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## Ad Hoc VHF/UHF Study Committee Final Report

*The work done by the VHF-UHF Contests/Awards Subcommittee has been completed. The written report and along with some in-person additional comments were given during the ARRL Board's Program & Services Committee meeting on July 15th (just before the ARRL Board meeting on July 16-17). The P&SC did not take action on the report and will study it during the next several weeks. In the mean time, the P&SC agreed with me that the report should be posted here for your information and it will be sent to the Contest Advisory Committee for information and possible comment (three CAC members were on the VHF/UHF subcommittee).*

*What will happen from here? The P&SC will work with the Membership Services Department in Newington to take the recommendations any further. Some may result in rules changes, some may not. Except for possible changes to the 2004 EME contest, I don't believe you'll see any contest changes until 2005.*

*Some recommendations (primarily awards-related) may have to wait until budget resources are made available. The full ARRL Board does not normally get directly involved in contest rules issues - contest rules are usually not policy matters. We really do appreciate the input received when the various proposals were made several months ago. It revised our thinking in a number of areas. As you will see from the report, though, we don't feel that we have done enough to develop recommendations for increasing the amount of activity in VHF+ contests. That represents a continuing issue that will have to be addressed in the future - and I hope the VHF+ community will continue to work on it as well.*

*-- Tom/K1KI*

To: Programs and Services Committee  
From: VHF-UHF Contest/Awards Subcommittee  
Subject: Final Report

### **Our original task:**

(Jan 2002) Minute 65. "On motion of Mr. Frenaye, seconded by Mr. Roderick, it was unanimously VOTED that the Membership Services Committee review existing VHF, UHF, and Microwave contest and awards programs and make recommendations on ways to increase interest and participation."

Starting in the mid-90s, activity in the VHF+ contests has dropped. Activity in the Jan/Jun/Sep contests peaked in 1996-97 and has dropped 25% since then. The EME and UHF contests have seen an even greater decline (50%), while the 10G and Up contest has seen some modest increases.

The MSC established a subcommittee (in May 2002) consisting of K1KI (chairman), W5ZN and N7NG. N0AX (Contest Advisory Committee member) was added a few months later, and N1ND contributed input from the Contest Department. An ARRL web survey was circulated in the Fall of 2002, and resulted in input and ideas from more than 250 VHF+ operators.

Survey results were tabulated and analyzed during early 2003. An initial set of recommended changes were approved by the Membership Services Committee in January 2003.

It was obvious from the survey comments that the subcommittee would benefit from some additional members with experience in VHF+ contesting. As a result the subcommittee was expanded to include K1JX, K2UA(CAC), W3ZZ(QST VHF Editor), AA7A(CAC), and KM0T.

We had several months of extensive discussions through e-mail and several conference calls, then a period of relative inactivity while engaging in discussions on e-mail lists, operating several VHF+ contests, and continuing to think of ways to improve VHF+ activity.

In February 2004 we released a set of draft recommendations to the VHF+ community for their review and comment. While many of the recommendations were supported in the 200+ responses, a number of the key (and major) changes were not. As a result we have not included them in this report. As might be expected, most of the comments came from the most serious competitors. While they didn't like some core proposals in our draft, they generally did not offer alternative ideas for boosting activity.

This leaves us with the real risk that the proposed changes are not sufficient to generate the needed boost in VHF+ awards and contest activities. The expected move to an HF entry-level license will likely contribute to a decline in VHF+ activity. It is very important that the ARRL work to boost interest and activity in VHF+ spectrum. The current occupancy and trends in activity on VHF+ frequencies leave us at great risk to the future loss of some spectrum.

## **SUMMARY**

### **Changes Already Implemented-----**

Allow digital QSOs in the EME contest. Approved by MSC 1/2003. Status: implemented for 2003 contest, working fine.

Work to establish an Internet template for entry of small and medium sized logs. Status: announced 1/2004 for all ARRL contests

Add a club competition to the June VHF QSO Party. Approved by MSC 1/2003. Status: implemented for 2003 contest, working fine.

Work to find good authors and to encourage more regional reporting of VHF+ contest results. Status: implemented, staff working hard to identify authors and has been successful so far.

Encourage Logbook of The World development to be supportive of VHF+ awards, like the VUCC. Status: implemented 9/2003, working fine.

Encourage the development of a high-quality grid square map of the United States. Status: very nice laminated, color grid square map covering North America released 6/2003.

