

The

FLASH



The Official Newsletter of the Mad River Radio Club

April - May 1997

Volume 26 Issue 6





ell, Mother Nature decided that I need to get some exercise this spring. In mid-March, she blessed me with a terrific ice storm and has thereby provided an excellent opportunity to rebuild my entire antenna

farm. What a mess! I am not alone in this - lots of quads have been trashed in Michigan this winter.

Many of us will be making the trip to Dayton soon. Don't forget to attend the

MRRC meeting on Saturday at noon in the stands above the Cushcraft booth. We will be electing officers at this meeting and I hope you all will attend.

This will be my last column as you "Big Fish" for this term. It has been an honor and a privilege to serve as your FISH for the past year and I thank you all for your support. Family commitments will keep me from being at Dayton this year, but I'll be there in spirit.

73, de Bruce, AA8U

Dayton 1997 Dayton 1997 Dayton 1997 Dayton 1997 Dayton 1997

The Dayton Hamvention is the highlight of the MRRC year. Centrally located in MRRC territory, it's the one meeting a year that no member should miss. Since you're going anyways (right?), make it a point to get to the MRRC meeting and you'll have already vour attendance 50% of requirements to compete for MRRC in the ARRL Affiliated Club Competitions. Also, Dayton is the beginning of the new year for the club fiscally, which means that dues are due and you don't want to miss out on this fine newsletter, do you?

Mad River will again host a hospitality suite at the Dayton Crown Plaza hotel

downtown. Its my understanding that the hotel is no longer a Stouffers', but is now a Holiday Inn, although they have preserved the Crown Plaza name. The suite will be open from 8 PM until 2 AM both Friday and Saturday nights in our traditional Room 425 location. Jeff, KU8E is the suite organizer and reports the following schedule for suite workers:

Friday Saturday

8-10 KE8OC/W8FN AC8E/K8MR

10-12 W8MJ/K8CC K8DD/AC8W

12/2 KU8E/K4LT open

As you can see, there are still a couple of spots open. A lot more goes on the behind the scenes to make the suite happen, so please give Jeff a call and volunteer to help out.

The other MRRC event of the Dayton weekend is the official club meeting. Although the meeting has been held at the same time, and in essentially the same location, for over fifteen years, people will spend the entire weekend at the Hamvention and yet forget about it. Once again, in big, bold letters:

What: MRRC MEETING

When: SATURDAY, MAY 17 12:00 NOON

Where: HARA ARENA
BLEACHERS
UP BEHIND THE
CUSHCRAFT EXHIBIT

It really is important to make this meeting for the election of officers and discussion of club business. We hope to see you there!

The FLASH is the official newsletter of the Med River Redio 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-effiliated club of smatter radio contesting enthusiasts. The club area is centered on Findley, OH, and serves the surrounding states. Membership in the MRRC is open to anyone. Dues are \$12 per year, psyable to club treasurer KEBOC. Please make checks out to Tim O'Sullivan.

In addition to six in-person meetings per year, MRRC has an informal net every Monday evening at 8:30 PM Eastern time on 3625 KHz ± QRM. Everyone is welcome to check in for the latest club news and information.





ontesting activity, as well as amateur radio in general, seems to ebb and flow based on the sunspot cycle. You would think that this would not matter to our brethren enamored with HTs and repeaters, but Mad River is certainly not immune to its effects. This can be seen in the number and magnitude of scores fielded by MRRC in the DX-type contests over the past couple of seasons. While our results in the 160M contests have been tremendous, the poor condx have even effected our SS efforts as the small and middle guns have felt the effects of the low MUFs.

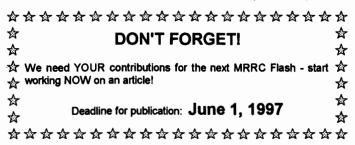
The experts say that the spots are coming back soon, but my personal opinion is that we have another year to go. Looking back one full cycle, the 1986-87 contest season was pretty gruesome for the high bands with even 21 MHz spotty and in some contests, virtually no QSOs on 28 MHz. The following season was MUCH better, with good north-south paths on 10M and 15M runnable several hours a day which takes some of the load off of 20M. 1988-89 saw the high bands kick into overdrive, so count the days until 1999!

