

From The Editor

By Dave Pruett, K8CC



Well, as they say, better late than never. This issue of the *Flash* was scheduled to go to press by mid-February, but as it turned out, mid-March was more like it. Unfortunately, pressing responsibilities of my job plus the ARRL DX contests (which is why we're all here) stood in the way of timely publication. We will certainly get back on track for the next issue to be out in time for Dayton.

As you've probably noticed, this issue of the *Flash* has a new look. For some time, I have been searching for software that would put my new CD-ROM drive to good use, so we now are using Microsoft Publisher to construct the newsletter. I spent some time over the Christmas holidays becoming familiar with the new package, but learning new software is never easy and I'm still trying to inch my way up the learning curve.. The new software should not cause problems for anyone submitting stuff for publication electronically, because if anything, Publisher appears to be at least as good as WordPerfect for importing text.

Although the club treasury is now in pretty good shape, we still try to provide the most bang for the club buck when producing the *Flash*. We can mail approximately six 8½ x 11 sheets for the standard 29 cent postage. The front and back covers each take up one side of a two page, plus we have been running one or two insert pages. This means we have the capability to print two more double sided pages if we only had stuff to print! Come on folks - let's get those word processors humming!

Please note the article in this issue by **K8GL** on his 80M four-square array. Not only did Greg author the article and print it on his computer, but he also provided the 100 or so copies needed to include in the newsletter, thus saving the club some \$\$\$\$. Thanks Greg!

Please note that this issue is NOT the issue we will be passing out at Dayton. The next newsletter (April/May) will be the Hamvention issue, so be planning now to submit your spiffiest stuff for that one. We use the Dayton *Flash* as a drawing card to inform potential members about our club, so let's be sure we put our best foot forward!

73, Dave, K8CC



David Letterman's List of Ten Best Phonetics for K8CC

- #10: Charlie Charlie
- #9: Christmas Carol
- #8: Carbon Copy
- #7: Closed Circuit
- #6: Canadian Club
- #5: Cross Country
- #4: Captain Crunch
- #3: Cubic Centimeter
- #2: Chrysler Corporation

An finally, in memory of silent key N5DX, the number one set of phonetics for K8CC is:

Kilowatt Eight Chicken Chit

MRRCC Club Scores

ARRL VHF SS

K8MFO 250-89 25K

NAQP SSB

KW8N 1543-284 438K +N8MSF

CO 160 CW

KN8Z	1357-107	416K	multi-op
K8CC	1048-85	212K	op. A8BAV
WD9INF	946-85	193K	+AC8W, K8AQM, K8DD, N8AAT, N8CQA & W8IQ
KC8MK	775-89	179K	lost amp after first two hours
W8LLD	729-86	156K	
A8BU	782-87	139K	+K8MJZ, K8BQE & WX3M
K8JM	660-64	94K	+N8PFR
K8BD	100-30	6K	
KE8OC	67-30	5K	
K8MR	19-12		

NORTH AMERICAN SPRINT - CW

KW8N 284-41 11,644
K8MR 246-37 9,102

NORTH AMERICAN SPRINT - SSB

KW8N 259-50 12,950
A8BU 223-47 10,781 op. K8BQE

ARRL DX CW

W8LLD	1944-418	2.4M	M/M + AF8A, K8BE, N8DCJ, N8JEC, NZ4K & W8AUB
K8CC	1406-327	1.4M	M/S + K8DD, K8BQE & N8CC
K8MFO	731-261	577K	+ packet

ARRL DX SSB

K8CC	1678-371	1.9M	M/S + K8GL, KE8OC, N8BTU & W8WD
N8ATR	1200-400	1.44M	+ packet
NT8V	623-258	482K	M/S + AC8W, K8DD, N8CQA, N8WOZ & N8XT0
K8MR	485-227	330K	+ packet
K8BD	250-134	100K	
KW8N	348-80	83K	40M single band (broke W8 record!)
K8BE/m	111-65	21K	

Don't see your score here? Well, there's maybe two reasons how that happened: #1, your editor screwed up, or #2, you didn't send it in!

To prevent either of these from happening again, here is some advice for getting your scores to the *Flash*. **Jim, K8MR** is the official club scorekeeper. If you're going to use the USPS, send the score to Jim. Also, if you can get into the Ohio PacketCluster system, send the score to Jim. If you are connected to the Great Lakes PacketCluster System (which covers MI and NW OH), send your score to **K8CC**.

