



# The Flash

Volume 31 , Issue 1

January 2001

## From The Big Fish

By Dave Pruett, K8CC  
[k8cc@mediaone.net](mailto:k8cc@mediaone.net)



The first half of the 2000-2001 contest season is in the can and it's been a good one thus far. As expected for a peak of the sunspot cycle, high band conditions have been very good just about every contest weekend (except for the geomagnetic storm which threw a wet blanket on the second day of CQWW SSB). EU and JA has been available on 28 MHz in every DX contest weekend, and you gotta love that!

For MRRC, it would be hard to argue that SS has been the high point of the contest season thus far. While the club's SS coordinator **Mike, K9NW** should have a report elsewhere here in this newsletter, it looks like we'll wind up about 10% shy of our five million point goal. When you consider that this will be almost twice our score from last year, I think we should be very pleased with the final result.

Following SS there were two more ARRL affiliated club competitions, in the ARRL 160M contest and the ARRL 10M contest. MRRC won the ARRL 160 Affiliated Club Competition the first year it was held, but has not been a factor in recent years. Last year, MRRC's club score in ARRL 160 was only 279K from five entries. However, according to **Jeff, K8ND**, this year we have 679K from 12 entries! This is a tremendous improvement and hopefully a harbinger of things to come. On the other hand, ARRL 10M is not a contest that offers any geographic advantage to W8s. Nonetheless, a bunch of MRRC stations were on the air, including some competing for top spots.

For all of these ARRL Affiliated Club Competitions, please be sure to submit your logs before the deadline. Be sure to put **Mad River Radio Club** on the summary sheet and let's see how we stack up.

We should not overlook the significant MRRC efforts made in the CQWWs as well. **K8GL, ND8DX** and **KU8E** joined the squad at NCC multi-multi **K3LR** for the SSB event. The CW weekend saw MRRC multi-multis **K8CC** and **W8AV** banging away while **K8GL's** completely rebuilt antenna farm piled up lots of points.

**K9NW** reprised his 1999 effort from **TI5N** for a big score. Let it never be said MRRC is a domestic-only contest club.

Speaking of **Jeff, K8ND** it's good to see him active again in MRRC. Back in the eighties Jeff was one of the stalwarts of MRRC, leading many contest-expeditions to **VP2E** and other DX locales. He is a former Big Fish, a former **FLASH** editor, and the person who inspired me to buy my first IBM PC. He's been preoccupied with other hobbies in recent years, but he's made big dents recently in both modes of SS and the ARRL 160. Welcome back OM!

At the same time, I'm sorry to report that while we gained an old member back, we'll soon be losing another. **FLASH** editor **Jeff, KU8E** has indicated that he and his family plan to move south to Atlanta shortly after the birth of their baby in early 2001. Jeff has been a part of MRRC since 1979, and has held several offices within the club. After many years as a guest op, he has recently put together some impressive finishes from a relatively simple station. His support has been priceless, and we'll miss his enthusiasm.

I am pleased to announce that **Tim, K9TM** has agreed to step in and fill the position of **FLASH** editor. He is a long time MRRC member, a former Big Fish. Tim has excellent computer skills which he'll put to good use in newsletter production, so please support him with items for publication.

We still need a person (or persons) to take over as manager(s) of the Ohio QSO Party. Jeff Clarke has done an outstanding job bolstering the awareness and popularity of this event. Someone from Ohio needs to step up and take charge. Assistance is available from "north of the border" as **K8CC** (log checking) and **WD8S** (awards) are still willing to help. However, without someone to lead the contest, the OQP will fall back into obscurity.

Next up on the MRRC schedule is the **K8MR Christmas Party and MRRC Meeting on January 6, 2001**. This is one of the best MRRC meetings of the year, and a chance to visit the **K8AZ** station and socialize with our counterparts over at the NCC. Wherever you're coming from or how far you have to travel (I'm three hours away) it is worth the trip. Hope to see everyone there !

Dave , K8CC



## From The Editor

By Jeff Clarke, KU8E  
[ku8e1@yahoo.com](mailto:ku8e1@yahoo.com)



Wow ! What a busy period we have had for about the last month. It seems like there has been a contest just about every weekend since the middle of October. As I write this the ARRL 10 Meter contest is coming up this weekend and after that we get a break for awhile... until it all starts up again at the beginning of the year. From the sound of things MRRC activity has been pretty good this fall. I worked many of the guys in SS, CQWW, and ARRL 160.

