



The FLASH



The Official Newsletter of the Mad River Radio Club

April - May 1998

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From the MRRRC 'Big Fish'

By Jeff Clarke, KU8E
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Station Profile: W8AV

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Well, spring is here and thoughts turn from contesting to working on those antenna projects for the fall contest season. It also means it's time for us all to make the annual trek to Dayton for Hamvention. The railroad tracks also being greased up for a time honored tradition : the annual Mad River 'railroad' election for the office of president. As usual the meeting will be held behind the Cushcraft booth at noon on Saturday. Be there to see who will be the next 'Big Fish'. Also on the agenda are issues that need to be discussed, that have been floating around on the club reflector. Lately there has been discussions going on about Field day, a domain name for the club web page and

club activity. Everyone's input on these subjects would be much appreciated.

We will be having the hospitality suite again this year on Friday and Saturday night at the Crowne Plaza in room 425. The last time I talked to Goose we had bartending slots available to fill. I you're interested it's probably not to late to send off an e-mail to W8AV. I'm sure he would appreciate the help.

That's it for this month. Thanks to everyone for their support during the past year and keep it up for the next 'Big Fish'. See you all in Dayton...

73 de Jeff, KU8E

Over the years I have contested at many big stations such a K8NZ, KS8S, AC8E , and W8FN. During the last five years my contesting home away from home is at the station of **Elmer 'Goose' Steingrass, W8AV** (ex WD8LLD).

The W8AV station is located on a hilltop QTH just outside of Wooster, Ohio. It was put together by Doug Klein, K4LT (ex WD8AUB) along with Goose. Doug and Goose have been contesting together for over 20 years ! The W8AV crew prefers CW, and our two major efforts every year are ARRL DX CW (multi-2) and CQWW DX CW (multi-single). However, lately we have also dabbled in the multi-multi class.

The antenna hardware consists of the following :

- 160: 140 foot base insulated vertical
- 80 : 3L inverted L array, switchable 3 directions : NE,SW,SE.
Inverted vee @ 80 feet.
- 40 : 2L/2L @ 140 and 70 feet. The bottom antenna is fixed on EU. Sloping Dipole to the south.
- 20 : 4L/4L @ 120 and 60 feet. Both antennas are rotatable
- 15 : 5L/5L at 80 and 40 feet. Bottom antenna fixed to EU.
- 10: 7L LTA at 90 feet.
- Multiplier: KT34A at 50 feet. 20, 15, and 10 meter stations can select this antenna.

Beverages: Used on 160 and 80

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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 MRRRC is open to anyone. Dues are \$12 per year, payable to club treasurer **KE8OC**. Please make checks out to **Tim O'Sullivan**, not MRRRC.

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

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

The Editor's Keyboard

By Dave Pruett, K8CC
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As we head into Dayton this year, there have been numerous discussions both within the pages of this newsletter and on the MRRC reflector about club activity and how to stimulate it. A number of good ideas have been put forth, to which I'd like to add my list of *Ten Things for MRRC to do in 1998/99*.

In no particular order:

1. Put on a club multi-transmitter Field Day effort as K8MAD.
2. Make at least 5 million points in the Sweepstakes Affiliated Club Competition.
3. Send letters to former MRRC members inviting them to again become active in the club.
4. Send letters to all Michigan and Ohio participants in the SS and ARRL DX contests inviting them to join MRRC.
5. Encourage VHF weak-signal contesting and field at least ten entries in the VHF Sweepstakes Affiliated Club Competition.
6. Put on at least one club multi-multi contest expedition from a DX location.
7. Put together a MRRC Internet Web Page.
8. Establish two permanent Michigan meetings, for a total of six MRRC meetings per year.
9. Establish a permanent awards program for MRRC members to recognize contest efforts and encourage activity. Elect or appoint a club officer to oversee this program.
10. Encourage participation in the MRRC Monday Night Net.

This is most certainly not an all-inclusive list. Some of these things we already do to some extent, but not in any organized way. By adopting these as clearly defined goals for the club the members can focus their efforts on making things happen.

I am going to introduce a discussion of these items at the Dayton meeting. While we might not be able to address all of these in the time allotted, perhaps the discussion will get some of these projects off the ground.