Of course, a much better alternative is to turn in the score live on the MRRCC net on Monday evenings, 8:30 Eastern Time on 3825 KHz.

de K8MR and K8CC

NEW CLUB ARTWORK

You may have noticed that the newsletter masthead contains an attempt at second-generation club artwork. The original artwork (which adorns our club clothing paraphernalia) was created a number of years ago under the reign of 'Big Fish' **WU2B**. The map showed the club circle centered on Marion, OH, reflecting the geography of the membership at that time. Much has changed in MRRCC in the intervening years, and not too long ago the center of the circle was moved to Findlay, OH. Realizing that the artwork needed updating, **Tim, KE8OC** took on the task to redraw the artwork accurately portraying the new club center and limits of the circle. (It also provided an excellent opportunity to exercise his new 486DX/2-66 computer!) Megathanks to Tim for his efforts, and we will be voting on the new artwork at the Dayton meeting.

A squashed 4 Square 80 meter array

By Greg Surma K8GL

The 1993 contest season was approaching and still there was no clear answer to the 80 meter antenna dilemma at K8GL.

Luckier Midwestern operators sporting multiple towers often gravitate towards exotic horizontal arrays at over 100' above ground. At these heights useable angles of radiation and gain can be achieved. MRRRC members NA8V, KW8N and K8CC have achieved good success with arrays of this sort.

Alas, when limited by a 140' by 140' lot and a single 80' tower, I quickly surmised that a horizontal array was not in my future. The tried and true vertical system was once again called upon in my moment of need.

Decent results at K8GL had been achieved over the past few contest seasons with a pair of wire verticals hung off of crossarms near the top of the 80' tower. Some semblance of directivity was achieved by pruning a delay line between the feeds for both elements. Each year 25 or 30 insulated radials graced my backyard lawn, eagerly awaiting the first snow to hide the aesthetic blight they created. The performance was nothing to write home about, yet adequate enough for me to pick up the obligatory 45 to 50 multipliers in my single operator efforts.

This year it was decided to run four ropes off the tower and put up a "squashed" array of four verticals. Since the tie off height of the ropes is at 70', some compromise would have to be accepted in the vertical height of the array. Each rope was run some 100' from the base of the tower.

#14 Green THHN house wire was the wire of choice for the verticals. The 168 strand flexweave product that is advertised in publications is a wonderful and durable product. However, the 4 element quad at K8GL that crashed on April 1st of last year had ice over 1" in diameter form around this wire. Insulated wire, though heavier, has excellent water shedding properties.

3/4 wave lengths of RG8X were brought into the shack from each element. Working at a television station made line cutting a breeze. Since our color reference frequency is 3.58 Mhz I used a station vectorscope (a circular displayer of voltage and phase difference) to cut each line to length. I also used this method to cut the individual phase lines.

Simply using coaxial delay lines to establish phase differences between the elements would probably have yielded disappointing results. The reason for that is that we must take into account the different power division and impedance transformation that each element requires. The ON4UN antenna book details a few methods of using inductors/caps/coax lines/toroids to get the proper phasing and feed method. I chose to use the W7EL method in the Second Edition of the Antenna Compendium ("The Simplest Phased Array Feed System...That Works"). The beauty of this system is that W7EL has optimized the line lengths to satisfy both 75 and 50 ohms coax as well as using anywhere from four to umpteen radials.

A switch box was made out of some old 24 volt relays from a defunct videotape machines. I used the "Collins" feeding/switching scheme for these relays from the ON4UN book. Be aware that there is a wiring error in the RF lines and that the truth table is off by 180 degrees. The W1FC switch method is actually identical and can be found in the aforementioned issue of the Compendium. All we are doing is switching each vertical between (approximately) 30 degrees, 140 degrees, and 210 degrees lagging.

My system has a few flaws that I'll readily point out:

1. The 3/4 wave pieces of RG8X for the elements measure approx 5 ohms resistive when shorted at the far end. This is lossy when dealing with low drive impedances typically found in arrays of this nature.
2. The squashed nature (35' up and 32' towards tower) of my elements.
3. Less than optimum number of radials.
4. Thin #14 used for elements.

