

June/July 1991

CONTEST CALENDAR

Well, Dayton is over for another year and its time to think about what's in store for the summer portion of the contest year. First in the line up is a contest for those of you who believe that there is intelligent life above 30 Mhz. The June VHF QSO Party is for all of you closet vhf contesters out there to jump in and make a splash from some rare grid square.

Next of course is Field Day. If you are trying to recruit new operators here is the contest to get their feet wet (particularly if you picked an appropriate site). Whether you're gung ho, or just kickin' back, suckin' down a few brews and operating, this one's always fun! Rumor has it that a MRRC Field day effort will be mounted on a pristine site in the greater Cleveland area. Contact K8CC or K8MR for details.

Then there's IARU. this is probably your first good chance to find out whether that new death ray you installed (the one you purchased at Dayton) really works. Or, maybe this is your chance to try single op from one of the big gun stations that otherwise would be dormant (Big gun ops went fishing). So, go ahead, get on the air and make some Q's, and GO MAD RIVER!!!

Editor: Tim O'Sullivan KE8OC

MRRC MEETING AT WD8LLD

The next Mad River meeting will be held at the QTH of "Goose" Steingass, WD8LLD, in Wooster Ohio. Goose has graciously invited us to come and check out the 'LLD' contest station on Saturday, July 27, 1991 starting around 11:00 am. So come on out for some good conversation and general ogling of the hardware (this always has some latent entertainment value). A map with directions to 'LLD' is included elsewhere in this issue. See you there!

WHAT'S INSIDE!

So are you wondering what's happening with Ted in JA land? We got the straight skinny on Teds Excellent adventure, some tips about operating in the IARU contest, the latest installment of Piciene Philosophy from the Big Fish, and all the latest scores. So don't touch that dial!!!

The MAD RIVER RADIO CLUB net occurs every monday evening at 8:30pm EDT on 3825 Mhz +/-QRM. Let's hear from you!

FROM THE 'BIG FISH'

By Dave Pruett, K8CC

Dayton 1991 is past, and we begin another year for Mad River. I would like to thank everyone for the chance to serve again as President of our fine organization. It is my firm conviction that 1991/92 will be a fine operating year for MRRC, and that we have a lot to look forward to.

MRRC CONTEST RESULTS

I am tremendously proud with the results of MRRC's operating accomplishments which have been published in recent magazines. The May 1991 CQ chronicles the results of the CQ WPX Club Competition where MRRC was THIRD IN THE WORLD, and first in the USA, beating out some club heavyweights such as PVRC and YCCC. This finish caught many by surprise (including the "Big Fish") because MRRC did not make a concentrated effort in WPX. In reality, there are many within our club who enjoy WPX a great deal, and the scores show it. These results lay to rest the myth that MRRC is just a "social club".

Our other big finish is in the May 1991 QST, where the results of the ARRL Sweepstakes Club Competition show MRRC in third place in the Medium Club category with 3.1 million points from 35 entries. Again, MRRC did not make a concentrated effort, but those who got on did very well, winning single-op high power for both Michigan and Ohio on both modes. We also managed to beat our regional rivals, the North Coast Contesters, who fielded 30 entries for 2.9 meg.

The MRRC effort was spearheaded by a number of

people, both new and long-time to the club. The top pointsgetters were: Dick Bennett, NZ80263,850Pat Collins, NZ4K232,694Stan Barczak, K8MJZ228,912Tim Mitchell, WD8IJP220,800Dave Pruett, K8CC209,924Jim Stahl, K8MR198,918Tim O'Sullivan, KE8OC182,590Steve Miller, WD8IXE181,632

For leading the MRRC SS charge, Dick Bennett, NZ80 will have his 1991/92 dues paid by the club. Congratulations to Dick, and to all who contributed for a job well done. We must plan ahead to turn or efforts up a notch or two this coming November, for I'm sure the NCC is planning to do likewise.