In any case, it won't be too long before we turn the corner sunspot-wise, and activity will start to pick up. We saw this last cycle, and for station owners its not too early to start working on improving high-band arrays. Many of these projects take time and preparation, and its not unreasonable to have a two or three year plan for completing this work.

The other piece of the big-station equation is the operating team. The guys who struggled with you through the miserable low spots deserve the chance to revel in the glory of high spots. But its a two way street folks - support your station owner by helping with antenna projects, and keep him or her reminded of your interest in contesting from the station. Nothing discourages a station owner more than lack of interest...

Dayton is upon us. I hope everyone makes the effort to get to the meeting on Saturday, and CU at the MRRC suite!

73, de Dave, K8CC



357 Makes Big Noise By Greg Surma, K8GL

I'm a quad fan. What easier way to get on 20/15/10 while using a single tower? Over my 30+ years of being a ham I put up exactly two yagis at my QTH's. The first was a 4 element 10/15 meter combo courtesy of the ARRL handbook that quickly met its demise in an early ice storm. The second was a 3 element 20 meter yagi at a whopping 40'. This, plus 400 watts output, was good enough for 100 countries in the 1976 CQWW CW test. Never mind that K8IA made mincemeat out of me with his elegant 4 element arrays at over 100' high!

After the ruin of a 4 element monster in early 1993, courtesy of a late ice storm (actually the quad stayed together; the tower fell down!), and some success with the replacement 14' boom version, late in 1994 I was convinced to try a commercial yagi.

Force 12 had just entered the market a year or two earlier. Tom N6BT offered unique antennas that featured riveted elements and a sleek, light design, all thanks to sophisticated modeling programs and selected aluminum alloys. Discussion with Tom led the author to have confidence in the decision to go with a 5 element 20 meter version on a 35'7" boom, hence the moniker "357 Magnum". For additional peace of mind, I decided to go with the 100 MPH version. In retrospect this was probably overkill.

Construction is easy. You are almost forced by conscience to follow the manual! Three rivets hold each tapered element size to the next piece. On this particular antenna the elements taper from 1.125" to .375" in seven steps on each side of the boom. The element-to-boom are prealigned and riveted. It is not possible to have an element misalignment with this design! Can you say that about the average tribander?

Specs on this antenna indicate 8.25 square feet of wind load and 70 pounds of weight. My Heights 80' tiltover tower quickly had it in place, with straight elements and sleek appearance reinforcing the purchase decision. The hairpin match and coax balun yield impressive results on the match. Using 90' of 7/8" hardline and 90' of RG8, no reflected power is noted at 14040 and 3% is noted at the upper band edge. A Yaesu G1000 rotor is employed to turn the array.

Results? With diminishing conditions (The antenna was put up in 1994) initial results indicated that this was a good antenna. The quad antennas used by the author were no slouches, and it took some time to convince me that I was on to something great.

There are two detractions to this antenna that are hard to get used to: It is susceptible to static (like all good yagi antennas) and it is SHARP. No longer does XT2BW answer my 20 meter CQ when I'm beamed north, as was the case with my 2

(Continued on page 8)



MRRC Scores

Collected by Jim Stahl, K8MR k8mr@ber#80.nahore.org



AR	RL D	x cw	-			
W8AV				K8CC		
multi-2			mu	lti-mu	ılti	
160	58	37	160	119	53	
80	205	62	80	462	75	
40	700	96	40	427	95	
20	1108	90	20	1229	101	
15	193	67	15	251	74	
10	9	7	10	26	13	
тот	2273	359	TOT	2514	411	
2	,440,0	00	3	,099,7	62	
ops: K4LT,AF8A KU8E,K8LR,W8RZ, W8WTS,W8AV		K8GL K9TM KT8X	AC8W,K ,K8JM, ,KT8X, ,VA3NA ,W8MJ,	K8SIA N8CC, ,VA3E	, N8CQA,	
N8TR K8GT K8MR VE3Z AA8U W8XI	t TH	418-266 310-151 155-104 106- 88 134- 53 64-60	20,	430		+Pkt 160M