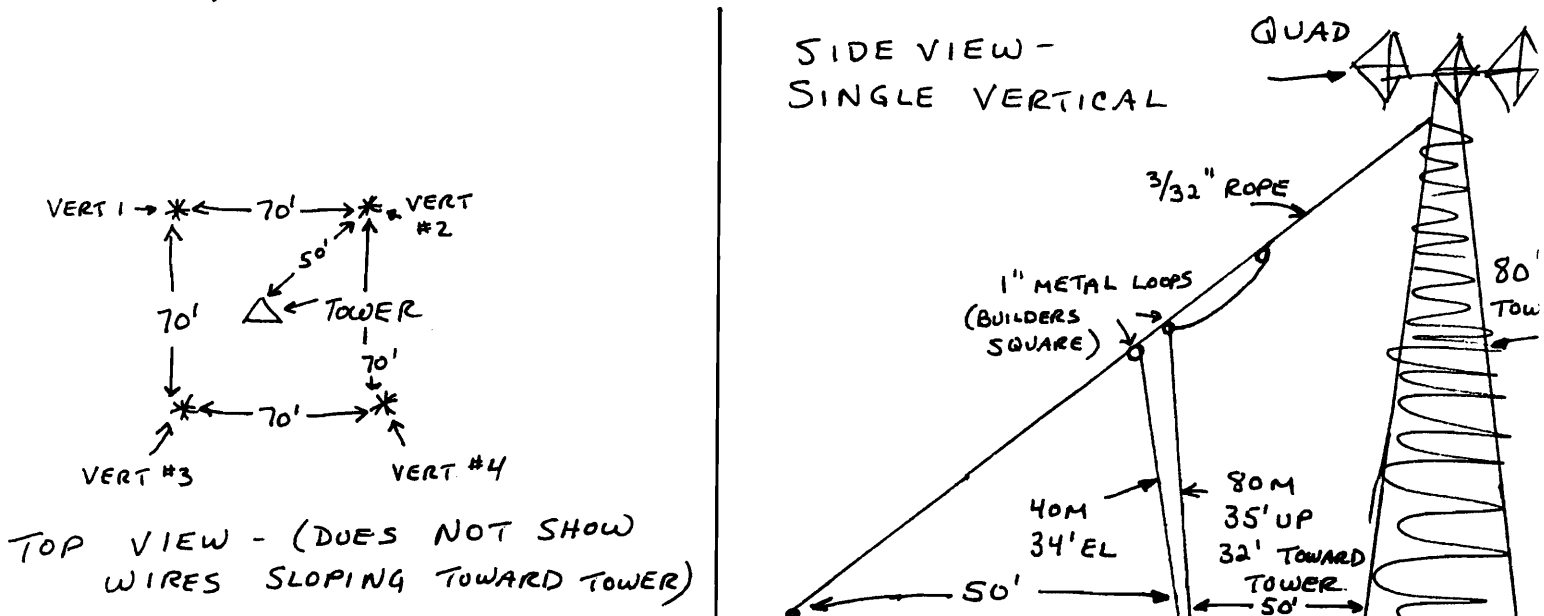
These points aside, I can assure you that this array works quite well. My only tuning effort was directed towards playing with the phase line length in order to peak up the F/B. The SWR at 3530 is 1.9:1.

The F/B and F/S vary. S8 Europeans drop into the noise when the array is switched to SW. Best results are achieved on lower angle DX rather than domestic stations. The horizontal section of each element might make it more prone to picking up high angle stations.

Nevertheless, the array has been a treat to use. With 100 watts I've easily (first or second call) worked 5Z4, ZL7, UAO, XT2, 3B8 and 3DA0 on code. In the CQWW CW test my typical 45 country multiplier expanded to 79; my normal Q total of 100 was up to 260. It was easy to pick off VS6, 7Q7, 4X, AHO and Western Africa in the test first call. Having UA9FGR frantically call me at 07Z while I was calling a European really put icing on the cake!

One handicap noticed with this array was the detrimental effect that putting three strings of Christmas lights up the tower has had. The SWR jumped to 4:1 on code....but mysteriously 1:1 near 3800. Undaunted, a couple evenings of barefoot activity on SSB has yielded numerous Europeans.

This antenna has been well worth the effort expended. It is definitely two or three levels above the typical quarter-sloper in performance. Other methods of getting gain/directivity on the low bands include shunt feeding the tower and using parasitic director/reflector wires (W4AXE, 73 Magazine, Nov. 1971), hanging a four square of vertical dipoles off the tower (K8UR, CQ Magazine, Dec. 1989), hanging sloping dipoles with separate reflectors/directors off the tower (W2LU, Ham Radio, May 1979), running quarter-wave verticals to the top of the tower and tuning inactive ones as reflectors (4X4NJ, QST, Feb. 1985), and a square of vertical dipoles with one fed and three tuned as reflectors (K1WA, ARRL Antenna Handbook). The latter system has been refined by K3LR and will be the subject of an article in the Fourth Antenna Compendium and the July issue of QST.



A Proposed Meeting Schedule

By Dave Pruett, K8CC

One of the goals for MRRC as a club is to provide opportunities for contesters to get together and socialize. Furthermore, as an ARRL-affiliated club, MRRC must meet certain requirements for the number of meetings we hold each year and how many meetings each member attends. As we proceed towards the Dayton Hamfest, which is the main MRRC meeting of the year, I would like to offer a proposal for the 1994-95 club meeting schedule.