73, de **Dave, K8CC**

MRRC Scores

Collected by Jim Stahl, K8MR
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WPX SSB

P40N (KW8N op @ P40V) single op/all band

160	7
75	201
40	361
20	733
15	2473
10	1567
Total	5342 x 986 Score 17,267,818

APRIL 2 METER SPRING SPRINTS

K8MR	69-29	2,001
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In The Bag

Compiled by Jim Besancon, K8SIA

In an effort to provide recognition and inform the club of member participation in various contests, this column will report, to 5th place, the final scores of MRRC members as published. Bragging rights are as follows:

1997 ARRL 160

National

K8CC (op. W8MJ)	7th SO, HP
K8MK	4th Multi Op
K8KS	5th Multi Op
K8ND	6th Multi Op

Local

W8RU	2nd MI SO, QRP
K8SIA	1st MI SO, LP
K8MR	2nd OH SO, HP

Club

MRRC	4th Medium
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1997 SS CW

Local

W8RU*	1st MI QRP
K8XXX (op. K8AQM)	2nd MI QRP
K8DD	3rd MI QRP
W8MJ	1st MI LP
K8JM	2nd MI Multi
N8ET	2nd OH QRP
KU8E	2nd OH LP
K8MR et al	3rd to 7th OH HP
W8AV	1st OH Multi
K4LT	1st KY Multi

* denotes Division Winner

Dining in Dayton

By Jim Stahl, K8MR
k8mr@barf80.nshore.org

Attending a major convention in Dayton does not bring to mind the same culinary opportunities as might be available in, say, San Francisco or New Orleans. But somewhere in the several days the question of where to eat does arise. One solution is to attend the DX Banquet on Friday, and/or the Contest Banquet on Saturday. These banquets are well attended, but for me I don't care to spend \$28 or so for an assembly line hotel meal.

For those not attending the Friday banquet, an MRRRC tradition is the Upper Crust delicatessen. This is located on Main Street, about halfway downtown from HARA Arena. I don't have the street address, but it is in a bright yellow building on the west side of Main, at a point where the road takes a small bend. While not exactly gourmet, the prices are reasonable, it can be quick if desired or you can take your time shooting the breeze with the many contesters who typically stop in.

For the last two years I've had dinner on Saturday night at Chin's Oriental Cafe, on the southeast corner of 5th and Jefferson, diagonally across from the Crowne Plaza hotel. I have found it to be quite a good place, entree prices in the \$10-14 range. It's not been crowded, and I've had very pleasant, relaxing meals there. If you're not doing the Contesters Banquet, you might give it a try.

And then there is my solution for lunch: bring your own bag of chocolate chip cookies. Beats the heck out of any of the Arena choices, does not require a long wait in line, and is cheap! It even lends itself well to eating during a forum or even the Mad River meeting. Wash it down with a Coke and you're all set to last the day.

See you in Dayton. Bon Appetit!

Dayton Hamvention Weak Signal VHF Banquet

The Weak Signal VHF group, who meets Monday nights at 0200 UTC on 3.843 MHz, would like to invite everyone to our annual banquet the weekend of the Dayton Hamvention. It will be held **Friday evening, May 15, 1998 from 6:30 to 11:00 PM at the Holiday Inn North**, which is located at I-75 and Wagoner Road in Dayton, OH.

The banquet will afford the opportunity to meet other VHFers from all over the USA and the world. There will be a guest speaker who will provide a short talk on VHF activity. There will be a drawing for over fifty prizes with the two grand prizes worth over \$300. There will also be a noise figure measuring table so bring your preamps to tweak.

Cost for the banquet is \$30 per person which includes a two entree banquet dinner. There will be a cash bar. Seating is limited to 125. Tickets may be ordered from:

Tony Emmanuele, WA8RJF
7156 Kory Court
Concord Township, OH 44077

or

Tom Whitted, WA8WZG
4641 Port Clinton East Road,
Port Clinton, OH 43452

Further information is available at
www.wa8wzg.com

This is one of the largest gatherings of VHF weak signal enthusiasts in the USA. Get your tickets early and come join us for an enjoyable evening at the Dayton Hamvention.

80M Triangle Array

By Goose Steingass, W8AV

Over the past several years, contesting on 80 meters has become more and more competitive. Gone are the days of piling up a decent score using a high inverted vee on the band. For some time we have wanted to construct a phased array such as a four-square here at W8AV. Although the real estate isn't an issue here, the tower placement on the property at the station does not lend itself to supporting such an array.

Besides the main 40/20 tower at W8AV, there is also an 80 footer that supports the 15 and 10 meter antennas, a 48 foot tower for the tri-band multiplier antenna and a dilapidated Hygain Hytower. The Hytower and the mult tower are spaced a quarter wavelength on 3.5 MHz and are oriented toward Southern Europe. These two structures previously supported a phased pair of 80 meter inverted L antennas. After some thought we decided to try adding one additional element to the array and driving all three elements at one time with the goal of being competitive with the four-squares.