I was lucky to join **W0CG** and **KP2L** during the CQWW CW contest operating as **PJ2T**. Geoff, **W0CG** has bought the old **W1BIH/PJ9JT** house on Curacao. This place is a real fixer upper and Geoff and some the members of the CCC spent much of the few weeks before the contest making the house liveable. The contest effort was more of a low-keyed M/S effort but we managed to make around 6000 QSO's for 11.0 Meg. Not bad for a bunch of temporary antennas ! The **K8CC** and **W8AV** M/M stations were also both on as usual for CQWW generating some major points for the MRRC club effort.

If you remember last issue I talked about getting the *Flash* in an Adobe PDF format on the club webpage. This is now a reality. You can read the *Flash* in a PDF format if you click on the **Newsletter** link on the front page of the MRRC webpage. For those of you that don't remember the club webpage is at <http://www.qsl.net/mrrc>. Also, many club members took up the offer of not receiving a hardcopy of the *Flash* via the mail. If you would like to help the club save some \$\$\$ on publishing costs and would like to be removed from the mailing list please contact Buck, **N8CQA** at [N8CQA@tir.com](mailto:N8CQA@tir.com).

In closing this month, I am sorry to announce that this issue of the *Flash* will be my last as editor. I notified **K8CC** of my intentions to resign this position about 3 months ago. The coming year will be a busy one for my family. We are due to have our 2<sup>nd</sup> child in the beginning of January 2001. We are also going to be relocating to the Atlanta, GA area sometime during 2001, if everything works according to our plans. I will no longer have the free time to devote to being the *Flash* editor or the director of the **OQP** due to time limitations. This is a great opportunity for you to get involved in the club. If you are interested in contributing by helping out with these duties please contact **K8CC**.

73's **Jeff KU8E**

## Treasurer's Report

By Buck Switzer, N8CQA

Balance 10/01/00:	\$459.73
Deposits:	\$0.00
Checks:	\$236.68
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Balance 11/30/00	\$223.05

In addition to the Club balance, we had \$590.00 in MI/OH QSO plaque funds. The MI plaques have been paid for leaving \$140.00 for OH plaques in the account.

*Note: If you volunteered to contribute for an OQP plaque Please send your \$\$\$ to N8CQA ASAP. Thanks.*

### Contest Calendar

Stew Perry Top Band Challenge	1500Z Dec. 30 <sup>th</sup> - 1500Z Dec 31 <sup>st</sup> .
NAQP CW	1800Z Jan. 13 <sup>th</sup> - 0600Z Jan. 14 <sup>th</sup> .
NAQP SSB	1800Z Jan. 20 <sup>th</sup> - 0600Z Jan. 21 <sup>st</sup> .
ARRL VHF Sweepstakes	1900Z Jan. 20 <sup>th</sup> - 0400Z Jan. 22 <sup>nd</sup> .
CQWW CW 160 Contest	2200Z Jan 26 <sup>th</sup> - 1600Z Jan 28 <sup>th</sup> .
NA Sprint SSB	0000Z Feb. 3 <sup>rd</sup> - 0400z Feb. 3 <sup>rd</sup> .
NA Sprint CW	0000Z Feb. 11 <sup>th</sup> . - 0400z Feb. 11 <sup>th</sup> .
ARRL DX CW	0000Z Feb. 17 <sup>th</sup> . - 2359z Feb. 18 <sup>th</sup> .
CQWW SSB 160 Contest	2200Z Feb. 23 <sup>rd</sup> . - 1600Z Feb. 25 <sup>th</sup> .

## MRRC Profiles

By Goose Steingrass,  
W8AV

[W8AV@aol.com](mailto:W8AV@aol.com)



This installment of MRRC Profiles features Jim Snell **W8DRZ**, alias "Jimmy", "Drezz" or "Dr. Z." Jim resides in Vermillion, Ohio and holds a General Class license.