ARRL	DX SSB		
N8T	R	к8сс	
s/o ass	isted	s/o assiste	ed .
160 2	1 17	160 6	5
80 8	6 52	80 18	15
40 13	5 63	40 35	22
20 45	7 88	20 108	59
15 15	1 58	15 71	32
10 2	4 7	10 14	6
TOT 87	4 285	TOT 252 '	139
747,	270	105,184	
K8MR	172- 98	50,568	
K8DD	144- 96	41,472	
W8XI	133- 87	34,713	+Pkt
KA8PTT	92- 61	16 ,83 6	
кт8х	81- 55	13,365	
VE3ZTH	61- 55	10,065	+Pkt

FEBRUARY SPRINTS					
	SSB				
295-44	KW8N	270-43			
273-43	KU8E	179-44			
264-42	K8MR	20-12			
7- 6					
•	295-44 273-43 264-42	SSB 295-44 KW8N 273-43 KU8E 264-42 K8MR			

CQ 1	60M	S	SB		
KG8CW	1025	80		198,480	
AA8R	516	64		73,600	
W8MJ	504	52	11	73,080	
K8MR	329	48	6	38,718	
KU8E	203	57		28,272	Low Power
W80s	250	46	3	26,509	Low Power
VE3ZTH	47	29		6,554	
KE80C	76	34		5,746	
KŢ8X	51	25		2,775	
WR8C	1408	57	42	355,312	(+K8LR,K8MK,K8ZD)
N8TR	1442	57	37	325,898	(+WB8K,K8YSE,KF8UN WA8BIN)

CQ WPX SSB					
			WP3X		
P40	V	multi-multi			
(KW8N, op.)		(K8CC,W8MJ,AA8U			
s/o, a/b		N4UK, K3MM, AA4S)		ı	
160	-	160	197	ı	
80	280	80	547		
40	965	40	1535		
20 1	865	20	3137		
15 1	580	15	1786		
10	101	10	210		
TOT 4	791 x 842	TOT	7412 x 1083	I	
14.9M			23.6M	I	

Page 4 The FLASH

1997 CQ WPX SSB From WP3X

By Dave Pruett, K8CC, Bruce Lailthin, AA8U, and Ken Meier, W8MJ

It all started with an Internet message - OPERATORS NEEDED FOR 1997 CQ WPX FROM PUERTO RICO. The group that had won WPX SSB for the past two years signing KP4XS was looking for operators. Before volunteering I decided to recruit a partner for the adventure. My first call went to Bruce Lallethin, AA8U who is a very enthusiastic contester with overseas operating experience. Bruce agreed that the idea seemed exciting and immediately agreed to come.

I fired off an e-mail to the writer, Ken Ramirez, N4UK, with "contesting resumes" for Bruce and myself. To my delight, Ken's return e-mail was in the affirmative and we were on the team! After some discussion, it was decided that one more operator was needed. After a little marital soul-searching, Ken Meier, W8MJ joined up as the sixth operator for the multi-multi effort. N4UK immediately labeled the three of us the "Detroit Mafia".

N4UK's family lives in Cabo Rojo, Puerto Rico, where he has established a Field Day style contest site. The plan was for a five-station effort signing WP3X (neat WPX call, huh?). Three element monobanders for 20/15/10, as well as feedlines, rope, etc. were in storage on site. Bruce would be responsible for bringing a complete station to be used on 160M and 10M, so based on his ZK1AAU experience he decided to take a Yaesu FT-900 and a Ten-Tec Titan. I was to bring the complete 20M setup. I had a Kenwood TS-930 that I purchased last summer just for a trip like this, to which I added a Alpha 91B to provide contest dwarp.

The WP3X QTH has no high, natural supports to string antennas from. Past efforts by this group had used a droopy dipole for 160M with so-so results. Prior to the trip, Bruce took a Force-12 40' sectional mast and built a 160M inverted-L. He erected it in his in his front yard for testing, which showed it

was pretty competitive with his 120' full size vertical. He then packed it up in a tubular shipping case he made from large diameter PVC pipe, then filled the result of the tube with several thousand feet for #10 wire for radials. The final package (which can be seen in the photo below) weighed well over the 70 pound airline limit, but fortunately for us, no-body checked the scales

Last minute preparations included getting CT loaded onto our laptops for networking with the other computers at the station. Both Bruce and I decided we wanted to take voice recorders, but the only ones we had were plug-in cards for desktop computers. A call to AES brought an MFJ-432 for me and a Yaesu DVS-2 for Bruce. Both units required some anxious troubleshooting before departure to work out audio problems, but in the end, both voice recorders performed flawlessly during the contest, and were well worth the trouble to bring along.