DESIGN

The array was modeled using W7EL's EZNEC as three inverted L elements arranged in an equilateral triangle with spacing between adjacent elements 77° (60'). One of the elements is fed at 0° with the other two elements lagging by 125°. Although this phase shift generates a small tail at the rear of the pattern, it generates at least a 17 dB suppression at all vertical angles on the rear of the pattern creating a better overall front to back ratio. The modeling also showed that reducing the power in each of the two lagging elements to 25% of the power in the reference element resulted in the generation of a deeper null in the rear of the pattern (see next page). The calculated gain and the front to back ratio of this array are on par with a typical "four square".

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80M Triangle Array (continued)

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CONSTRUCTION

The array was constructed of #14 solid conductor insulated wire. Each element was cut to a length of 65 feet and erected as an inverted L with 48 feet of vertical radiator and the remainder as top loading. The ground system consisted of 12 radials at the base of each element. Because of the triangular geometry of the array, the ground system around this array takes up less real estate than its "four-square" cousin.

The feeder system for the antenna system is shown on the next page. Using a technique employed in the broadcast industry, the 50% power reduction to the lagging elements was accomplished with power divider constructed from a 20uH broadcast coil.

Approximately one-half of the coil was required to achieve the 50% power division. This power divider adds approximately 12° of phase shift to the system which must be taken into account when cutting the two phase delay lines. This particular design specified a phase delay of 125° for both lagging elements, so the delay lines were therefore cut to an electrical length of 113° of RG-11 coaxial cable. The remainder of this feeder system is made up of three equal lengths of RG-8 coax to feed each of the three elements and three 24 VDC relays that are wired as depicted to permit this array to be switched to point either northeast, southeast, or west..

PERFORMANCE

Impedance measurements made at the feedpoint with an MFJ analyzer showed a good enough match that no further effort was made to match the feedline to the array. The antenna exhibits a bandwidth of about 80 kHz.

On the air tests showed that the front to back ratio at the lower radiation angles seemed close to the predicted value of 14.5 dB. The antenna performed especially well for pulling out the very weak DX signals during the contests, especially during high QRN levels when the signals were barely audible on a high inverted vee antenna. The antenna was also superior to a high inverted vee when working long haul DX and allowed the W8AV station to actually run Europeans during the CQWW CW Contest . One disadvantage exhibited by this antenna system was its less than optimum performance in attenuating signals that arrived at the antenna from very high angles. Additional modeling showed that this problem is correctable by changing the elements to true verticals, a modification that will be accomplished this year following the erection of a new tower at the W8AV QTH.

I am in the process of fixing up my station to get ready for next contest season. My primary focus from home is stateside contests. I live on a city lot and have all the city problems. I have a 72' crankup tower on order and plan to put my KT34XA and 40-2CD up for this fall. A second KT34XA may get side mounted. Dipoles will be used for 80m and 160m. I am considering monobanders but don't think I will have all the details worked out for this next contest season (and it will leave me something to do next year).

I have an FT1000D and IC756 and have the station set-up with top-ten band decoders and relays as well as dunestar bandpass filters. I am all set for single-op two radio.

I am planning an assault on the stateside contests this year. Mainly NAQP, Sprint and SS. I am also considering playing more with RTTY contests (a little change of pace). I don't want to do much in the way of DX contests from my place. I would rather go be the DX. The goal is to get in one or possibly two trips a year. The other thing I would like to do more of is multi-ops for the DX contests.

Travels in California and Japan Mixing Business with Amateur Radio

By Dave Pruet, K8CC
k8cc@ix.netcom.com

This past April, I had the opportunity to take an extended business trip to California and Japan. The purpose of the trip was to have meetings with suppliers of automotive navigation systems in the San Francisco, and then move on to further meetings with another company, Nippon-Seiki, in Nagaoka, Japan. While on the trip, I had several opportunities to combine it with amateur radio and contesting.

I left for San Francisco the Monday after Easter. Bob, N6TV has informed me that there would be a meeting of the Northern California Contest Club (NCCC) that evening that I was invited to attend. The program that evening was a comparison of contest logging programs. Bob demo'd *CT*, while I did *NA* and Steve, K6AW did *TRLog*. Pizza was provided by Rusty, W6OAT and a great time was had by all.