Jim sort of stumbled into Amateur Radio by accident. Friend and former co-worker Gary Kulka, **WB8WAF-SK** was working on TV set when he came across the ATV signal of **W8PSX**. Gary told Jim about his find, they looked up PSX, and paid him a visit. After the visit they both decided that they should get their tickets so that they could play ATV too. Jim admits that he dragged his feet a bit before earning his General Ticket and the call **WD8DRZ** in 1976. The ATV bug must have bitten pretty hard because Gary ended up at WEWS-TV in Cleveland, although he later went on to WKYC-TV, and Jim ended up at WJW-TV in 1978 where he now serves as a senior maintenance engineer and supervisor.

Jim describes himself as a MRRC member's worst nightmare. He confesses to having been a "repeater god" in his previous ham radio lifetime. He installed the first two meter and 440 repeaters in Erie County (the county that Sandusky and Cedar Point are in). He later built and owned the Lake Erie Amateur Radio Network (LEARN) which consisted of a system of UHF repeaters that were linked to provide full time coverage along Lake Erie from Toledo, Ohio to Painesville, Ohio and south to Ashland and Akron. Jim claims, "I started with one repeater in 1978 and it grew to a total of 14 by 1994. It damned near killed me before I saw the error of my ways." In September of 1994 he pulled the plug and walked away from the repeaters and the hobby for five years. He notes that one of this system of repeaters survives to this day which is the 440.05 machine in Parma, Ohio.

Other than being a an "ex-repeater freak" (as he puts it), Jim's first love is building radio projects either from scratch or from kits. He also enjoys spending time on HF rag-chewing. Non ham radio interest include gun collecting and taking long drives down back country roads in a supercharged Honda Del Sol. He claims to regularly terrorize Amish buggies on Route 60 between Vermillion and Marietta and has the speeding tickets to prove it!!! But as Jim states, "I still have not found a way to cram an Icom 746 into the Del Sol!"

Although Jim has casually contested for years, his rekindled interest in contesting and interest MRRC can be credited in part to the influence and guidance of friend and co-worker Jim Stahl, **K8MR**. "Jim, a ham's ham and avid contester, has been my mentor at both work and play." He mentions that MR has shown him how to have better luck and more fun at the same time during the contests.

Although he is still a bit apprehensive about turning in a score from one of what he calls one of his meager efforts, Jim is working on building up his skill level and will probably be submitting scores for the club in the near future. "I tend to be aggressive and focused in what I do. I think that contesting, MRRC and myself will be a good match," he points out. His favorite contests are CQWW, Sweepstakes, and the OQP. Jim was a part of the **K8MR** mobile team in this year's running of the OQP and the two had a grand time touring the hills of Southeastern Ohio and handing out QSO's. Many of you will also recall that "Dr. Z" took charge of the MRRC "Suite in the Sun" at the 2000 Dayton Hamvention. After talking with **K8MR** he discovered that no plans were in the works for the suite at the Hamvention. Jim got the ball rolling and pretty much single-handedly organized the suite. We as a club are fortunate to have a person in our membership with this kind of drive to get things of this type organized and running smoothly. Jim's station consists of an Icom 746 and a Drake C-line. The DRZ antenna farm presently consists of dipoles for 10, 15, and 20 meters and an end-fed Zepp for every-thing else. He also plans on adding a tower with a tribander and a few slopers in the spring. A picture of Jim's shack can be found in John Loughmiller's new book *Family Affair - the R. L. Drake Company*. When asked in what direction he would like to see MRRC go, Jim responds that would like to see the club members reach out to new hams and old hams alike and help guide them into the contesting world. He feels that the tips and tricks of the hobby can go a long way into making these people into better contesters and better operators in general. He feels fortunate in having one of the best showing him the way in the contest world. Finally, Jim also mentions a rather funny quip about another MRRC member that he refers to as "Little Tim." Evidently Tim, **K9TM**, who was sporting **WD8IJP** at that time, used to live on the next street over from the **W8DRZ** QTH. Jim states that he has hours of tape of him on the local **WD8DRZ/R** two meter repeater. Jim recalls that Tim was a bit of a rascal. Maybe it's time to do a MRRC Expos, on our former FISH!!!



