operating

Definition of Remote Operating

Remote operating takes place when one or more persons operate radio equipment that is located in a physically different place. Although operating a radio station located in one's basement from an easy chair in the living room is technically remote operating, this is not how the term is generally used. Instead, it refers to operating a station that is far enough away that wires and cables can't be used to directly connect the operator(s) and equipment.

This is normally accomplished through a special communications link between the operator(s) and the equipment. Remote operating has been possible for decades, through the use of computers and dedicated telephone lines or radio links. However, such links have historically been expensive or technically limited, restricting use to a small percentage of the amateur radio community.

But with the widespread deployment of broadband Internet, it has now become technically feasible and cost effective to remotely operate a radio station located almost anywhere in the world. Although there are still issues with latency in CW applications, other modes are currently feasible and it is expected that it won't be long before even high-speed CW will be viable over long-haul Internet connections.

These technical breakthroughs have resulted in greater interest in remote operating by contesters, and it is expected that interest will grow. Remote operating offers the possibility of conveniently using a station with greater capabilities than one's own, or of operating a station in a highly competitive contest location.

Unanimous Support for Remote Operating

100% of responding CAC members felt that Remote Operating should be allowed under ARRL contest rules. Some felt it is inevitable, some felt it is difficult or impossible to prevent, and some felt it will be a good thing for contesting (and some cited all of these reasons.)

Through remote operating, contesters can experience operation from distant locations they may not be able to visit in person due to physical or financial limitations. Remote operating will also be of benefit to contesters who live in apartments, condos, or housing developments with CC&Rs. Remote operating may also boost enthusiasm for contesting among residents of areas with relatively poor propagation in DX contests, such as the infamous "Black Hole" of the U.S. Midwest.

Location of the Operator is Irrelevant

ARRL contest rules do not explicitly or implicitly address location of the station operator(s). The CAC unanimously agreed that this means remote operating is, in fact, permitted. Further, CAC members agreed that this is appropriate because the location of the operator in relation to the station does not significantly affect the competition. Although less effort may be required for travel and setup/teardown before and after the contest, the level of skill required to generate a particular score is the same regardless of whether the station is operated remotely or in person.

Location of the Station: The 500m Rule

While the location of the operator is not restricted by ARRL contest rules, the location of transmit and receive equipment is strictly defined. Many CAC members explicitly or implicitly cited the current ARRL 500m rule, which is as follows:

3.7. All transmitters and receivers must be located within a 500-meter diameter circle, excluding antennas.

3.7.1. This prohibits the use of remote receiving installations.

3.7.2. Exceptions:

3.7.2.1. Stations remotely controlled by radio link may use necessary equipment at the control point. This does not include using the control point as another receiving location.

3.7.2.2. Multioperator and Single Operator Assisted stations may use spotting nets.

Note that the wording of the first line isn't crystal clear. Several CAC members (including the Chair) interpreted the rule from memory as requiring the rigs and antennas to be in the same 500m circle. But the actual text says that the antennas can be any distance from the rigs. We don't know the history of this rule, but evidently the framers felt that the attenuation limits of feed lines would naturally limit the distance between the antennas and rigs. This allows stations on large properties where antennas may be located more than 500m from the rigs, but does not allow portions of the station to be located in different propagation zones, nor does it allow practical combination of multiple regional stations with different strengths.

The 500m rule has these implications:

- A. Remote operating is permitted because the rule does not restrict physical location of the operator(s) relative to the transmitters, receivers and antennas.
- B. It is the location of the station, not the location of the operator, which defines the QTH for entry purposes. For example, if an operator in St. Louis, MO operates a station located in Quincy, MA, then the entry counts for the Massachusetts section and the First Call Area.

- C. Remote receivers or transmitters outside the 500m circle are not permitted.
- D. Use of multiple stations in different locations is not permitted.
- E. A separate entry must be submitted for each station location.

Note that the rules governing HQ stations in the IARU contest are an exception to statement E above. Since this is a unique, contest-specific exception, and has become a valued part of the IARU competition, the CAC recommends no changes to the IARU rules.

