



The

FLASH

The Official Newsletter of the Mad River Radio Club

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From the MRRC 'Big Fish'

By Jeff Clarke, KU8E
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The *FLASH* is the official newsletter of the Mad River Radio Club, and is published six times per year in even-numbered months. Submissions of material for the *FLASH* are welcome, and may be sent to the editor at the address of the last page.

The Mad River Radio Club is an ARRL-affiliated club of amateur radio contesting enthusiasts. The club area is centered on Findlay, OH, and serves the surrounding states. Membership in the MRRC is open to anyone. Dues are \$12 per year, payable to club treasurer **KE8OC**. Please make checks out to **Tim O'Sullivan**, not MRRC.

In addition to six in-person meetings per year, MRRC has an informal net every Monday evening at 8:30 PM Eastern time on 3825 KHz \pm QRM. Everyone is welcome to check in for the latest club news and information.

Also, come join in with other MRRC members on-line with the free **MRRC Internet Reflector**. To join, send an e-mail to **MRRC-REQUEST@contesting.com**. The body of the e-mail should say **subscribe mrrc yourcall**. You'll receive an e-mail confirmation in a

The Fall contest season has arrived! Hopefully everyone has completed their preparations and are ready to go. As I write this CQWW phone is only a week away...and the big one for us as a club - CW Sweepstakes, is two weeks away.

We are really pushing for a big club score this year. In 1996 we had 52 entries and 4.8 million points but last year we dropped off to 31 entries and 2.4 meg. What happened? Who knows but let's all put in some effort and take that medium club gavel back (and beat that other club up north)! If you need a place to operate check out the Mad River reflector. I'm sure you could find a place to operate using this resource. If you don't want to stray far from home, throw some wires up in the tree's and join the fray. You will be surprised how well you can do.

The turnout for the Findlay meeting was good again this

year. I sensed some enthusiasm in the air about the coming contest season and in the club in general. It was nice to see some faces in the crowd that had been missing in action for awhile. Welcome back !! Thank you **Goose, W8AV** for figuring out how to disconnect that darn intercom that seems to interrupt the meeting every year... although good thing it was working for a while because **Jim, K8MK** heard his name called for one of the door prizes and walked away with a nice 2 meter rig!

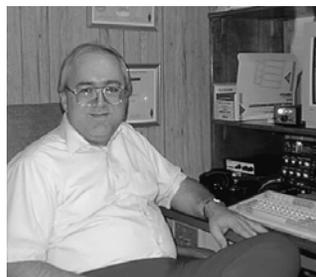
Thanks to **Dave, K8CC** for taking care of running the Adrian meeting the weekend following Findlay. We will get the meeting schedule straightened out for next year and hopefully more of the MI members can make OH meetings and visa versa.

Until next time...73's and Go Mad River !!!

ARRL November Sweepstakes - CW, November 7 - 9, SSB: November 21 - 23

The Editor's Keyboard

By Dave Pruett, K8CC
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Back when I started contesting, 100K in Sweepstakes was a pretty big score from W8. (Oops, I guess that dates me...) Today, the national winners routinely break 200K on CW and 300K on SSB. Still, 100K is a pretty cool score - you break six digits, and that makes your score look good in the listings. True, its not much of a challenge these days for the "A" or "B" power guys, but 100K with QRP is a real accomplishment.

Do you ever think about what it takes to make 100K? If you work all sections, then 633 QSOs is all it takes. Let's say you miss a few of the hard ones - with 75 sections, 667 QSOs gets you into six digits. How much operating time does it take to achieve these numbers? With a KW, tribander and dipoles, probably eleven hours on CW and nine on SSB. Skip the amplifier and you'll probably add three or four hours on either mode. You wanna do it QRP? Be prepared to sit in the chair for the entire twenty-four hours - like we said before 100K is a huge challenge with QRP. MRRC member **Don, K8MFO** is the only W8 to have done it on CW while only WB8G in Michigan has done it on SSB.

100K is also a number which is important to MRRC. In the lower right corner of this page is a table showing MRRC results in the SS Affiliated Club Competition for the past ten years. If you study this table you'll see that the key to doing well is to have as many entries as possible and *to have an average score per entry over 100K*. That's what got the job done in 1995 when we WON the Medium Category - close to the maximum number of entries and 107K average score.