### **Further recommendations-----**

#### **Awards-----**

Change the entry-level steps for VHF+ awards so more people will be able to get started in the VUCC, WAS and DXCC using VHF+ frequencies.

Consider changing the steps for different level awards to a smaller increment.

Establish a VUCC challenge-type award, similar to the one used by DXCC.

Create a new award or awards to appeal to entry-level or rover/portable operation, such as a grids activated or miles per watt award. Consider GCR certification rather than card checking.

For VUCC awards on 50 through 1296 MHz and Satellite, all contacts must be made from a location or locations within the same grid locator or locations in different grid locators no more than 200 kilometers apart. (Currently they have to be made from the same grid same grid.)

#### **EME contest**

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The Contest department should work to establish dates for the EME contest as early as possible, and include them with the contest calendar as the yearly summary is released.

Change the multiplier to include US states and Canadian provinces instead of call areas. Stop requiring that stations operating outside of their traditional call area sign portable. Implemented for 2004.

### **VHF Sweepstakes + June/September QSO Parties-----**

Establish a new Limited Single Operator category designed with the newcomer in mind. Operate on no more than four bands with low power only.

Simplify the limit for low power operation to 150w for 50-144-222-432 MHz.

Eliminate the rules that allow Multi-Operator stations to work their own operators on 2.3G and up.

Strengthen the rules to minimize the rover practices known as grid circling and captive rovers.

Offer plaques for the January and September contests, in addition to June. Work to find individual, club or corporate sponsors. Otherwise offer plaques to national and regional leaders at their own cost.

Make sure the rules indicate certificates are awarded for low power entries in January, and for top DX entries.

### **Promotion**

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Promote suggested times and frequencies for "activity hours" on each band.

As changes are made to the Contest and Awards sections of the ARRL web site, give more visibility to VHF+. The number of HF contests and awards tends to overwhelm the VHF+ offerings.

Work harder to support and encourage smaller VHF+ contests sponsored by other organizations.

Provide more information on which contests logging programs fully support ARRL contests.

Continue the work to report on contest results by region. Find ways to showcase existing VHF+ stations and VHF+ contest operating techniques.

Work to make sure that administration and promotion of VHF+ contesting events are given equal status with HF contests.

Explore ways to offer "trinkets" for VHF+ contests. Pins have not been successful, plaques work for top scorers, perhaps something like mugs or T-shirts would be attractive.

Utilize the e-mail addresses from those submitting contest entries to alert them to the availability of online contest results.

### **COMMENTARY -----**

Some additional explanation and comments about each recommendation are included below.

### **Awards-----**

\*\* Change the entry-level steps for VHF+ awards so more people will be able to get started in the VUCC, WAS and DXCC using VHF+ frequencies. Consider changing the steps for different level awards to a smaller increment.

The actual number of VUCC awards issued is relatively small. We think that offering an entry point requiring fewer grid squares, or offering a "pre-VUCC" award would be a good way to get more people interested in trying to work longer distances on VHF+ frequencies (i.e. try something besides repeaters and simplex FM operating). [This will likely generate a new award, not a revised VUCC]

\*\* Establish a VUCC challenge-type award, similar to the one used by DXCC. The current VUCC awards are all single band awards. One of the things that has made DXCC so popular over the years was the 5BDXCC, and more recently, the DXCC Challenge (and DeSoto award). It would provide a continuing challenge for VHF+ operators to go beyond the basic VUCC on each band. Administration of the VUCC is not as well support as DXCC is by software programs, so this may be something that has to await some additional resources.

\*\* Create a new award or awards to appeal to entry-level or rover/portable operation, such as a grids activated or miles per watt award. Consider GCR certification rather than card checking.

A lot of VHF+ activity is made possible by those who operate while mobile (rovers) or go to hilltops. An award that rewarded their activity in putting remote grid squares on the air would encourage even more activity during contest and non-contest times.

\*\* For VUCC awards on 50 through 1296 MHz and Satellite, all contacts must be made from a location or locations within the same grid locator or locations in different grid locators no more than 200 kilometers apart. (Currently they have to be made from the same grid square.)

The current rules restrict the location to one grid square. For some people that includes nearby hilltops, for others it doesn't, so we're recommending that the location be expanded to include locations within 200 km (about 125 miles). After all, for DXCC you can include contacts made anywhere in the 48 states.