Nearly 2/3 of CAC members agreed that the 500m rule should be retained, as written.

Virtually all CAC members who supported retaining the 500m rule felt it's unnecessary to add new categories for stations that are operated remotely. The justification most often cited is that it's irrelevant where the operator is located. The equipment and antennas, as well as the skills required to operate them, are the same whether the operator is located in the 500m circle or halfway around the world. Therefore, there is no competitive advantage.

If, however, the 500m rule is eliminated, then statements B, C, D and E above are not necessarily true. CAC members agreed that this would potentially change the nature of the competition, giving advantage to those with separate transmit/receive locations and/or multiple stations in locations with different propagation characteristics. This, in turn, would raise the issue of whether new categories would be needed to level the playing field. Among the minority who did not support the 500m rule, the sentiment was to establish a minimum set of new categories, then add more categories as needed.

Remote Receivers and New Categories

After results of the preliminary responses to the tasking were released, and no discussion or debate took place on the CAC reflector, even after a couple of solicitations by the Chair, it was clear that the members were in agreement to submit the majority's recommendation.

However, one member raised the issue of remote receivers with the Chair and a subset of CAC members. A lengthy informal e-mail discussion ensued.

One concern was that some uses of remote receivers are relatively benign, and should be allowed. An example is use of a remote receiver to compensate for local QRN. This could be accomplished with a remote receiver and antenna just a few miles away. Such a configuration is unlikely to change the competitive landscape. But the problem lies in defining just how far the remote receiver can be from the rest of the station. Suggestions included contest-specific boundaries, such as one's state/province, section, call area, or even country. Another approach would attempt to define a "propagation zone" within

which all equipment must be located. Inevitably, such boundaries and definitions will be disputed. Further, it was pointed out that on some bands, such as 160m, a difference of a few miles can make a tremendous difference.

Another concern was that CW Skimmer raises a potentially difficult issue regarding remote receivers. Packet cluster sysops are moving quickly to incorporate support for remote CW Skimmer spots to be broadcast over their networks. Like packet spots, remote Skimmer spots come from remote receivers. The 500m rule contains an explicit exception for remote packet spots, and presumably this would apply to remote Skimmer spots. However, if an operator sets up his own remote Skimmer receiver, and connects it to the network, is that still permissible? What if the operator establishes a private connection to his own remote Skimmer station? Is that a case of using a remote receiver?

Ultimately, it was suggested that the entry categories be restructured to allow remote receivers in certain categories. Such a restructuring may be necessary to deal with CW Skimmer (e.g., getting rid of the controversial term, "Assisted.")

The discussion group agreed to defer formal discussions on this topic until a tasking on CW Skimmer and/or Category Restructuring is received.

Note that the CQWW Contest Committee is emphatic that remote receivers should not be allowed.

Multiple Remote Stations

The 500m rule clearly prohibits operating transmitters and/or receivers in more than one 500m circle (except in the IARU contest.) However, current rules for the Club categories allow scores for multiple remote stations to be aggregated under a single entry (not under a single call sign.) This would apply to multiple domestic stations and multiple DX stations. So, there already exists a category for those who wish to compete with multiple remote stations.

However, one CAC member was concerned that encouraging use of the Club categories by remote operating groups would change the emphasis of Club competition. Therefore, it was suggested that if and when the CAC reviews restructuring the entry categories, we consider a new Remote Team category.

Note that the CQWW Contest Committee indicated a willingness to discuss allowing multiple remote stations for a possible future Unlimited category, but deferred action.

Legal Considerations

In the station-identification question (#7), most members pointed out that the station must sign according to the laws of the jurisdiction in which the station is located. A few also stated that conformance with the radio operating laws of the host jurisdiction is required under ARRL contest rules.

There was almost no sentiment in favor of special identification of stations being remotely operated, regardless of whether the 500m rule was supported. In fact, several members pointed out that such special identification could conflict with the legal identification requirements of the jurisdiction in which the station is located.

It was also pointed out that it's far from clear that remote operation, inbound and/or outbound, is legal across the national borders of all jurisdictions, or even within the borders of some jurisdictions. We believe FCC rules permit both, but it is hard to believe that certain countries would allow radio stations located within their borders to be operated by foreign nationals outside their borders.