But look what happened in 1997 - only 31 entries and a measly 80K average score. The second lowest total score and our worst average score in the past decade. Not many people got on and operated, and those who did for the most part did not spend much time at it. We only had 31 entries *on both modes combined!* These numbers seem to indicate a club who's members don't take SS seriously any more.

We sit and whine about how the east coast has the advantage in the DX contests (which they do) and the W5s have the skip for SS (which they do). However, SS is one contest where W8s can do pretty well even with modest stations. SS is one contest where a W8 club can win the Medium category. We know this because we've done it. Let's do it again!

There are more than sixty people on the MRRC roster. I would ask that every club member personally commit to generating 100K points in SS. Pick a mode - CW or SSB, it

doesn't matter but get on and make points. If a few people go multi-op then we might sneak in under the entry limit for the a medium club. Fifty entries at 100K apiece is enough to seriously challenge to **WIN** the Medium Club Category. However, there are two modes to SS, and entries are counted on each mode separately. This means that MRRC could potentially have 120 entries in SS (assuming no multi-ops). 120 entries at 100K apiece is enough to win the **Unlimited Category**. Hmmm...

Not everyone thinks the club competition is important. After all, its just a silly gavel, right? However, it is important to the club. Our peers in other contest clubs tend to view us as part of MRRC. We have a quarter-century of tradition to uphold. Furthermore, the club competition gives us a goal which we can realize together. Every club member can contribute to this goal, not just the big guns. When I got started in contesting in 1970 with a Viking II, HR-10 and 40M dipole, the SS was the contest where my little station could make lots of QSOs.

Yes, *EVERY* MRRC member should resolve to put 100K points into the club's bottom line for SS. As I write this, SS CW is only six days away and there are a lot of busted antenna systems out in the K8CC antenna farm. If I can get everything running, I'll go the full distance, high power, etc. If I can't get things fixed in time, I may have to spend Saturday out on the tower with CQWW CW looming at the end of the month. However, in any case I'll get in there and make my 100K on CW to do my part for the club.

73, de **Dave, K8CC**

MRRRC RESULTS FOR SS CLUB COMPETITION 1988-1997

year	place	score	entries	average	category
1988	7th	2,693,480	26	103K	Medium
1989	7th	2,144,068	25	86K	Medium
1990	3rd	3,157,056	35	90K	Medium
1991	4th	3,647,368	41	89K	Medium
1992	6th	3,810,532	37	103K	Medium
1993	2nd	5,246,472	50	105K	Medium
1994	2nd	4,765,472	45	106K	Medium
1995	1st	5,028,046	47	107K	Medium
1996	4th	4,893,534	52	94K	
		Unlimited			
1997	5th	2,487,504	31	80K	Medium
Avg:	4.1	3,310,806	39	85K	

Impressions of the Force-12 C4SXL

By Ron Majewski, W8RU
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I put up a 60-foot Heights tiltover tower in September of 1992. It carried a Cushcraft A3S at the top as well as yagis for 2m and 6m on the twelve feet of mast above the A3. Before the tower went up, the only antennas I had were 40m and 6m dipoles up around 30'.

A year or so after the tower went up I installed two new 40m antennas: a full-sized elevated ground plane (GP) and a full-wave delta loop. Both antennas played better than the dipole at 30' and I was able to do some DXing.

After a few years of heavy use, I had a full appreciation of the limitations of the A3. Principally, the A3 appeared to perform like rotatable dipole on 20m, both in terms of gain and front-to-back ratio. Gain and F/B on 15m and 10m seemed better than 20m, but was still not too impressive. I began to wonder -- like so many of us do -- if I could find a better antenna for 20/15/10. Although the GP and the loop worked pretty well, I added the desire for better 40m performance to my antenna search.

I first looked at the HyGain TH7 and the KLM KT-34XA in combination with a Cushcraft 402CD. All of these antennas enjoy reputations for good performance within the contesting and DXing communities. I have a detailed structural model for my tower, however, and it showed me that these antennas were a bit too big for my tower.