DAYTON 1991

Again, the Hamvention was a blast. I spent less time locked in the forum rooms this year, and yet did not do the entire fleamarket and only saw about 25% of the inside. Much time was spend ragchewing with people you meet in the aisles, which is OK by me. As I get older, Dayton is more about people and less about technology.

I thought the MRRC Suite turned out well. Ken Rogner again did a fine job organizing suite support, and overall things ran smoothly. My personal thanks go to Mike, NOAON who flew solo on our suite shift so that I could get some quality programmerto-programmer time in with K1EA.

The one question mark from the suite is financial. In 1989, suite revenues exceeded expenses by approximately \$100. In 1991, the reverse was true, and the club had to ante up almost \$100 to balance the ledger. The reasons for this reversal are unclear.

It is my belief that there are

typically a fixed number of suite-hoppers at Dayton that

BIG FISH (continued)

are interested in contesting. Some of these people hang out at the KCDXC/SEDXA suite on the fifth floor. This year, the Friday night NCC party in the Miami Room offered something new and different, but the drinks were expensive. The Society of Midwest Contesters had their suite up on the twelfth floor. Maybe things were just too spread out.

I've been told that the Frankford Radio Club is planning on sponsoring the Miami Room on Saturday night, which means traffic dilution both nights. MRRC has gone ahead and reserved Suite 425 again for 1992. I would propose that we approach the W9s from the SoMC and see if they want to team up with us in the large suite. Both club names would be on the suite, MRRC would run it one night and SoMC the other. In this way, we could focus interest and activity, and perhaps make the whole process more fiscally viable. I'll keep you informed as plans develop.

MRRC CLUB CIRCLE

For ARRL Club Competitions, there is a 175 mile geographical radius limit for stations to participate for the club. This circle for MRRC has traditionally been centered on Marion, OH. However, with the changes in the past years in the geography of MRRC membership, the club voted at the Dayton meeting to move the center of this circle to Findlay, OH. This change will result in more of Michigan inside the circle, while still covering essentially all of Ohio. Ιf you have a question on the geographical status of your station, contact K8CC.

MRRC SUMMER

For most people, summertime is a time to relax, recreate, and be with their families. It should be the same with our club. The stress of competition eases, and we can take some time for club fellowship in between our summer antenna projects.

Plan now to make one of the MRRC meetings in the next few months. Although it often requires some travel, a good time is usually had by all - it's worth the trip.

Hope to CU at the upcoming club meetings! 73, de Dave, K8CC

From the "AQM Letters" aka. The "ABO Files" from K8DD

Ted appears to be going through "Hamfest Withdrawal". All the JA hamfests are in late August. And on the same weekend! "JA's don't thrive on hamfests like we do."

His "Kansas City keyer is a big hit with the CW types... never seen anything like it." Maybe Ted will become a Lance Johnson dealer and be able to afford a real live Big Mac or two!

He hopes to be on the air from either JA3RL (HQ station) or as 7J3ABO in IARU contest in July.

The average JA antenna is a "L" shaped whip and coils (28" for 15M) mounted on balcony railings in the downtown areas, 20M version is only 36".

Nobody has MS-DOS computers, so he is looking for a set of all the log/entry sheets for the major contests. Stan, AC8W, and I are putting a set together for him. I've seen Ted use a manual, paper dupe sheet. I think Mad River Radio Club should send him a laptop **AQM (continued)** or notebook computer with CT and NA in it. But then, on the other hand, I've seen Ted try to type!

We all have heard that Ted sold most all of his beloved TS-820/R-820's. I guess they went cheap at the swap at Dayton - not getting much for scrap electronics these days! But in his letter he said he bought four 455 IF 500 Hz filters for 820, 830, etc. Did he really sell the TS-820/R-820's? Is he really going to use them again?

Not sure who all was in CQ WPX, but rumor has it that one of the weaker signals from the NorthWest was a 7J3 running a KC keyer....no radio....no antenna....just a KC keyer.