### **EME contest-----**

\*\* The Contest department should work to establish dates for the EME contest as early as possible, and include them with the contest calendar as the yearly summary is released. Dates for the EME contest need to be set to maximize the opportunity for EME QSOs, and that depends on moon and sun locations. It would be very helpful to have the dates set earlier than they have been in recent years.

\*\* Change the multiplier to include US states and Canadian provinces instead of call areas.

This change should boost participation from the US and Canada, and the interest for DX participants.

\*\* Stop requiring that stations operating outside of their traditional call area sign portable. Though a long-time requirement, this rule has never been followed by participants, nor enforced.

### **VHF Sweepstakes + June/September QSO Parties-----**

\*\* Establish a new Limited Single Operator category designed with the newcomer in mind. Operate on no more than four bands with low power only.

In the past ten years there have been a large number of HF radios sold that have also include one or more VHF bands. Most VHF+ operating starts with only a couple of bands, and then expands as interest, time and resources permit. A limited band category should attract a lot of interest from the newer VHF+ operators, or even those who have no interest in expanding to the microwaves.

This proposal was originally to have a category for 50-144-432 but while there was strong support for the concept, many wanted 222 to be added to the mix. We felt it even better to propose a 4-band low power category.

\*\* Simplify the limit for low power operation to 150w for 50-144-222-430 MHz. The low power limit is 200w on 50 and 144 MHz, and 100w on 222 and 430 MHz. We believe setting the limit on all four bands should be 150w, consistent with the typical HF+VHF transceiver, or a transverter and "brick" amplifier. (We know the CAC is considering a 100w limit for HF contests but believe 150w is more appropriate for VHF+ events.)

\*\* Eliminate the rules that allow Multi-Operator stations to work their own operators on 2.3G and up.

This is a rule that was originally created to insure that activity on 2.3 GHz and up happened during contests. It was much more difficult many years ago than it is today. Today, those QSOs are not as difficult to make and an exception for multi-op stations to work their own operators on the microwave bands is not needed.

\*\* Strengthen the rules to minimize the rover practices known as grid circling and captive rovers.

Grid circling is the practice of pairs rovers going to the junction of 4 grid squares and working each other at short distances while moving through each of the grids. This can mean 16 QSOs per band for 10 or more bands, and can generate huge scores (millions of points) while not encouraging contacts with other contest participants. Requiring a minimum distance for rover QSOs would help to minimize this type of activity.

A captive rover is a station that only (or primarily) works one multi-operator station during the contest. This may be the norm in less populated areas of the country because

there is little other activity, but in populated areas it can generate considerable angst among competitors. The practice that generates the most heat is a rover that only works one multi-op and does not work others in the area. Many of them never submit logs. Because the rovers are usually going to rare grids and have microwave equipment on multiple bands, their efforts can really boost the scores of those they work. The current rules are fairly weak in their attempt to encourage rovers to operate in a way that gives a chance to all stations in the area to work them and should be strengthened.

\*\* Offer plaques for the January and September contests, in addition to June. Work to find individual, club or corporate sponsors. Otherwise offer plaques to national and regional leaders at their own cost.

The plaque program has been reasonably successful in the June VHF Contest and we think it should be expanded to cover the other two major VHF+ events. There is some administrative burden in handling plaques but the price we charge for plaques generally covers our costs.

The plaques we offer in the June contest are awarded (when sponsored) to the top entrants in these categories:

Top 10 Single Operator (both High and Low Power) scorers.

Top 5 Single Operator QRP Portable scorers.

Top 5 Rover scorers.

Top 10 Multi-Operator scorers.

Top 5 Limited Multi-Operator scorers.

Instead of focusing on plaques for national winners, which is really not a fair way of comparing VHF+ scores across the country, plaques should focus more on regional competition.

\*\* Make sure the rules indicate certificates are awarded for low power entries in January, and for top DX entries.

While not a major issue, this topic generated a surprising number of comments.

Certificates are issued for these categories but the printed rules have not been clear.

### **What isn't included in the recommendations?-----**

There were several key proposed changes that were not well-received. The subcommittee was not 100% supportive of proceeding with them so we are not proposing them at this time.

\*\* Reduce the large emphasis on microwave contacts in the Jan/Jun/Sep contests.