Jim Snell, W8DRZ

# Sweepstakes Report

By Mike Tessmer, K9NW

## K9NW report for CW SS

K8CC	1228 x 80	196,480	M/O
K8ND	1135 x 80	181,600	SOHP
K9NW	1134 x 80	181,440	SOHP
K8JM	1047 x 80	167,520	M/O
K9TM	1020 x 80	162,560	SOLP
W8EDU	988 x 80	158,080	M/O
N8EA	914 x 80	146,240	SOHP
KU8E	858 x 80	137,280	SOHP
W8AV	791 x 80	126,560	SOHP
K5IID	705 x 80	112,800	SOLP
WD8S	683 x 80	109,280	SOLP
W8RU	655 x 79	103,490	SOQRP
N8ET	611 x 78	95,316	SOQRP
AA8U	572 x 80	91,520	SO/U
NU8Z	457 x 78	71,292	SOLP
K8GT	403 x 77	62,062	SOLP
AC8E	314 x 74	46,472	M/O (+K8MR)
KC8FXR	322 x 71	45,724	SOLP
K8MR	311 x 73	45,406	SOHP
K8RM	311 x 71	44,162	SOHP (K8MR)
K8MAD	305 x 72	43,920	SOHP (K8MR)
W8AJ	306 x 68	41,616	SOHP (K8MR)
N8TR	277 x 72	39,888	SOHP (K8MR)
K4LT	199 x 80	31,840	SOLP
KT8X	37 x 20	1,480	SOLP

So far.....**2,444,028** points

## K9NW SS report for SSB

K8ND	1517 x 80	242,720	SOHP
N8VW	1510 x 80	241,600	SOHP
K8CC	1436 x 80	229,760	SOHP (WD8S)
W8MJ	1255 x 80	200,800	SOLP
ND8DX	1101 x 80	176,160	SOLP
K8MR	1001 x 80	160,160	SOHP
NU8Z	902 x 80	144,320	SOU
NT8V	900 x 80	144,000	M/O
K9NW	762 x 80	121,920	SOHP
K5IID	705 x 80	112,800	SOLP
K8GT	440 x 80	70,400	SOLP
N8KR	443 x 72	63,792	SOHP
AC8E	391 x 74	57,868	SOHP
KT8X	301 x 69	41,538	SOHP
WX3M	278 x 80	44,480	SOLP
W8RU	242 x 71	34,364	SOLP
K8AAX	151 x 63	19,026	SOLP
K8MAD	95 x 38	7,220	SOHP (K8CC)

Total so far: **2,112,928** points

Phone + CW:

**4,556,956** points Somewhere around **40** entries

# KT8X and the Low Bands

By Dennis Ward , KT8X

This article should have been written a year ago, but like everything else in our lives there were more pressing matters to contend with. Now, at the end of CQWW CW 2000, having spent approximately 12 hours chasing multipliers and bidding farewell to family visiting from out of town, the long overdue article takes form.

For those of you not familiar with my station, here's some background. My wife Stephanie and I purchased a spec home on 1 acre in April 1995. We decided then, that the west third of the lot would remain free (also required due to our drain field), and that the east third would become a reasonable antenna "farm." In August 1997, with the help of several MRRC members, we erected 70 feet of Rohn 45 at my QTH. On top was a KT34XA feed with 1/2" hardline, a VHF / UHF vertical also feed with 1/2" hardline, and a Cushcraft A3 mounted SE at ~45 feet. I also had previously purchased a used Voyager GAP vertical for the low bands.

After two contest seasons, I was pleased with my 10, 15, & 20 operations and results. However, I felt that improvements over the GAP vertical were required. I sold the GAP vertical at Dayton and also ordered a Mosley S-402M 2 element (heavy duty version) Yagi. This was installed on October 9, 1999 along with a new mast, under the assistance of a 104-foot crane.

I spent time talking to several antenna companies and other amateurs with regard to my 80 meter situation. I decided the best thing to do was construct a 4 Square array, centered about my 70 foot tower. I measured the yard and there was just enough room for the array. I looked and talked all summer and finally decided upon a COMTEK phasing array. The COMTEK system is based upon relays and quadrature hybrid torrid to provide a phase shift between the antennas spaced a 1/4 wavelength in a square, feed with 50 ohm feedline from the transmitter. Each vertical requires a 75 ohm, 1/4 wavelength section of feedline (don't forget about the velocity factor! You need feedline with a .78 velocity factor for this array). This "box" is a 4-port hybrid, and therefore requires a 50 ohm termination. Several MRRC members have reported success with the COMTEK phasing array.