Before Ted left, he sent me the disks from ARRL DX CW contest. It seems that due to all the computer crashes, each floppy from each computer had a different score on it. Three of them would not read. Two of them had garbage in the .BIN file. After some massive reconstruction (judicious use of the DX call book), and a case of the beverage of choice, Buck, N8CQA and I (the day before the deadline for getting logs into the ARRL) managed to salvage a score of about 1.75 meg for Ted. I talked to Billy Lunt, KR1R, from the ARRL at Dayton. He indicated that they had quite a laugh over the logs, and decided to let them slide through without being scrutinized, like they normally do when the K8AQM call appears on an entry sheet. Buck and I graciously thanked him on behalf of Ted. He also said that it was a good thing that Ted was going to be in Japan for the next ARRL DX contest....Something about that was the only way they would accept a log from him. Not sure what he meant. MRRC/KH2??

By Ted Rachwal, K8AQM and Dave Pruett, K8CC

Our MRRC delegate to Japan, Ted Rachwal, K8AQM/7J3ABO, wrote to the 'Big Fish' with an interesting idea. Ted proposes that MRRC mount a contest-pedition to Guam, KH2, for either CQWW SSB or CQWW CW.

Since Guam is а USA possession, there would be no hassle involved with getting a license. Although Oceania is not as desirable from a propagation standpoint as South America or Northwest Africa for CQWW, we would be in a position to works lots of exotic multipliers. Of course, running JAs would be a chip shot.

Ted proposes that we operate multi-single from KH2. To properly capitalize on the CQWW rules would require two stations, one to run QSOs and the other to work multipliers. A possible station setup would consist of:

RUN STATION

Transceiver KW Amplifier Triband yagi 40m dipole Laptop computer

MULT STATION

Transceiver KW Amplifier (w/160m) Five-band trap vertical 160m antenna Laptop computer

The operational goal of this type of setup is that either station could operate any band as necessary. The majority of running would occur on 20/15/10 (on CW, add 40m), or the mult station could be used for limited running on other bands. Running CT on laptop computers would make swapping stations

GUAM (continued)

and tracking multipliers easy.

Mounting an expedition of this sort is no trivial challenge, considering that all the equipment would have to be transported to Guam. However, with careful planning, this trip is certainly within the capabilities of MRRC. Now is the time to begin planning if we want to go to KH2. If you are interested, contact K8CC pronto.

DE K8CC

SCORES

WPX CW 1568/631 KW8N(WD8IXE) 2,566,908 AC8W M/S @ K8DD 953/532 1,667,908 AG8W M/S @ KC8EK 1.5 Meg WI8L 967/515 1.5 Meg NE8T(K8JM)15M 831/477 914,409 WD8AUB 20M 843/480 860,160 WD8LLD 15M 695/424 680,944 . W8IQ 20M 585/400 600K 224/168 W8FN 116,256

OPERATING THE IARU CHAMPIONSHIP By Dave Pruett, K8CC

Quite a few contesters seem to have no interest in operating the IARU HF Championship contest. It's not hard to see why - the contest occurs in mid-July, when most rational people have lots better things to do than sit in the basement and operate their radios. However, for those contesters who can fit it into their busy schedules, the IARU HFChampionship offers some unique challenges and lots of fun.

The contest used to be called IARU Radiosport, which I personally feel was a much better name than "HF Championship". The rules are somewhat unique - the scoring is based on ITU zones. No, not CQWW zones (of which there are 40) but ITU zones (of which there are 90). Score one point for a QSO in your ITU zone, three points for a QSO outside your zone but on your continent, and five points otherwise. Multipliers are ITU zones worked on each band, 160 thru 10 (no WARC), with additional multipliers for any ITU Headquarters Club station worked (ex. W1AW for ARRL). The contest period is 24 hours, from 12Z to 12Z, with no off times. There are four entry categories: singleop CW only, single-op SSB only, single-op mixed mode, and multi-operator single transmitter.