About this time I became more aware of the Force-12 line of antennas and did some digging through their literature, quickly focussing in on the C-3 and C-4 line of antennas. I then asked for comments on these antennas from various Internet groups. I didn't get many replies, but those comments I did receive were all positive. After way too much thought about the whole project, I decided to go with the C4SXL. The table below summarizes the relevant sizing parameters for the four antennas I considered.

Antenna	Weight	Wind Load	Boom Length	Longest Element
TH7	75 lbs.	9.4 ft ²	24'	31'
KT-34XA	68 lbs.	9.0 ft ²	32'	24'
402CD	44 lbs.	6.4 ft ²	23'	43'
C4SXL	48 lbs.	8.4 ft ²	23'	35'

The C4SXL is basically a set of interlaced two-element yagis for 40m through 10m. The elements for 20/15/10m are full-sized, and the elements for 40m are linearly loaded and are about 35' long. Like most (if not all) Force-12 multiband designs, the C4SXL uses no traps. The feed coax for 20/15/10 is attached via a choke balun to the 20m driven element. 15m

and 10m are parasitically excited using an open-sleeve system. This means that the 15m and 10m driven elements are mounted physically close to the 20m driven element. 40m is fed via a separate feed line.

There was about a four week lead time when I placed my order with Force-12 in the fall of 1997. The C4SXL arrived via UPS in two large boxes. It took me about six hours to put the antenna together and another four or so to get it adjusted.

Force-12 pre-assembles each antenna before shipping it, and then they bundle each element half together as they prepare it for shipping. These two procedures pretty much guarantee easy and error-free assembly of the antenna. The manual was thorough and photos were used to illustrate key portions of the written instructions.

One interesting difference between Force-12 antennas and those from other manufacturers is that Force-12 uses rivets to hold its element section together (as opposed to compression clamps). They claim that rivets make for a better mechanical and electrical connections. Working with rivets was odd at first but in the end I came to like them better than clamps.

Although there were no tricky points during assembly, three steps did require extra time. The first of these was getting the three driven elements parallel to one another. This is necessary for the open-sleeve feed system to function properly. The second step that required extra time was setting the length of the 10m driven element. I found that the factory-recommended length resonated far too high in the band. It was a simple matter to drill out the two rivets on the last element sections, reposition them, and re-rivet them. The final step requiring extra time was setting the lengths of the linear loading wires for 40m. I ran into some interaction problems in my yard and I had to raise the antenna to around 30' before I got a true reading of where the 40m portion of the antenna was set. Fortunately, this was easy because I have a tilt-over tower.

2:1 VSWR bandwidths for the C4SXL are very good. I get about 130 kHz on 40m, and the entire bands on 20m and 15m. On 10m the C4 provides about 800 kHz, a bit narrower than their spec claims. Force-12 also asserts that the C4 (as well as the C3) line of antennas have gain on 17m and 12m despite the fact that there are no elements specifically for these two bands, although a tuner is needed to make the output stage of most transceivers happy. I have found that the C4SXL works well on 17m; I pretty much have been able to work anything that I can hear. I have not have the same success on 12m, however.

On-air performance of the C4SXL on 40m-10m is excellent (recall that my frame of reference is a Cushcraft A3). I feel

(Continued on page 6)

Low Power Sweepstakes From Florida

By Jeff Bolda, WC4E

Reprinted from the Florida Contest Group "Contest Gazette"

Editor's Note: While WC4E wrote this article with a W4 perspective, we felt there were a number of good ideas presented here that are applicable to a W8 also.

Sweepstakes CW is the premier CW stateside contest. While the sunspots are low and conditions for DX are poor, this contest can be a blast. This contest offers thousands of people to work, great competition, and tons-of-fun.

After ten years of entering the contest low power, seven of which were serious 20+ hour efforts, I'd like to share a few thoughts and tips about doing this contest low power from Florida.

First off, you CAN make the top ten with a small station. I made the top ten box in '85 and '92. 11th in 1991 with just a TS-530, A3 @ 35', and a vertical for 80/40 meters.

Think positive, throughout the entire contest!

To make the top ten box, plan on putting in 23-24 hours. I usually operate the first 11-12 hours straight without a break. The first day is very critical, many top SS ops have mentioned that you can never "make up" for lost QSOs from Saturday. I get at least three hours of sleep just before the contest so I can stay up until 4 AM Sunday. If I don't get a nap, I'm dead at 10 PM. Saturday night off time is usually around 03-04Z for 4-5 hours. Back on the bands at around 1230Z and take short one hour or thirty minute breaks around lunch and dinner.