The most difficult decision was what do for the verticals. We have no trees worth speaking of on our property (newer house - property used to be a farm field), so the tower in the center was the only support. After much consideration, I purchased 4 Force 12 EF-180BV single band verticals. Force 12 provided a 5% discount for the antennas, which pretty much covered shipping. The antennas use a combined inductive and capacitive linear loading design. They are self supporting, and stand approximately 37 feet high. It's imperative to elevate verticals and radials to lower the losses due to ground. By elevating your verticals, you can obtain the same or better results using an order of magnitude less radials. I've read, and reviewed model data that seems to show 8 - 10 feet is about the point of diminishing returns. How to mount the Force 12 verticals elevated, on a self-supporting manner was the next question. I decided to borrow an idea from my flagpole. The mast is telescoping and removable. In the ground is a 28" piece of PVC inside a 12" diameter same depth hole. There is approximately 3" of gravel at the bottom, and a bolt through the PVC just above the gravel to act as a stop for the flag pole

KT8X (continued on page 5)

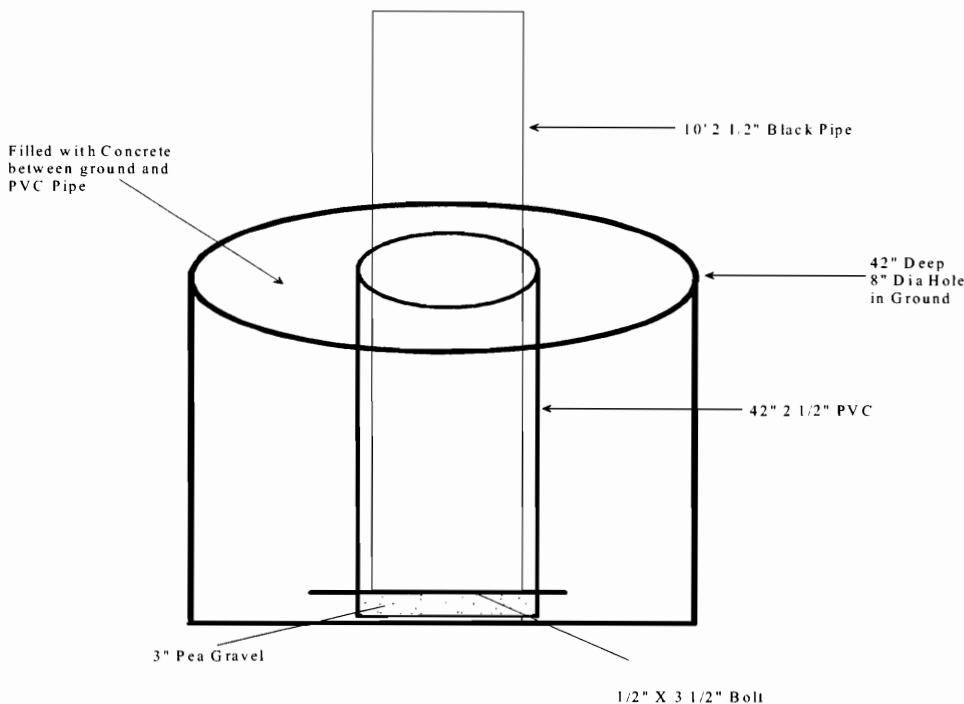
## KT8X (continued from page 4)

Approximately 2 bags of ready mix cement hold things in place.