We were up early the day of departure. Bruce and I went down the Monday before the contest, while Ken Meier would join us on Thursday. My brother, Tom, WB8VMN agreed to drive us to the airport, and we filled up the bed of his Dodge Dakota pickup truck with our stuff! Our problems began when the Northwest agent did not want to let Bruce check his fourth piece of luggage, but he managed to talk her into it.. Meanwhile, I was down at the x-ray machine and the operator went ballistic when the Alpha's plate transformer went through, so they made us open all of our carefully packed equipment to show their supervisor. At the handcarry check in, we learned Lesson #1 for the DXpeditioner's handbook: Don't hand carry any electronic equipment that you can't power up in the presence of the security officers.

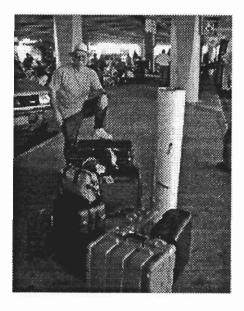
San Juan is 4-1/2 hours non-stop from Detroit on a Northwest Airlines Airbus. Arriving in the San Juan airport is no

different than arriving in Miami - no customs, passports or anything. The currency is US dollars, and most signs are in both Spanish and English. The airport is not overly large and we eventually made it to the shuttle bus pickup. In relatively short order we were headed off down the freeway in a rented Ford Windstar minivan.

San Juan is located on the northeast shore of the island while Cabo Rojo is at the far southwest end. N4UK had provided detailed directions for the three hour drive to the station. Driving in Puerto Rico is not much different than in the USA, but the drivers are definitely an order of magnitude crazier. Once out of San Juan, we headed south on a four-lane limited access toll road toward the city of Ponce (home of well-known contester NP4A). The inland areas of Puerto Rico are hilly and mountainous, and look somewhat like Kentucky or Missouri.

At Ponce the highway turned west and runs along the south coast of the island. Up to the point where we reached Cabo Rojo, the entire trip had been on more or less major highways. Once in Cabo, we headed out of town on a rural two lane, and at this point we started paying VERY close attention to N4UK's direc-

(Continued on page 5)



Bruce, AA8U and our luggage at San Juan airport

197 WPX SSB at WP3X

(Continued from page 4)

tions. As we turned onto the one-lane road to head up the hill towards WP3X, we noticed some of the locals watching us intently, trying to figure out who these gringos were in the white minivan. About the time Bruce and I started becoming concerned, we saw a couple of fellows waving frantically at us, and it was N4UK along with another member of the team, Ron Bailey, AA4S.

Ken and Ron had come down the previous Thursday, and already had a tremendous amount of work accomplished. They immediately took us up the hill to the WP3X QTH. N4UK's brother lives in the upstairs part of the house, with the shack on the lower, or ground level. The Detroit Mafia would sleep at the contest QTH, while N4UK, AA4S, and the final member of our team, Tyler Stewart, K3MM, would sleep at Ken's parent's house down the hill. After having dinner at a local restaurant called Kaboo's, we spent the rest of the evening getting settled in. The furnishings in the shack were simple and reminded Bruce and I of going to camp when we were growing up. Nonetheless, it was clean and comfortable so we settled in pretty easily. Particularly welcome was the near total lack of flying insects.

We unpacked the gear and discovered that all of our stuff has arrived intact so we set up the 20M and 160M/10M stations. Two other stations were already assembled: a IC-740/SB220 for N4UK to use on 40M, and a IC-765/SB220 for AA4S to use on 75M.

The next morning N4UK and AA4S kicked the newcomers out of bed at 6 AM. After a quick breakfast in town, it was time for antenna work. N4UK and AA4S already had the 80M and 40M antennas installed. For Europe, each of these bands had simple dipoles or inverted vees which are only up about 25', but the WP3X QTH drops off severely in that direction and the antennas work reasonably well. For the USA, they had taken advantage of an unusual feature