These rules have a lot of positive aspects. Most contesters can go the 24 hour period without sleep, and it occurs at a pretty convenient time for us W8's - 8 AM on Saturday to 8 AM on Sunday. The point structure encourages the operator to chase DX, but if conditions are punk, you can still work statesiders to pile up the points. Multipliers are crucially important - consider this, in a typical CQWW, the ratio of QSOs to mults might be five or six to one while a good IARU score might be more than ten to one!

The biggest difference to operating in the IARU is due to the July contest date. Summer propagation is usually very different from fall, which means that 28 MHz is not likely to produce any European runs. However, there are opportunities for unusual paths, such as LP JA in the morning and often quite a bit of dual EU/JA openings (thank goodness for split-beam stacks!). Also, sunrise/sunset times are drastically different from the fall (go out now and buy a DX-Edge if you don't own one already).

IARU (continued)

Having done reasonably well in IARU for the past three years in the CW-only category, I would like to pass along some operating tips that should help to improve your IARU HF Championship score.

First, since multipliers are so important, try to be QRV on all six contest bands. Even a mediocre antenna for the low bands will help build your score. There are six ITU zones to be worked just in the USA and Canada - add a couple of DX zones and voila!

Second, if you plan to seriously operate the contest, decide ahead of time to operate all 24 hours. There is always people to work so there is no really good time to take off. If you only want to operate part time, hit the Saturday morning EU (and maybe runs, then skip the JA) afternoon if desired. Start again before sunset and stay up at least thru EU sunrise at approximately 04Z. Try to get up around 10Z for the Pacific, and then finish the contest running EU again until 12Z.

I usually start the contest on 14 MHz, because there always seems to be some Southeast Asians to work that are never heard from again. In 1989, my first QSO at 1200Z was a LP JA on 28 MHz CW. This is a good time for Africa and skew path EU, so check 28 MHz at the start. It is very tempting to start on 21 MHz since EU is likely to be coming in well, _____don't but miss these

opportunities on 14 and 28 MHz.

Around 13Z you will probably want to start hammering 21 MHz. After a while, you will start to think you are doing a single band contest, as there will not be much to work on 14 MHz once the absorption kicks in during the day. 28 MHz must be watched for multipliers, and this is where a second radio can be an immense help. Most QSOs on 28 MHz will be South Americans, but you need every one of them to build your mult total on that band. Get into a rhythm - run 21 MHz, then sweep 28 MHz (preferably both at the same time!).

By late afternoon, you will have flogged 21 MHz to death, and it is not uncommon to have 500+ QSOs on that band and fewer than 100 on the other bands combined! As sunset approaches, the absorption will start to dissipate and allow 14 MHz to be useful. Some really terrific hours are available during this period so take advantage of it. You might also check 7 MHz prior to our sunset.

In July, W8 sunset occurs roughly at 02Z. This is the BEST time to work EU on 3.5 MHz. For the past two years, I have been able to CQ Europeans on 3.5 MHz using simple wire antennas (that means dipoles, fellas). Hearing the DX during the summer can be a real challenge - RX antennas such as beverages and loops are a big help. There are usually at least a couple big HQ Club stations running multi-multi that have good sigs and can be worked with reasonable effort. Don't miss this chance on 3.5 MHz.

After sunset, you gotta make serious hay on 7 MHz.

European sunrise occurs around approximately 04Z, so we only have a couple hours of mutual darkness to rack up EU QSOs on 7 MHz. Again, hearing the DX can be a problem when thunderstorms are nearby, however a good run on this band can result in lots of multipliers, particularly out of Africa.

IARU (continued)

Once past EU sunrise, its time to hammer 14 MHz. Most years, this band is open all night and there are scads of Russians to work. (This might have something to do with the old "RADIOSPORT" name - let's hope they never discover the name change). In 1989, even 21 MHz was open to EU most of the evening, but it's probably not really runnable, and you need to build your 14 MHz QSO total (and the mults that go with it). Don't forget to sweep the low bands every hour or so - it's a good idea to check 1.8 MHz on the hour, but don't waste time there without working anybody.