I had to rent an 8" auger for some fence work, so the timing was perfect. I measured where the antennas should be mounted relative to each other, and the tower, and used the auger to dig four 42" deep holes. I then went to the local Home Depot, purchased pea gravel and ready mix cement. I managed to find a combination of PVC and 10 foot sections of black pipe, which allowed the black pipe to easily slide inside the PVC without much play. After cutting the PVC to be flush with the ground, I installed a 1/2" bolt 3" from the bottom, placed the PVC in the hole and filled it with gravel to the height of the bolt. I then filled each hole (outside the PVC!) with concrete while keeping the PVC and black pipe assembly plumb. After filling the hole with concrete up to ground level, I carefully removed the black pipe. After assembling the verticals (with help from K8GL), I began the 4 square installation just before the weather turned cold. Each vertical's feedpoint is at approximately 6 1/2 feet above ground, and I have 4 radials elevated for each vertical. Note: Each vertical must be feed with a 1:1 current balun to keep unwanted RF currents from feeding back in to the COMTEK hybrid phasing array. The major advantage to this type of flag pole mounting scheme, is the ability to completely remove the array in the summer, and just cut over the holes with the mower. No eaten feedlines, and no remeasuring required! I didn't remove the verticals last year, as I didn't have anywhere to store them. They took a beating during the spring storms that bent K8CC's 10 meter mast, and destroyed K9TM's tower and antennas. However, the antennas survived. I have since constructed a 12 X 20 shed, which will house the verticals, broken down in half, next year.

On air receive performance has been satisfactory, and of course no comparison to the GAP vertical. Front to Back Ratio is approximately 4 – 5 S Units on my IC-765, and Front to Side Ratio is approximately 5 – 6 S units. Unfortunately, during the 1999 – 2000 contest season, I experienced difficulty working beyond the Caribbean. I re-read my COMTEK manual, and discussed this with several MRRC members. I had run out of time, and was unable to check my dumped power. This is the wasted energy caused by antenna mismatches, dissipated in the dummy load connected to the hybrid phasing array. Even after tuning the verticals, the dumped power must be measured to understand the overall performance of the array. Transmitter SWR doesn't correlate to dumped power, unless the amount of power being dumped is very high – than you approach a 1:1 SWR! This year, I conducted dumped power tests, and was amazed. At the conclusion of testing and retuning antennas, I ended up with an average 100 Watts forward, 5 Watts or less reflected, and 5 Watts or less dumped. This equates to over 90 Watts transmitted in a directional pattern (cardiod) or more into the array, and I have heard that some people are using their Force 12 verticals for both phone and CW in a 4 square fashion. The EF-180BV's have an optional relay box, which allows you to use the same antenna for phone and CW. I don't have the details on the how the antenna's length is electrically modified with this configuration. These same people report nearly identical results on phone, compared to CW, with their 75 W phasing lines cut for CW. I don't have plans for such a modification at this time.

Below is an exaggerated drawing of the installation. The center box is the black pipe, dashed line the PVC and outer lines the actual opening of the hole. The bottom shading represents gravel, and there is concrete between the PVC and the earth. There is less than 1/8" overall play between the pipes.



## **MRRC Score Rumors**

### **CQWW DX SSB**

Call	Category	QSO	Zone	Country	Score
FP/N8KR	M/M	5175	107	370	6,024,987
K9NW	SOHP	2233	149	457	3,806,286
KP2A (KW8N)	SOHP 10 m	5651	39	152	2,750,591
K8GT	SOLP	551	86	235	488,883

**FP/N8KR** - N8KR, K8DD, AC8W, W8IQ

### **CQWW DX CW**

Call	Category	QSO	Zone	Country	Score
K8CC	M/M	6154	175	631	14,033,266
W8AV	M/M	5422	184	643	12,742,416
PJ2T	M/S	5959	159	510	11,795,139
T15N (K9NW)	SOLP	5085	129	395	6,507,556
K8GL	SOHP	2321	147	474	4,173,120
K5IID	SOLP	1174	107	311	1,404,480
N8ET	SOAB QRP	903	115	304	1,060,031
KT8X	SOHP	509	119	361	679,200
K8GT	SOLP	668	90	239	619,178
K8AAX	SOHP	335	51	138	180,306