Tuesday was business, but I hooked up with N6TV again for dinner, along with



N6TV Antennas

Rich, N6KT, Dave, W6NL (ex-W6QHS) and wife Barb, K6BL, along with Trey, N5KO (ex-WN4KKN). A pretty powerful bunch! Before departing for lunch we all used the N6TV station (see photo) to work the FO0FI operation. Bob has a massive

US Tower crankup with monoband yagis for 40-10, a rotary 80 dipole, plus the tower is shunt fed on 160. After adding to the FO0FI QSO count, it was off for Mexican food. A very interesting discussion ensued about using logging programs from hi-rate DX operations. Rich holds the QSO record for ARRL DX SSB single op with just shy of 10,000 QSOs, all logged on paper! Rich and Dave had numerous suggestions, many of which will be incorporated into a future version of *NA*.

Wednesday was more business, then it was off to visit Ken, N6RO. Ken's station sits on a nine acre hilltop in Oakley, CA about an hour east of San Francisco. The station has five towers and sports the following antennas:

160	Wire four-square, beverages
80	3L wire yagi, 2L wire quad
40	4L/4L yagis on 135' tower
20	5L/5L yagis on 135' tower
15	6L/6L/5L yagis on 125' tower
10	6L/5L/5L yagis on 95' tower
Mult	TH6 on 70' crankup

Ken's station is set up for multi-multi operation with most of the gear brought in by the operators. Just two weeks previous to the station ran WPX SSB signing KO6N and had gone head to head with my crew signing KU8E, and we had a great time over dinner with Ken and other ops Steve, K6AW, and Ken, K2KW comparing results.



N6RO at the Operating Position

Thursday was more business, but unfortunately no amateur radio. Friday we boarded a Northwest 747 for the eleven hour flight to Tokyo. I've heard people say how difficult long flights are but it just did not seem that bad to me. We took off, had beverages followed by dinner, then I settled in with a novel to read. I'd get up every couple of hours to stretch my legs or visit the restroom. However, I was honestly surprised when the announcement came that we were an hour from the Tokyo Narita airport and breakfast would be served.

I had never been to Japan before and really did not know what to expect. Once you step outside customs into the airport terminal you immediately encounter lots and lots of people! It seemed that in any public place in Tokyo there were lots of people everywhere. The train and subway stations were unbelievable with virtual rivers of people rushing down the hallways. At the same time, the Japanese people act courteously even in crowds and keep to themselves so the overall experience is not unpleasant once you get used to it.

Although it was early Friday afternoon when we departed SFO, it was late Saturday afternoon when we arrived in Narita. By the time we got our luggage, made it through customs and took the hour long train ride into Tokyo city it was 8 PM. At this point I had been up for about twenty hours straight, but managed to stay awake for a couple more hours to have a tempura beef dinner in the hotel restaurant. After that, it was time for sleep.

I woke up the next morning at 6 AM local time and felt pretty good despite the jet lag. After a western style breakfast, I and my traveling companions from Nippon-Seiki boarded a train for suburban Tokyo to visit my friend Kobayashi, JR1HAA. Kobayashi works for NEC Electronics along with my friend Brian, W8WD, and has stayed with us during the Dayton Hamvention. Kobayashi has invited me to come visit his station, and then visit Akihabara, the electronics district of Tokyo.

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W6/JA Travels (continued)

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On the train ride to JR1HAA, I noticed several antennas on buildings which I could identify as amateur. One large building had a self supporting tower on its roof carrying what appeared to be a large seven element 15M yagi! Most of the other antennas appeared to be for weak signal work on 144 and 430 MHz which is very popular in Japan.

Kobayashi picked us up at the train station near his QTH. On the ride to his house, he drove us by the QTH of his neighbor, noted DXer Kan, JA1BK, who was off activating FO0MIZ at the time of our visit. Kan has a big antenna farm even by USA standards (see photo) with a huge Triex rotary mast carrying a 20M monobander and some duobanders. There is also a Triex crankup carrying a 9L 50 MHz beam and a 40M rotary dipole that cannot be seen in the photo. Kobayashi said that when they sectioned the area into lots, Kan bought two - one for his house, the other for his towers. Each lot (even without a house on it) is currently worth about one million dollars.