Although contest participants are responsible for conforming to all legal requirements of the jurisdiction in which the station is located, it would be unfortunate if remote operating ends up leading to enforcement action. The CAC recommends that, at a minimum, ARRL should caution participants that remote operation may not be legal in certain places. Ideally, the Contest Branch should investigate the rules for remote operating in as many countries as possible, and make those rules available to participants.

Proposal for CAC Study

From Programs and Services Committee meeting, December 8, 2007

Subject: Remote Operations

The concept of operating HF Amateur Radio stations remotely is now reality. The Programs and Services Committee asks the Contest Advisory Committee to consider the following scenarios, and to respond with comments to each one, with respect to (1) What is/would be the impact on contesting; and (2) Is the scenario desirable or undesirable as an activity within Amateur Radio? Analysis of other scenarios is also welcome.

Already Happening or Likely to Be Happening

(1) "Clubs" have remote sites set up. "Members" pay dues and use the Internet and Skype to operate stations around the world. Even though users are supposed to sign portable as appropriate, they often do not.

Impact: Low in the short term, medium-to-high in the long term.

Desirability: Most members responded that remote operating is desirable and did not object to the club-sponsored aspect of this scenario. There is potential for positive impact on contesting by providing club members with access to superior equipment and/or competitive locations. However, CAC representatives were unanimous that the identification rules of the jurisdiction in which the station is located should be followed.

Note: FCC rules do not require a U.S.-licensed operator to sign portable when remotely operating a station in the U.S. or, for that matter, when physically located in a call area different from that of his/her call sign (e.g., K5ZD operating from his home in MA does not need to sign /1 and normally does not.) In contrast, a U.S. operator remotely operating a station in a country with a reciprocal licensing agreement would be required to sign his/her U.S. call with a portable prefix appropriate for the location of the station (e.g. K3CR/G)

(2) A station owner builds a remote station on the opposite side of his country and uses it in tandem with his home station. He only uses the remote site to receive.

Impact: Medium-to-high

Desirability: This scenario is prohibited by the current 500m rule. Most CAC members responded that remote receiving sites should not be allowed. Many were quite adamant about this. They felt that remote receivers can provide an unfair advantage when located in a zone with different propagation from the main station, which is possible in large countries like the U.S. The effect could be dramatic in certain contests, such as the ARRL 160m contest. A minority of CAC members were open to allowing remote receivers in a separate category, especially if there is significant demand. So far, such demand has not become apparent.

Note 1: The honor system applies to use of remote receivers, as it is difficult or impossible to detect use of a remote receiver.

Note 2: If an operator has local receiving problems, one solution is to locate the entire station elsewhere and operate it remotely. This is allowed by current rules.

Note 3: It was suggested that the CAC consider expanding the size of the circle beyond 500m. There was no enthusiasm for doing so.

(3) A station owner builds a remote receive site on the opposite side of his state (or section, zone, or country) and uses it in tandem with his home station. He only uses the remote receive site to receive. He has significant local noise at his home station.

All members who responded to this scenario said it is the same as #2.

(4) A station owner lives in downtown Anywhere in a 33rd floor condo. His station is located on his 40 acres of farmland in Wisconsin and he has full, transceive remote-control capabilities. He owns both properties.

Impact: Low-to-medium. Some members felt the impact could be high.

Desirability: This scenario is allowed under the current rules. All members who responded to this scenario felt it was a good thing or a great thing. We should encourage people who live in noisy or CC&R areas to build contest-capable remote stations. It's good for contesting and good for the hobby.

(5) A station owner lives in downtown Anywhere in a 33rd floor condo. He helped pay for the equipment and antennas on a friend's property in rural Maine. They share the station, and the "Anywhereian" has full transceive remote control.

All members who responded to this scenario said it is the same as #4.

(6) A station owner has friends scattered around the world, and he has permission to use their stations remotely, and he just uses his own call and works what he wants.