**K8CC** - K8CC, K8DD, K8JM, K8MM, K8MV, W8MJ, W8UA, WD8S WX3M

**W8AV** - W8AV K4LT, AF8A, K8KM, K18IZ, N8VW, W8AV, W8RZ, W8WTS

**PJ2T** - KU8E, W0CG, KP2L (note : 1/3 of score counts for MRRC)

### **ARRL 160**

Call	Category	QSOs	Mults	Points
K8ND	Multi	1121	93	215,202
K8XXX	Multi	1131	89	205,250
W8MJ	SOHP - 9.5 hrs	504	66	66,924
N8EA	SOHP	444	63	56,511
K8CC	SOHP	320	58	37,624
W8RU	SOLP	225	52	23,712
KU8E	SOLP	183	55	20,185
K8MR	SOLP	200	46	18,676
N8KR	SOHP	125	41	10,373
KT8X	SOHP	132	38	10,146
WX3M	SOLP	16	10	320

**K8ND** - K8ND, K1LT

**K8XXX** - N8CC, K8AQM, W8MJ, K8JM, KG8CO, K8KS, NU8Z

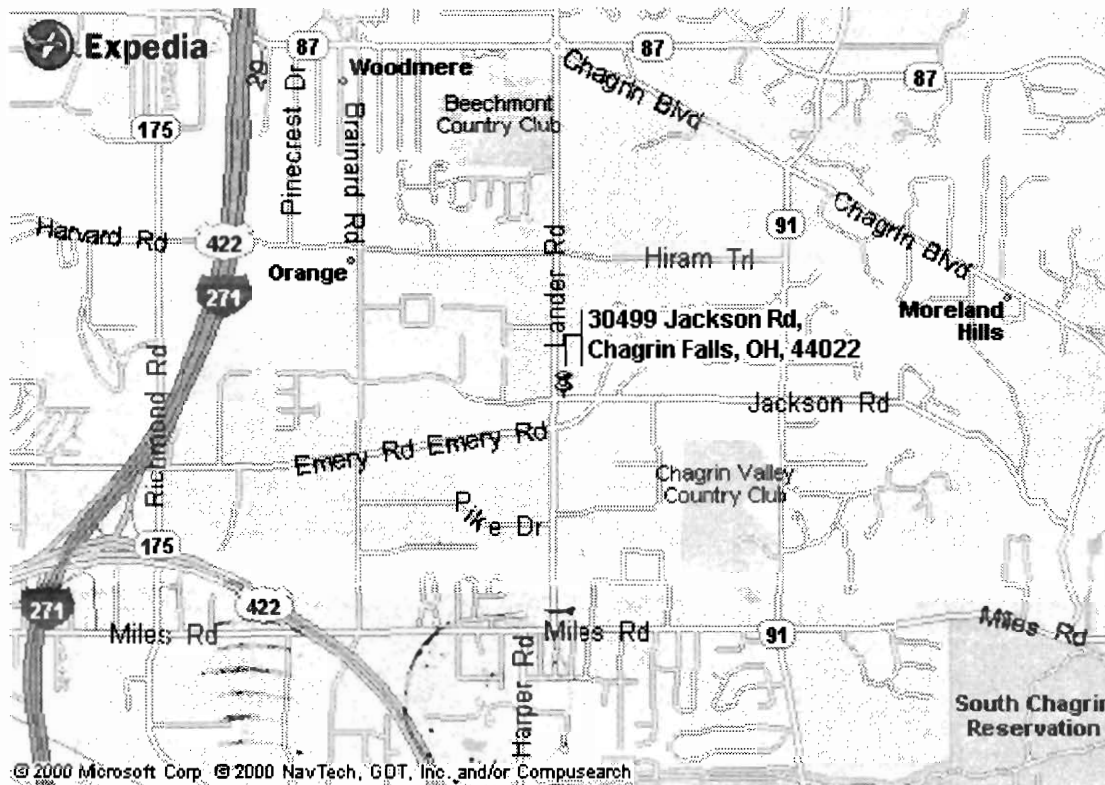
### **ARRL 10**

Call	Category	QSOs	Mults	Points
K9NW	SOHP	2547	262	2,059,320
W8AV	SOHP CW	1628	140	912,240
K8ND	Multi - 16 hrs	1101	236	771,720
K8CC (N8NX)	SOHP - SSB	2207	148	653,272
K5ZG	SOHP - CW	1100	138	607,752
W8MJ	SOLP CW - 17 hrs	753	106	319,772
ND8DX	SOHP - SSB	1168	134	313,024
KU8E	SOHP CW - 12 hrs	618	113	277,980
K8GT	SOHP	531	153	264,996
K9TM	SOHP	582	150	256,800
W8RU	SOQRP - CW	322	98	126,224
K8AAX	SOHP	280	106	102,820
KT8X	SOHP - CW	171	56	38,804
K8MR	SOHP	55	42	6,636

## 24th Annual K8MR Christmas Party and MRRC Meeting

The 24th Annual K8MR Christmas Party and MRRC Meeting will be held Saturday Evening, January 6, 2001 7:30 PM until ??? at the QTH of Jim Stahl, K8MR at 30499 Jackson Road Orange Village, OH 44022 .