Upon arrival at JR1HAA we met Jun, JJ1BMB and Mak, JF1VJW, both of whom also work at NEC. I had met Jun before when he traveled with Kobayashi to Detroit to visit K8CC

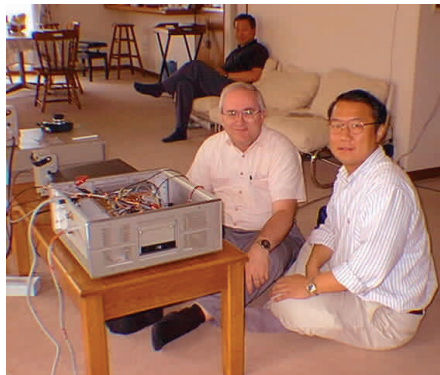


JA1BK QTH

during the 1997 CQWW SSB contest. We had a continental breakfast, then it was time to get on the air. Kobayashi's current interest is 50 MHz DX, where he uses a TS-940, homebrew

transverter, and a homebrew 3CX800 amplifier. He currently has no permanent antennas at his QTH, but temporarily installed a pair of M² SQALOOPS for this occasion. Also, his transverter was on the blink so a borrowed Yaesu FT-655 was used as the driver. Tuning around the band I found a JH1 who was portable near the base of mount Fuji and gave him a call. My American accent threw this poor fella for a loop, but you could tell he was excited to work me and we completed the QSO.

Next stop was Akihabara. Mak had other commitments, but the remaining five of us climbed into Jun's Volvo 850 wagon for the ride into Tokyo. I don't believe I could ever find my way



**K8CC and JR1HAA
operating 50 MHz**

around driving in Tokyo, but Jun was a master, aided by an in-car navigation system.

Akihabara is truly an incredible place for the electronics-minded hobbyist. In the photo you see us standing on the six lane main street that goes through Akihabara, which is closed off on Sundays to accommodate the shopping traffic. The buildings you see on either side of the street are all electronics stores, running for ten or more city blocks down this main street, and extend for two or three blocks off onto the side streets. Every kind of consumer electronics product, computers, or electronic components can be found in Akihabara. Kobayashi said that he goes at least once a month just to pick up parts.

We visited not one, but four amateur radio stores in Akihabara. The largest of these is Rocket Radio, which is about the size of a large drug store here in the



USA. Every type of HF or VHF radio was on display, along with accessories, antennas, books and the like. In the photo you see me standing with their line of Emoto rotators and accessories. From the amount of activity I saw in the stores, amateur radio is alive and well in Japan.

The next day we were off on the bullet train to the Nippon-Seiki facility in Nagaoka. Even there I found amateur radio, as the N-S engineers showed me



Rotators and more rotators

their club station JA0ZHO consisting of Yaesu VHF and HF transceivers and an assortment of vertical antennas.

By Thursday, I was on another Northwest 747 back to Detroit. Looking back on the trip, I recalled my initial reluctance to go to Japan but realized that I enjoyed the visit much more than I would have ever expected. The hospitality of the amateurs I met and the people I encountered later in the trip at Nippon-Seiki was simply incredible. My thanks go out to everyone involved and I look forward to making another trip in the future.

Treasurer's Report

By Tim O'Sullivan, KE8OC
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With Dayton just around the corner and the end of our fiscal year approaching fast, now is the time where we see if our money planning has been on the mark. Not many expenses this month, and our final end of year tally shows the club to be comfortably in the black.

I hope to make the Dayton meeting. I had knee surgery in April, and I'm hoping to make Dayton with the assistance of one of those electric carts. Hope to CU there!

Balance from 4/98	\$393.42
Expenses	
Checking Acct Maintenance	\$ 4.00
FLASH Printing	\$ 54.00
Balance 5/98	\$335.42

Respectfully Submitted,
Tim O'Sullivan, KE8OC

W8AV Profile (continued)

stations. 5 directions : NE,SW,E,W, and S.

The first thing you notice when you walk inside the station is that Goose is a "Kenwood man". There are 6 operating positions for 160-10 meters. All the stations are Kenwood TS-830s (except for 40 which is a TS-940). The amps are a mixture of MLA2500s, Alpha 76s, and Doug's Henry 2K. Each station has a Dunestar bandpass filter and stubs to cut down on the interstation interference.

Over the years I have operated at Goose's we have put together a team that works well together and our main goal is to have a respectable score and above all else have fun ! The regular crew consists of W8AV, K4LT, KU8E, W8WTS, W8RZ, and AF8A, but K8LR, K3JT, N9AG, W8FN have also operated with us in the past.

The categories we choose to compete in are pretty competitive, but we don't let this get us down. The team shares in the attitude that having fun is just as important as winning.



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