This scenario needs more definition. Current rules do not permit using multiple remote stations under a single entry. If the operator uses one, and only one remote station, or submits separate entries for each remote station, then the rules will be satisfied. Whether "just uses his own call" is allowable depends on the regulatory limitations at the remote transmitting/receiving site.

(7) A station owner builds or subscribes to several remote receive sites that he then uses during a contest while transmitting from his home or a single remote station.

Most members who responded to this scenario said it is the same as #2.

Going to Happen Someday

Someone installs remotely-controlled stations in several places considered "fun" for contesting and general operating. These places will include sites in advantageous places (quiet, no neighbors, full-size antennas) where a resident station manager maintains and controls the station.

This same entrepreneur then sells time shares for access to these stations. Access is provided via landline, satellite, whatever works.

Marketing for the time shares focuses on "the thrill of operating from a good station without the hassle of going there." Big pileups, lots of rate, few technical complications, just operate and pay your money.

Most members who responded to this scenario said it is the same as #1, #4, #5 and #7. Such operations are allowed under the rules, provided that:

- 1) **The 500m rule is obeyed.**
- 2) **Remote operation is allowed by the jurisdiction in which the station is located.**
- 3) **All regulations of the jurisdiction in which the station is located are obeyed (includes licensing and identification.)**

4) Only one entry is submitted per location.

The monetary and marketing aspects of this scenario did not raise eyebrows among members of the CAC. DX contest locations are currently rented out to operators who physically travel to the station.

It was generally felt that this scenario is desirable and good for contesting. This applies to all of the legal scenarios for remote operating described in the tasking. They do not provide an unfair advantage or diminish the importance of operating skills. They have the potential to get more people involved in contesting, and stimulate those who are already involved, by offering access to high-performance stations in desirable locations to contesters who are not able to build or travel to such stations.

Issues to Consider

(1) Should operations from remote stations be allowed for contests?

Yes. This is currently allowed by the 500m rule, and is good for contesting.

(2) Should there be any distinction made between “local remote” sites within an operator’s home section, state, zone, or country and “DX remote” sites outside the operator’s home location?

No.

(3) Should there be any distinction between remote transmit and remote receive?

No, but all transmitters and receivers must be located in the same 500m circle.

(3) Should stations using *any* remote capability be categorized separately?

No.

(4) Should stations with separate remote receive and transmit locations be in a separate category from remote stations contained entirely on one site?

No. This is not allowed under current rules, which should not be changed.

(5) Should the use of remote stations be limited to a single receive and a single transmit location?

Yes, and both must be inside the same 500m circle.

(6) If multiple remote locations are allowed, should they be categorized separately?

No. Multiple remote stations should not be allowed. Even if they were allowed, entries from different jurisdictions could not be submitted under the same call sign.

Note: The Club categories allow aggregation of scores from multiple stations. Legal remote operations can be included. It may be desirable, however, to create a special “Remote Team” category for those wishing to compete only with other groups of remote operators. Scores from each remote station would be submitted individually under the appropriate entry category, and the scores from all team members would be aggregated.

(7) Should there be any requirements for on-the-air identification or exchange information to indicate remote operation?

No. The operator should identify as required by the jurisdiction in which the remote station is located.

(8) Should there be categories for teams of operators to use the same remote site (under the same call sign)? (remote multi-op categories)? What about a team comprised of both on-site and remote operators?

No. New categories are not required. Multiple operators are currently allowed to remotely operate a station that complies with the 500m rule in the M/S, M/2 and M/M categories. It doesn't matter if some operators are on-site and others are not. Owners of Multi stations often have difficulty recruiting operators, and the ability to operate the station remotely may help.

(9) Should there be a category for one operator to use multiple remote sites (either under the same call sign if the sites are all within one country or under different call signs from different countries)? (single-op, multi transmitter)

No. This violates the 500m rule, which should not be changed. This type of operation requires a separate entry for each remote site.

(10) Should there be a category for teams of operators to use multiple remote sites (multi-multi-multi)

No. This violates the 500m rule, which should not be changed. This type of operation requires a separate entry for each remote site. An alternative would be to use a Club category or create a new Remote Team category, as described under #6.