Around 10Z, things start to get interesting out to the west. In 1990, I went to 1.8 MHz to help out N6TV who needed my zone, and the first sig I heard was ZL3GQ, S8 on the meter! I snagged Peter with one call (alright, I admit that there were no others calling), then OSY'd down to work N6TV on 1823. A couple of CQs netted no response, so I went back up to 3.5 MHz. The first CQ on the 90' high dipole netted ZL2UW, FK8FU, then KL7Y who said that I "was real loud on 160". We moved back to 1.8 MHz, but cockpit error at K8CC caused the fuses in the Titan amp to blow. I never heard KL7Y, and he told me later on 3.5 that he never heard me again - oh well!

The last hour of the contest can be quite interesting. In 1988, the last 30 minutes produced 30 JAs on 7 MHz, which was the only time I was ever able to CQ JAs on the old 2L yagi. In 1989 (the year my first QSO was a 28 MHZ LP JA), the Japs were workable again on that band in the final hour, along with a big surprise - straight path Europeans! Conditions in 1990 were not quite so super, but again it is a good opportunity to work South Pacific and Asia on 14 MHz, or run a few more Europeans on 21 MHz.

One more thing. IARU HF was the contest that motivated me to write my NA Logging Program. Running any version of NA on a PC clone will make the contest lots more fun and ease the pain of contest paperwork (scoring all of those QSO points is a drag). For more details, contact K8CC or the LTA advertisements in the National Contest Journal.

Below are shown the K8CC breakdowns for the 1989 and 1990 contests. 1989 was my best-ever year for QSOs, despite a breakdown in the 7 MHz (which explains the low QSO/mult count on that band). 1990 was good for mults, which might be a reflection of poorer conditions (hard to run on 14 MHz from W8, so S&P'd lots of mults).

In conclusion, the IARU HF Championship contest can be a lot of fun. The DX participation appears to outnumber the USA contingent, so there is a lot of DX to be worked. Propagation can be strange and wonderful during the month of July. So fire up the shack air conditioner, and plan to be ORV this July you'll be sure to see K8CC in the pileups (at least if I get my 7 MHz rotator fixed...).



station: K8CC contest: 1989 IARU HF

160 80 40 20 15 10									
UTC	CV	V	CW	CV	V C	W	CW	CW	rate total
12Z	0	0	0	0	82	3	85	85	
13Z	0	0	0	1	62	2	65	150	
14Z	0	0	0	0	76	4	80	230	
15Z	0	0	0	0	96	2	98	328	
16Z	0	0	0	0	42	16	58	386	
17Z	0	0	0	0	8	21	29	415	
18Z	0	0	0	0	51	0	51	466	
19Z	0	0	0	0	73	0	73	539	

19Z	0	0	0	0	73	0	73	539
20Z	0	0	0	0	42	5	47	586
21Z	0	0	0	16	52	1	69	655
22Z	0	0	0	28	28	0	56	711
23Z	0	0	2	92	0	0	94	805
00Z	0	0	1	56	7	0	64	869
01Z	0	0	0	50	22	0	72	941
02Z	0	16	0	16	17	0	49	990
03Z	0	0	43	11	10	0	64	1054
04Z	0	0	18	44	1	0	63	1117
05Z	0	0	9	50	3	0	62	1179
06Z	1	0	4	44	0	0	49	1228
07Z	0	1	0	33	8	0	42	1270
08Z	0	0	1	49	2	0	52	1322
09Z	0	0	7	30	4	0	41	1363
10Z	0	0	0	0	73	0	73	1436
11Z	0	0	0	0	27	30	57	1493
tot	1		85	520	786	84		1493