A few years back, the MRRC leadership decided that our objective would be to have six meetings each year. Certain meetings are based on tradition - for example, the Dayton Hamvention, the Findlay meeting and the K8MR Christmas/New Year's party. Beyond these three meetings, the objective in setting the schedule is to maximize the availability of a meeting to everyone in the club, which implies a certain equality of geography. MRRC has an active contingent in southern Ohio (i.e., Dayton/Columbus), so having a meeting in that locale is appropriate and for the past three years, Doc, KN8Z has hosted a bash the first weekend of August. Furthermore, club membership currently runs about 50/50 between Michigan and Ohio, so it stands to reason that the remaining two meetings should occur in Michigan.

In my job developing a vehicle at Chrysler, we rely on a notation of weeks to organize the program and to coordinate schedules. Using that paradigm in referring to weeks of the year, the established meetings on the MRRC schedule look like this:

K8MR Party	Week 2
Dayton Hamvention	Week 17
KN8Z Party	Week 31
Findlay Hamfest	Week 36

In analyzing the above chart, it appears that with the exception of the time period between KN8Z and Findlay, our meetings are scheduled pretty evenly - 15 weeks between K8MR and Dayton, 14 weeks between Dayton and KN8Z, and 18 weeks between Findlay and the following year's K8MR meeting. However, to meet our goal of six meetings per year (roughly one every 8-9 weeks), we need to schedule two more.

To spread out the meetings, it would appear that early March, the middle of June and early November would be the best. However, it's important also to consider the other activities (i.e., CONTESTS) that are on the MRRC schedule. In March, we have ARRL DX SSB at the beginning of the month and CQ WPX SSB at the end to avoid. In June, we have the June VHF QSO Party (yes, a number of MRRC types enjoy the nosebleed frequencies!) at mid-month and Field Day at the end. November is full - contests end-to-end except for the weekend between the modes of Sweepstakes. A close alternative that worked well in 1993 was to have a meeting the third weekend in October (i.e., the week before CQWW SSB).

Therefore, I would like to propose the following MRRC meeting schedule for 1994/95:

Dayton Hamvention	Last weekend in April '94
KN8Z Party	1st weekend in August '94
Findlay Hamfest	2nd weekend in September '94
Fall MI meeting	3rd weekend in October '94
K8MR Party	2nd weekend in January '95
Winter MI meeting	3rd weekend in March '95

I will volunteer to host one of the Michigan meetings, and we need to carefully consider the other site - some MI members are further away from each other than they are to Ohio!

This does not preclude the possibility of adding other meetings - in particular, the early June timeframe looks good. However, this must be planned so as not to conflict with the other meetings.

For your consideration.

73, Dave Pruett, K8CC

Bass, Anyone?

By Greg Surma, K8GL

1972 was the year. Sunspots has peaked and were on the way down. I found myself in January of that year armed with a new rental QTH near Jackson (MI) on a lake; I was also the proud possessor of an HT44/SX117/Warrior amp and a new XYL. (How time flies...that was eight QTHs ago, and the rig has been dramatically updated to a IC765 - even the XYL is now version 2.0!)

As I was reminiscing, here it was in the middle of winter and the itch hit me to get back on the air and contest.

A quick survey of the situation provided some hope. The backyard was graced with a small open area and some very tall trees. Quickly, antenna plans were formulated. A 14AVQ was borrowed from my boss (Ren Flagg, W8OQH, now AB8R) and placed on a 9' pole. Radials were stretched to fence posts, clothes line posts, trees, and any other suitable termination point. One found its way to end at the single water tap on the outside of the house.

Since the lake was frozen, a 3 element delta loop was pulled up 20' over the lake into a convenient tree branch. Rocks and logs on the ice conveniently held the six corners in place. This was my European array for 15/10 that was calculated to give me 90+/hour runs during the contest. The bitter truth was that the 14AVQ handily outperformed it in all directions. The delta array met its quick demise, ending up as radial wire.

Since 80 meters was the remaining band that needed an antenna, it was decided to call out the trusty bow and arrow and pull 65' of wire over the tallest tree along the lakefront. Radials were hastily laid out in the snow. Some of the radials were attached to rocks and thrown out on the ice. Intersecting radials were tied to those from the 14AVQ.

Banner results were had in the ARRL tests of the times. My memory is a bit hazy, but I seem to remember 240 contacts in a single weekend. This was contesting at its peak!