Phone : 216-831-6954 or 2 meter talk in: 146.76 MHz PL110.9 (will open some extra receivers. This is a general interest repeater, the sort populated by lots of people who do wear their shack on their belt. So do mind your manners.



Two additional notes for directions to the K8MR Christmas Party:

1. There is now an exit off I-271 at Harvard Road. This is about a mile south of Chagrin Blvd. You can exit there, go east 1.5 miles to Lander Road, then south 3/4 mile to Jackson Road and the K8MR QTH.
2. On I-271, you must use the local lanes to be able to exit at Chagrin Blvd. or Harvard Road.

**K8AZ**, about 20 minutes away, also hosts a late afternoon open house. A lot of MRRC guys from out of town typically arrive even earlier in the day to visit Electronic Surplus Inc. (the name describes it all) and Amateur Electronic Supply. Another cool place to visit is Samsel Supply: a hardware store catering to the serious Lake Erie marine business. If you need a 2" diameter by 5 foot turnbuckle, they got 'em. The downside there is that they close at noon on Saturday, which implies a very early departure if you're coming from a long way away.

# Mad River Radio Club Resources Page

The **Mad River Radio Club** is an ARRL affiliated club of amateur radio contest enthusiasts. The club is centered on Findlay, Ohio and serves Ohio and the surrounding states. Membership is open to anyone.

The **FLASH** is the official newsletter of **MRRC** and is published six times per year in even numbered months. Submissions of material for publication is welcomed. It may be send to the editor at the postal or email address shown below. The **FLASH** may be reprinted in whole or in part provided proper credit is given.

**Club Dues** are \$12 per year, payable after May 1st with a grace period thru July 31st. Members of the same family living at the same address may elect to receive a single **FLASH** for one set of dues. Fulltime students are eligible for dues at half price. Dues are to be paid to club treasurer **N8CQA** at the address shown below. Please make checks out the **Mad River Radio Club**.

The **Club Roster** appears in the October/ November issue of the **FLASH** every year.

The **Mad River Net** is held on Monday nights at 8:30 PM Eastern time on 3825 Khz.

Come join in with other **MRRC** members by subscribing to the free **MRRC Internet Reflector**. To join send an email to [MRRC-REQUEST@contesting.com](mailto:MRRC-REQUEST@contesting.com). The body of the message should have <subscribe mrrc yourcall>. You will receive a confirmation in a few hours.

### President

Dave Pruett K8CC  
2727 Harris Rd.  
Ypsilanti, Mi 48198  
(734) 481-0755  
k8cc@mediaone.net

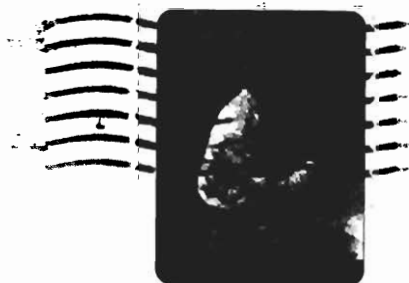
### Treasurer

Buck Switzer N8CQA  
427 Jeffrey Ave.  
Royal Oak, MI 48073  
(246) 435-2448  
[N8CQA@tir.com](mailto:N8CQA@tir.com)

### Editor

Jeff Clarke KU8E  
2896 Minerva Ave.  
Columbus, OH 43231  
(614) 895-9840  
ku8e1@yahoo.com

Jeff Clarke - MRRC  
2896 Minerva Ave.  
Columbus , Ohio 43231



ADDRESS CORRECTION REQUESTED

Jim Stahl  
K8MR  
30499 Jackson Road  
Chagrin Falls, OH 44022