For the first eleven hours, call CQ as much as you possibly can. Save S&Ping for Sunday. On Saturday, call CQ in the Extra Class parts of the band (if you're an Extra). It can be very crowded above .025 and you'll be able to hold a frequency much easier down there. Move

above .025 Sunday so the Generals and Advanced guys can work you.

If you have two radios, use them. Saturday might be too busy to use the second radio, but it will be a life-saver on Sunday. A second radio can net over an extra 100 QSOs. Sunday can get pretty boring without a second radio. I've watched football on TV with the sound off to keep me occupied while calling endless CQs on Sunday afternoon.

Speaking of football, be aware of what games are on that weekend. Big rivalries might draw potential QSOs away from the radio. Be sure to be on the air during halftimes and just after the games. I have noted slow times in my logs during the first quarter of both the 1 PM and 4 PM. games.

Stay on the highest band that is open. If ten is open sounds "runnable", go there. For low power stations from Florida this is real important. Milk 15M for as much as you can before joining the madness on 20M and 40M. In past years I have gone to 40M between 0230Z and 0400Z. You can "sense" when it's time to go to 40 when your run drops off on 20 meters (below 40/hr).

Write down notes throughout the whole contest. I keep a "time-line" type sheet on my desk to note things such as: QSOs each hour compared to past years, band changes, best frequencies to run on, WWV numbers, notes on the competition, who's on my S-list, and just basic feelings and thoughts I might find amusing and interesting for later viewing. I also use the Alt-N

feature in CT/NA for the same purposes. Don't get discouraged if you fall behind last year's QSO totals, condx may be down!

Find out who is in the most difficult sections to work. Research past results and keep your ear to the tracks to find who is where and who will be on. Make note that W5XX is in MS, WBØØ in ND, etc. I get all but one or two mults on Saturday. My most needed mults on Sunday are: VE8/VY1, DE, MS, SC, AR, WV and PAC.

Most of all, HAVE FUN! Just the thrill of close difficult competition makes this contest very fun for me. The added benefit of having a club to contribute my score to now makes it even more fun! I you can't get on for the full contest period, try to get on for a couple hours and put in a score for the club if not for a pin for making at least 100 QSOs or a coffee mug for a clean sweep. I personally feel that ALL members should try to get on and contribute a score. This is why we have a contest club!! Now is the time to prove that Florida is not full of two meter retirees but has an active club that can get on and do well in contests!.

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 ★ **DON'T FORGET!** ★
 ★ We need YOUR contributions for ★
 ★ the next MRRC Flash - start working ★
 ★ NOW on an article! ★
 ★ Deadline for publication: ★
 ★ **December 15, 1998** ★
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Treasurer's Report

By Tim O'Sullivan, KE8OC
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Not too much new since our last report. We made good on our promise to purge folks from the roster who have not paid dues. However, with the new folks who recently joined, we wind up with around the same number of members.

<u>Balance from 9/98</u>	\$846.74
<u>Income</u>	
Dues	\$ 24.00
<u>Expenses</u>	
Checking Acct Maintenance	\$ 4.00
FLASH Printing	\$ 66.00
<u>Balance 11/98</u>	\$800.74

Respectfully Submitted,
Tim O'Sullivan, KE8OC

C4SXL Impressions

(Continued from page 3)

quite competitive on 40m and routinely break large pile-ups within the first few calls running only 200w. I usually run QRP during the CW Sweepstakes. In 1996 I made 144 QSOs on 40m using my dipole and my vertical. In 1997, I made 258 QSOs on 40m using the C4; I felt loud. I am similarly pleased with 20m-10m. The C4 definitely has better F/B and apparent gain on those three bands as well.

Mechanically, the antenna has held up well. Luckily we didn't have any major ice storms last year, so I didn't get any data points on ice. The rapid-taper element design rides the wind well. My A3 would move around much more than the C4 does.

To close, I have been extremely happy with the Force-12 C4SXL and would not hesitate to recommend it to anyone looking for solid quad-band performance on a single boom.



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