Microwave QSOs make a huge difference in the total scores that can be made. The subcommittee felt that the incentives, while useful to generate microwave activity when they were instituted many years ago, provide too much of an incentive today. This tilts the core of VHF+ activity towards the microwaves and away from working those who are casual participants or newcomers. Making one microwave QSO is generally more valuable than making 10 QSOs on 6 or 2 meters, for example.

We proposed to change the point value for all QSOs to a 1-2-3 point system for all bands (one for rover QSOs, two for QSOs in your own grid and those that touch it, and three for

QSOs with distant grids). No one seemed to like the 1 point for rovers proposal, and most who commented did not like the reduction in QSO points for microwave contacts. A majority of the subcommittee favored a change to a simple two point per QSO scoring formula but without stronger support it didn't make the final cut in our recommendations.

\*\* Since Jan/June/Sep contests are nearly identical, convert one to a pure VHF/UHF contest (no microwaves).

We proposed to change the June contest to a 50-1296 MHz event. Many commenters saw this as a decrease in ARRL commitment to microwave frequencies. A large numbers spoke of "use it or lose it" regarding microwave activity. It appears that a considerable portion of existing microwave activity happens during the six ARRL VHF+ contests - that is cause of concern.

\*\* Eliminate the UHF contest, expand the 10G and Up contest to include 2.3/3.4/5.7 GHz.

The UHF contest has never "taken off." The contest began in 1978 with 118 entries and attracted 159 the next year. It peaked at 249 entries in 1994 and 250 in 1999, and was down to 140 entries last year. While the UHF contest has declined, the 10GHz and Up contest was started in 1986 with 52 entries and has steadily grown to 141 entries last year. Our draft proposed dropping the UHF contest and expanding the 10G and Up contest to include the 2.3/3.4/5.7 GHz bands. Again, this was received in a similar fashion as was described in the previous item.

We believe further work needs to be done to find ways to improve the UHF contest.

\*\* Revert to the old rover scoring rules.

Despite the many years of comments by some people that the old rover rules were preferred to the current ones, the general consensus of those providing input to the draft proposals was split fairly evenly. It does not appear that going back to the old rules is merited.

What are the key trends and information in the data analyzed?

Decline in entries

As noted earlier, activity in the Jan/June/Sep contests is down 25%, and activity in the EME and UHF contests is down 50%. Changes are needed. There were some start-up issues in moving towards electronic logging, though they happened several years after the decline began. It has never been easier to log VHF+ contest QSOs and to submit the log electronically. Paper logs are still accepted, though electronic ones are encouraged.

Attachment #1 has additional details on entries for VHF+ contests.(the attachment is not included by shows the number of logs in VHF+ contests since around 1975. Send me an e-mail if you'd like a copy - K1KI)

Logs vs activity

An analysis of VHF+ logs indicates that the number of logs received is a good estimate of the total amount of activity, as it is with HF contests. An analysis of VHF+ logs indicates that the number of logs received is a good estimate of the total amount of activity, as it is with HF contests. Looking at log data from the last several years shows that there are about 4500 active stations in the three major VHF contests (but only about

500 in the UHF contest), and that the amount of activity can be calculated from the number of logs received. The number of callsigns comes from the actual log QSO database.

Average Average

Contest Entries Calls Ratio

UHF-01-02-03 148 506 3.4

Jan-01-02-03-04 803 4014 5.0

Jun-01-02-03 728 5277 7.2

Sep-01-02-03 536 3253 6.1

Core of microwave operators

In each VHF+ contest there are a fairly small number of stations that make QSOs above 1.2 Ghz. September 2003 was typical with only about 100 stations out of more than 500 entries making microwave QSO, and more than half of them were multi-ops or rovers. Many of the top single operator stations use microwaves, especially in the densely populated areas, but 80% of the entrants do not. Most of the contest activity (97% of the QSOs) takes place on 1.2G and below, but microwave QSOs can double the score of the stations who invest in them.

### **Final thoughts**

There are two pools of people we believe should continue to be focused on to generate additional interest and activity in VHF+ awards and contests. Those who already operate VHF+ but generally use FM and repeaters as their major focus are one group, and the other is the large number of people who have purchased one of the many HF+ radios that include one or more VHF bands.

Reconciling the strong preference for those "at the top" for extra rewards (QSO points and multipliers) for microwave QSOs, with the desire to encourage more activity is difficult. That was the fundamental issue we struggled with.

Committee members:

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Joel Harrison, W5ZN

Wayne Mills, N7NG

Ward Silver, N0AX

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\* participation limited after 9/03