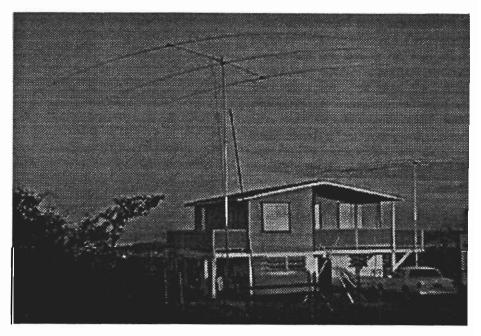
of the WP3X QTH. The station is located on a narrow ridge, with a deep valley immediately next to it like a bowl open to the northwest. Ken and Ron had stretched wire antennas across the valley - a dipole for 80, and a 2L wire yagi for 40. Although the ends of the antennas are essentially lower than the shack, the centers are about 70' above ground! The valley also provides a tremendous amount of isolation (40 dB or more) from European BC QRM. The effect is striking, and I would not have believed it had I not heard it for myself.

First project for the day was 15M, where N4UK and AA4S had preassembled the HyGain 3L 15 that was to go on a Radio Shack push-up mast. The mast buckled when we tried to stand it up, so we resort to plan #2. We beat the mast back straight, haul the beam up on the roof of the house, mount it on the mast, stand the whole thing up, then while supported by guy ropes, "hop" it over to the base and mount it in the rotator which is located at ground level.

Next, we try to apply the same methodology to the 20M beam, which is a relatively lightweight Force 12 3L design. Our success is repeated, and we're congratulating ourselves when K8CC checks the antenna and discovers problems. The minimum SWR point is 14450 KHz, but even worse is the proximity of the antenna to the steel roof of the house. The VSWR changes one full SWR point when the antenna is rotated from the USA to Europe. We decide the beam has to be moved away from the house, so we lift the antenna and mast out of the rotator, dig up the base post, and move the rotator thirty feet further from the house. We then reprise our hopping routine and move the antenna and mast to the new location. This fixes the variation as the antenna is rotated. but the VSWR is still 2.5 or more at 14200 which causes the Alpha to trip off line at 800W output. At this point, we decide to take the simple way out and contact W8MJ to bring a MN-2000 tuner when he comes down, which makes the mismatch problem go away.

Next up is the AA8U 160M inverted-L. Bruce did a really excellent job packing the mast, guys, and radials so that in a couple hours, it was ready to go up. Once we started erecting it, we had the antenna up and guyed in a matter of minutes. The antenna was fed with 300' of RG-8X through a 1:2 un-un transformer. With only a couple of adjustments to the horizontal wire, the an-

(Continued on page 6)



The WP3X QTH, with the 3L 20 in front, a 3L 10 tied to the house railing, and a 3L 15 in the rear

97 WPX SSB at WP3X

(Continued from page 5)

tenna had less than one watt of reflected power with 1500W forward at 1835 KHz. **COWABUNGA!**

The last transmit antenna was a 3L 10M yagi of undermined origin. The beam went up easily on a 20' mast, but the rotator would later prove to be a hassle. The CD-44 control box was a \$5 hamfest special with a digital display board installed. The display did not appear to make sense and appeared to rotate backwards. Ken made a "crib sheet" of indicated vs. actual heading to get by, but by Saturday during the contest AA8U got tired of translating the headings. It took him and K8CC the better part of a day to finally get things right so that by Sunday, the 10M station had the luxury of an accurately indicating rotator control box.

By the end of Tuesday, all of the transmitting antennas were up and running. K8CC spent Tuesday evening on 160M, and got great reports with the big inverted-L, even from EU. However, receiving is a mess due to QRN and static. Bruce resolved that his focus for the next few days would be to do something about building some beverages.

On Wednesday, the team climbed into the minivan and headed for the town of Mayaguez for needed bits and pieces. We hit Builder's Square for duplex parts, and some wood for a keyboard shelf for Bruce's station. A trip to Wal-Mart yields some seat cushions for the hard chairs, and a stop at Radio Shack turns up some electronic parts to complete a few needed repairs. Sounds pretty much like home, eh?

Back at the QTH, AA8U is reconnoitering the countryside for a way to string out beverages, but the severe terrain undulations makes the job difficult. He manages to string one 500' down the hill to the USA. For good measure, he connects a toroidial transformer to the barbed-wire fence that cow-proofs the WP3X QTH. KP3/K8CC again hits the 1.8 MHz airwaves that evening, pro-

nounces the USA beverage a keeper, and works a couple dozen EUs.