tot 1 17 85 520 786 84 --- 1493 mults 1 6 18 31 40 21 --- 117

RATE AND QSO BREAKDOWNS

station: K8CC contest: 1990 IARU HF

160 80 40 20 15 10 UTC CW CW CW CW CW rate total

0	0	0	64	0	0	64	64
0	0	0	3	63	0	66	130
0	0	0	0	80	0	80	210
0	0	0	0	74	13	87	297
0	0	0	0	45	11	56	353
0	0	0	6	44	2	52	405
0	0	0	0	46	0	46	451
0	0	0	0	50	0	50	501
0	0	0	0	38	15	53	554
0	0	0	27	5	18	50	604
0	0	0	61	0	0	61	665
0	0	0	5	66	0	71	736
0	0	0	48	12	2	62	798
0	0	51	6	0	0	57	855
0	28	30	0	0	0	58	913
6	25	55	0	0	0	86	999
0	0	43	9	1	0	53	1052
7	25	10	5	1	0	48	1100
5	0	30	7	0	0	42	1142
0	0	10	13	0	0	23	1165
0	0	14	17	0	0	31	1196
1	0	8	18	0	0	27	1223
1	10	6	1	0	0	18	1241
0	0	7	42	0	0	49	1290
20	88	264	332	2 52	5 é	 51	- 1290
6	16	32			5 1	4	- 142
	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 10 0 0 20 88	$ \begin{smallmatrix} 0 & 0 & 0 \\ 0 & 0 & 0 \\ 0 & 0 & 0 \\ 0 & 0 &$	$ \begin{smallmatrix} 0 & 0 & 0 \\ 0 & 0 & 0 \\ 0 & 0 & 0 \\ 0 & 0 &$	$ \begin{smallmatrix} 0 & 0 & 0 & 3 & 63 \\ 0 & 0 & 0 & 0 & 80 \\ 0 & 0 & 0 & 0 & 74 \\ 0 & 0 & 0 & 0 & 45 \\ 0 & 0 & 0 & 0 & 45 \\ 0 & 0 & 0 & 0 & 46 \\ 0 & 0 & 0 & 0 & 50 \\ 0 & 0 & 0 & 0 & 50 \\ 0 & 0 & 0 & 0 & 38 \\ 0 & 0 & 0 & 27 & 5 \\ 0 & 0 & 0 & 61 & 0 \\ 0 & 0 & 0 & 5 & 66 \\ 0 & 0 & 0 & 48 & 12 \\ 0 & 0 & 51 & 6 & 0 \\ 0 & 0 & 48 & 12 \\ 0 & 0 & 51 & 6 & 0 \\ 0 & 0 & 48 & 12 \\ 0 & 0 & 51 & 6 & 0 \\ 0 & 0 & 43 & 9 & 1 \\ 7 & 25 & 10 & 5 & 1 \\ 5 & 0 & 30 & 7 & 0 \\ 0 & 0 & 14 & 17 & 0 \\ 1 & 0 & 8 & 18 & 0 \\ 1 & 10 & 6 & 1 & 0 \\ 0 & 0 & 7 & 42 & 0 \\ \hline $	$ \begin{smallmatrix} 0 & 0 & 0 & 3 & 63 & 0 \\ 0 & 0 & 0 & 0 & 80 & 0 \\ 0 & 0 & 0 & 0 & 74 & 13 \\ 0 & 0 & 0 & 0 & 45 & 11 \\ 0 & 0 & 0 & 6 & 44 & 2 \\ 0 & 0 & 0 & 0 & 46 & 0 \\ 0 & 0 & 0 & 0 & 50 & 0 \\ 0 & 0 & 0 & 0 & 38 & 15 \\ 0 & 0 & 0 & 0 & 38 & 15 \\ 0 & 0 & 0 & 0 & 38 & 15 \\ 0 & 0 & 0 & 0 & 38 & 15 \\ 0 & 0 & 0 & 0 & 38 & 