Fast forward to April, when an early spring thaw hit. Your author was in Port Huron, and received the strangest phone call from Ren. "The DNR is at your house and they're mad...it seems that you're killing a bunch of fish in the lake!"

The logic of it all came together after a quick trip home.

Houses that employ pumps to supply water usually have a piece of plastic water pipe in the first few feet to prevent vibration of the pump from destroying any soldered or threaded joints. Common practice is to run a couple of #2 wires around this section to assure that the cold water system is at ground potential via the well casing. This house had no such wires.

The dryer had been innocently grounded to the cold water pipe. After developing a short to ground, the 110VAC found a convenient escape path via the outside faucet, through the 14AVQ radial system, through the 80 meter radial system, and into the lake. Those poor fish never knew what hit them!

Ren mercifully cut the radial system off from the lake to save the poor fish. Understanding DNR officials gave me their blessing when it became clear that I was doing nothing malicious. The drier was fixed...the QTH was vacated...the lake survived...rigs and contests came and went...my ego repaired itself (eventually).

MORAL OF THE STORY (if any): **Tis better to throw logs in the River than to toss rocks on the lake!**

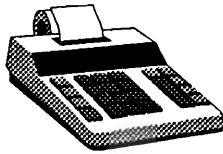
DON'T FORGET!

The next MRRC Flash will be the issue we show off at the Dayton Hamvention. Start working NOW on an article!

Deadline for publication: **APRIL 1, 1994**

Treasurer's Report

By Tim O'Sullivan, KE8OC



The current fiscal status of the Mad River Radio Club as of March 1994 is as follows:

Balance reported 12/93	\$400.06
Income	
Donation from NZ8O	\$5.00
Expenses	
Checking Account Maintenance (Dec-Feb)	\$9.00
Printing/Postage for 12/93 <i>Flash</i>	\$80.00
ARRL Contest Plaques	\$150.00
Balance 3/94	\$166.05

Our account balance shows sufficient funds to finish off our fiscal year ending at Dayton 1994. The ARRL plaques (\$5 low-power both modes, ARRL DX 80M from DX) are a big hit, but they're now paid for. All that's left is publishing the last two issues of the *Flash*.

A reminder that dues will increase to \$12 per year beginning with the 1994/95 dues that are due at Dayton 1994. This increase was voted in at the August 1993 MRRRC meeting to provide funding of the MRRRC Dayton Hospitality Suite, plus the ARRL Plaques and other club activities. Please be ready to pay your dues at Dayton so that the club can start off the year on a sound fiscal footing

73, de Tim, KE8OC

Member Profile:

Ken Meier, AA8AV

This month's member profile spotlights **Ken Meier, AA8AV** of South Lyon, MI (approximately 40 miles northwest of Detroit). Originally licensed as KA8MVV in 1981, he started out his competitive operating first as a DXer, and gravitated to contests by operating with the MRRRC gang at **N8CXX**. He joined MRRRC in 1990.

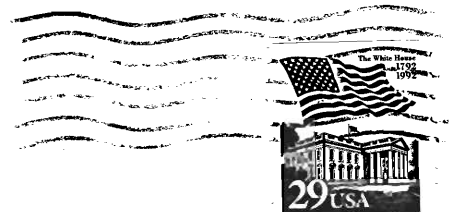
The AA8AV antenna farm contests of a TH7DX tribander at 40', plus a 40M dipole, an 80M bent dipole, and a 160M inverted-L, all on a small subdivision lot. Inside, the AA8AV station sports a Drake C-Line, plus a pair of ICOM IC-751 transceivers. The second IC751 is a recent addition, which along with stereo headphones and specialized switching allows Ken to operate two bands at once, often CQing on one band while "search and pouncing" on another. For computer logging, he has a dedicated 386SX-16 computer in the shack

At this time, the AA8AV station does not have a functioning amplifier, so Ken has made his mark in the 100W category. He has done particularly well in Sweepstakes, where he holds the "A" power record for W8 on SSB. His experience as a DXer is evident in his strong interest in the low bands, and often holds down the 80M position at the K8CC multi-multis. Also, for the past three years he has piloted K8CC during the ARRL and CQ 160M contests, and has posted several top ten finishes as a single operator in those events. Although he operates both modes, Ken prefers CW.

Outside of contesting and DXing, Ken is a Volunteer Exam Coordinator (VEC) through the Howell (MI) Amateur Radio Club. Ken makes his living as a supply and delivery manager for the Heavy Truck Division of Ford. He is married to wife Jerie, and has two children - Jeremy (16) and Michelle (12), neither of which are interested in ham radio!



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