On Thursday, AA4S heads off on a museum field trip with N4UK's nephew, while K8CC and N4UK take the minivan for the six hour round trip to the San Juan airport to pick up K3MM and W8MJ. We leave AA8U behind to build more beverages, and when we return he has come through with a 400' job to Europe. That evening, another 80 Europeans go into the 160M log, but the jury is still out on the new beverage.

Meanwhile, the last station (K3MM's FT-1000MP for 15M) is going together. The amplifier is a SB-221 that Tyler hand-carried (!) down for WP3X, but it has problems. The grid meter pins with only a watt of drive, which is traced to a blown up grid meter shunt resistor. Also, the bandswitch is shorted between the 80M and 40M positions. K8CC and K3MM work until bedtime, and then part of Friday morning before its is finally squared away.

Friday is spent doing last minute errands, but the Good Friday holiday means that virtually all of the stores are closed. A last minute run to the bakery

at the bottom of the hill nets enough foodstuffs to keep the six ops from starving to death for the duration.

The contest started off with a bang with K8CC on 20M leading the way with a 232 hour. A total of 491 QSOs and 239 mults for over 350K went into the WP3X log in the first hour! A brief band-by-band synopsis of the contest:

160M - AA8U struggled all weekend with heavy QRN from thunderstorms in the SE USA. The inverted-L worked well, with a dozen or so EU, plus both KH6 and KL7 in the log. QSOs were up about 70 from previous years, but not up to our pre-contest goals.

80M - AA4S had the same QRN problems as 160M, but also had to struggle to hold a frequency among the CQing W's. We wind up almost dead even with last year.

40M - Up 300-500 QSOs from past years, mostly due to wire beam over the valley. Being stuck in the 7075-7100 range caused problems finding or holding a frequency to EU. Best hour was 106.

(Continued on page 7)



The nighttime crew at WP3X, with 40 in front (N4UK), 160/10 in the middle (AA8U), and 80 in back (AA4S)

'97 WPX SSB at WP3X

(Continued from page 6)

20M - Big rates at the start helped 20 end up 500 QSOs better than last year. We started on 14175 and did not QSY until mid-afternoon Saturday! The station seems very loud to USA, but we felt like we struggled when working EU, although 500 went into the log. Only two JAs were logged, but Tyler worked a bunch of South Pacific station Saturday in the middle of the night.

15M - Tyler worked real hard, but the band opened very late both days and never produced any good EU runs. Best hour was 169, and the finished with about 150 more QSOs than last year.

10M - Good sigs on occasion from Africa and South Pacific, but band never really opened very well to any population centers - big run was 23 LU Novices. COME ON SUNSPOTS!

We had only a few problems during the contest. About the only inter-station interference problems was the 40M second harmonic trashing 20M if we were low in the band. A much bigger aggravation involved the CT computer network which was linked with unshielded wire. RF would crash one or more com-

puters on many occasions, and made the logs difficult to merge later.

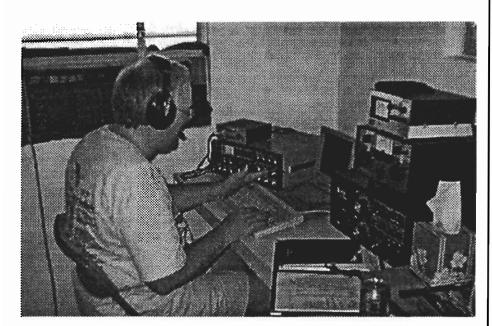
WP3X CLAIMED SCORE

160	197
80	547
40	1535
20	3137
15	1786
10	210
TOT	$7412 \times 1083 = 23.6 \text{ meg}$

Rumors off the 3830 reflector have us #1 in multi-multi, but behind the multi-single entry of ZXØF at 25 meg with their three-point advantage and the low sunspots limiting the number of simultaneously open bands for us.

After another dinner at Kaboo's, we had the stations torn down and packed up by midnight. The next morning, we had all of the antennas taken down and packed away in under two hours. The ride back to San Juan and the plane trip home was uneventful, although the thirty degree weather was a shock after enjoying the warm Caribbean breezes.

Would we go back? ABSCLUTELY! The operation ran very smoothly, and the team worked together very well. Plans are in the works for this same crew to go back for the 1998 ARRL DX SSB contest. WP3X will ride again!