15 \\ 0 & 0 & 0 & 0 & 38 & 15 \\ 0 & 0 & 0 & 0 & 5 & 66 & 0 \\ 0 & 0 & 0 & 5 & 66 & 0 \\ 0 & 0 & 0 & 48 & 12 & 2 \\ 0 & 0 & 51 & 6 & 0 & 0 \\ 0 & 0 & 48 & 12 & 2 \\ 0 & 0 & 51 & 6 & 0 & 0 \\ 0 & 0 & 48 & 12 & 2 \\ 0 & 0 & 51 & 6 & 0 & 0 \\ 0 & 0 & 48 & 12 & 2 \\ 0 & 0 & 51 & 6 & 0 & 0 \\ 0 & 0 & 43 & 9 & 1 & 0 \\ 7 & 25 & 10 & 5 & 1 & 0 \\ 0 & 0 & 43 & 9 & 1 & 0 \\ 7 & 25 & 10 & 5 & 1 & 0 \\ 0 & 0 & 43 & 9 & 1 & 0 \\ 7 & 25 & 10 & 5 & 1 & 0 \\ 0 & 0 & 14 & 17 & 0 & 0 \\ 1 & 0 & 8 & 18 & 0 & 0 \\ 1 & 10 & 6 & 1 & 0 & 0 \\ 0 & 0 & 7 & 42 & 0 & 0 \\ \hline \hline \begin{array}{c} \hline \hline \\ \hline \hline \hline \hline \\ \hline \hline \hline \hline \\ \hline \hline \hline \hline \hline \\ \hline \hline \hline \hline \hline \\ \hline \hline \hline \hline \hline \hline \\ \hline \hline$	$ \begin{smallmatrix} 0 & 0 & 3 & 63 & 0 & 66 \\ 0 & 0 & 0 & 0 & 80 & 0 & 80 \\ 0 & 0 & 0 & 0 & 74 & 13 & 87 \\ 0 & 0 & 0 & 0 & 45 & 11 & 56 \\ 0 & 0 & 0 & 6 & 44 & 2 & 52 \\ 0 & 0 & 0 & 0 & 46 & 0 & 46 \\ 0 & 0 & 0 & 0 & 50 & 0 & 50 \\ 0 & 0 & 0 & 0 & 38 & 15 & 53 \\ 0 & 0 & 0 & 27 & 5 & 18 & 50 \\ 0 & 0 & 0 & 61 & 0 & 0 & 61 \\ 0 & 0 & 0 & 5 & 66 & 0 & 71 \\ 0 & 0 & 0 & 48 & 12 & 2 & 62 \\ 0 & 0 & 51 & 6 & 0 & 0 & 57 \\ 0 & 28 & 30 & 0 & 0 & 0 & 58 \\ 6 & 25 & 55 & 0 & 0 & 0 & 86 \\ 0 & 0 & 43 & 9 & 1 & 0 & 53 \\ 7 & 25 & 10 & 5 & 1 & 0 & 48 \\ 5 & 0 & 30 & 7 & 0 & 0 & 42 \\ 0 & 0 & 10 & 13 & 0 & 23 \\ 0 & 0 & 14 & 17 & 0 & 0 & 31 \\ 1 & 0 & 8 & 18 & 0 & 0 & 27 \\ 1 & 10 & 6 & 1 & 0 & 0 & 18 \\ 0 & 0 & 7 & 42 & 0 & 0 & 49 \\ \hline \hline \\ \hline $

THE MAD RIVER RADIO CLUB

- President: Dave Pruett, K8CC 2727 Harris Rd. Ypsilanti, MI 49221
- Treasurer: Ken Rogner, WD9INF 2520 Centennial Rd. Toledo, OH 43671
- Scorekeeper: Jim Stahl, K8MR 30499 Jackson Rd. Chagrin Falls, OH 44022

Tim O'Sullivan, KE8OC 744 Foothill Canton, MI 48188