K8CC running 20M at WP3X. Note the strategic location of the 20M station next to the only air conditioner in the house.

MRRC Field Day? By Dave Pruett, K8CC k8cc@ix.netcom.com

MRRC has many traditions for Field Day. For a while, we had a 1A Field Day Challenge, and several MRRC members have traditionally made their mark in certain Field Day categories. Jim, K8MR often leads a strong 1A contingent, while Doug, K4LT has made many strong entries in 1B operating with partner W8TK. And of course, many MRRC members have been involved with W8LT Field Days with the OSU club over the years.

One of the reasons MRRC applied for our K8MAD call was to establish an on-the-air identity to advertise our club. K8MAD first rode the airwaves from the K8CC QTH this past January during NAQP CW. Now, we'd like to propose putting it on the air again for ARRL Field Day in June as a club project.

We would like to have as many members as possible be part of the MRRC Field Day. This could mean lots of transmitters, but for planning purposes I would like to propose that MRRC enter the 4A category in June. This would mean four stations, plus an optional Novice/Technician station:

80/20 CW 40/15 CW 80/20 SSB 40/15 SSB

If we could round up some VHF gear, then possibly 6M and 2M could be added to augment the HF activity.

The first thing we need is a location to operate from. I would propose looking for a site somewhere near Findlay, OH, which is the club center. Next, we need "captains" to volunteer to lead each station. How about two teams from Michigan and two from Ohio? I'll volunteer to lead one team.

Please think about this idea and be prepared to discuss at the Dayton MRRC meeting.

Treasurer's Report By Tim O'Sullivan, KE8OC kefoc@eol.com



Well, another MRRC year is done, and we're still solvent. We deferred a couple of expenses like paying for *FLASH* printing until after Dayton to free up some working capital for the hospitality suite, but even deducting those items we'd finish the year in the black.

Balance reported 2/97	\$369.20
Income	
Dues received	\$12.00
Badge Income	\$10.00
Expenses	
Checking Acct Maintenence	\$ 6.00
Badge Blanks	\$ 91.69
Balance 5/97	\$293.51

Respectfully Submitted, Tim O'Sullivan, KE8OC

357 Makes Big Noise

(Continued from page 2)

element quad. In fact, if you are not within 40 degrees of the station you will be hard pressed to hear them. JA's no longer answer late afternoon CQ's while beaming OH. South Americans rarely answer CQ's while beaming JA. I've accepted the fact that this is the result of great engineering and optimally tuned elements. I would now have it no other way.

After two years of operating I've come to the conclusion that it is the finest 20 meter antenna I have operated. Part of the misgiving still comes from my fondness for monster quads. However, in 40 MPH winds the tower hardly rocks. Even the humble 2 element quad gave the tower a ride in comparable winds. Coming home in the evening to straight and level elements is worth a lot to this author!

Results by K8GL in the CQWW and ARRL CW Contests and the 1995 WPX CW test attest to the fine performance yielded by this array. Force 12 offers an impressive line of antennas from 80 meters through VHF. Recent articles in the NCJ and QST have enforced my high opinion of the product. 1997 plans at K8GL call for a slightly scaled down 4 element 20 and a stack of 15 meter Force 12 antennas on the tower. Hence: FOR SALE - Many Electrons left; used by slightly aging ham on (contest) weekends,......



MAD RIVER RADIO CLUB Dave Pruett, K8CC 2727 Harris Road Ypsilanti, MI 48198 USA





Jim Stahl K8MR 30499 Jackson Road Chagrin Falls, OH 44022

MAD RIVER RADIO CLUB OFFICERS

President: Bruce Lallethin, AA8U 9221 Ford Road Rives Junction, MI 44691 (517) 589-2763 ae8u@voyager.net Treasurer: Tim O'Sullivan, KE8OC 39991 Finley Drive Canton, MI 48188 (313) 397-9732 ke8oc@sol.com

Scorekseper: Jim Stahl, KBMR 30499 Jackson Road Chagrin Falls, OH 44022 (216) 831-8954 k8mr@bart80.nehore.org Editor: Dave Pruett, KBCC 2727 Harris Road Ypsilanti, MI 48198 (313) 481-0755 k8cc@b.netcom.com