

## PRESIDENT

Dave Pruett KBCC  
33136 Hampshire Rd.  
Livonia, MI 48154  
(313) 425-8296

## TREASURER

Ron Harps K8NZ  
8321 Edgewood Rd.  
Mentor, OH 44060  
(216) 255-7205

## EDITOR

Jeff Maass K8ND  
4410 Norwell Dr.  
Columbus, Ohio 43220  
(614) 451-3713

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FLASHES of Inspiration: Editorial Ramblings  
Jeff Maass K8ND

I've been hard at work house-hunting for the last three weeks or so, and it is a pain! Of course, I'm not just looking for a house: I'm looking for a station location, which is a different game altogether. I've successfully educated my Realtor about what constitutes an acceptable prospective station: she now knows about high voltage wires, required guy wire clearances, township tower restrictions, TVI/RFI in fringe areas, and all of the other little considerations that make one site usable and another useless.

She's located some good prospects that haven't worked out: a beautiful little place on five acres fifteen miles north of Columbus that was sold four hours before I saw it for the first time; a house 20 miles northeast of Columbus with five acres, but only accessible over a half mile of gravel road; a great house 10 miles north of Columbus with 2 acres which was purchased by a speculator and became unavailable; and most recently a super house located 20 miles northwest of town on 1.45 acres with a pond. The farmer adjacent wouldn't sell me his half acre to the west of the house, or I would be getting ready to move even now!

I've dug in for the long haul now: I'm willing to wait for that elusive perfect site. What has surprised me in the last few weeks is that there are a number of properties for sale which would make reasonable antenna farms, if I am willing to move out of the city and drive a few extra minutes a day to my place of employment. I have the added benefit of no XYL to affect my choice of house or site, so my willingness to sacrifice convenience in the interest of a contest site may not be typical.

All this is intended to let you know that I may not be available on the net much while I look at houses, and that I soon might be able to add another respectable score to the MRRC totals, independent of the ADBI Circleville station. I'm looking forward to designing a contest station from the ground up, using some of the tricks and techniques that we've learned in the last five years and avoiding some of the problems!

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The MRRC FLASH is the newsletter of the Mad River Radio Club, an ARRL Affiliated Club serving contesters in Ohio, Michigan, Pennsylvania, Indiana, Kentucky, and West Virginia. The FLASH may be reprinted in whole or in part provided proper credit is given. Mail all inquiries or submissions to: Jeff Maass, K8ND, at the address given above. Join the Mad River Net, on Mondays, 8:30 PM Eastern, on approximately 3.825 MHz.

JA K8ND  
VPZEV

## Fish Droppings

Dayton, MRRC, and Other Things  
Dave Pruett, KBCC

Despite weather that was better suited for ducks, the 1983 Dayton Hamvention and the MRRC meeting left me feeling very positive about our club and optimistic about our future. We had 33 Amateurs at the meeting, not including 11 additional MRRC people who were at the hamfest but didn't get to the arena Saturday. This is the largest group on record for MRRC, breaking the old mark of 31 at NOARSFEST '82. During the meeting, the membership re-elected the current officers to their positions for 1983/84. These are: President - Dave Pruett, KBCC; Treasurer - Ron Harps, KBNZ; and Flash Editor - Jeff Maass, KBND.

Beginning this Fall, MRRC will have an awards program within the membership for the ARRL Sweepstakes. It has been decided to award plaques to the top high poer operator, top low power operator, and top multioperator entries for the club on both phone and CW. There will also be a plaque awarded to the club member who contributes the most total points to the aggregate club score. Additionally, certificates will be issued to any member making 300 QSOs or more on either phone or CW. It is hoped that this program will interest the membership, and will increase participation toward the club score in the November SS.

As a personal note, I have always found that the fellowship and camaraderie among MRRC members is one of the best reasons to belong to the club. A good example of this was Saturday night at Dayton, when we had fifteen people at the Old Hickory Restaurant for dinner. A good time was had by all, and I think that we should plan to do it again next year. My thanks go to Bob and Joy Hayes, Barry and Brian Schieferstein, and Bill Gaines for making the arrangements so that we could get together.

Finally, we come to the subject of dues. MRRC dues are \$5.00 per year, including the MRRC Flash newsletter. If you don't want to receive the newsletter, the only requirement for MRRC membership is meeting attendance as defined by the ARRL. Included in this issue is the current MRRC mailing list. The last column is a one-letter code which indicates the person's dues status: 'U' = unpaid in last year; 'N' = NOARSFEST '82; 'F' = Findlay '82; 'X' = Xmas Party '82; 'D' = Dayton '83. This issue is being sent to everyone on that list.

Go Mad River!

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## The Computer Connection

You may now leave information for The FLASH on the Compuserve Information Service! I log onto the Amateur Radio Special Interest Group bulletin board (HAMNET) at least once each week, and you can leave messages for me either on the bulletin board or via EMAIL. My PPN is [72435,375]. To get to HAMSIG from any function prompt, type "GO HOM-11".

MRRC Sweepstakes Club Competition 1982  
Dave Pruett, KBCC

The May QST gives the results of the 1982 SS Club Competition in which the Mad River Radio Club finished fifth nationally with 3,338,976 points. Kudos go to our club CW winner K3LR, SSB winner KBND, and to all members who contributed to the club score:

CW:		SSB:	
K3LR	171236-B	WB8JBM	205128-M
WB8JBM	154944-M	KBND	199208-B
W8YVR	142080-B	WB8JI (WB8MZZ)	196988-B
KBND	139536-B	K8AZ	183816-B
W8FN	134496-B	K8SS	150672-M
K1LT/8	125528-M	K8MR	146076-B
W8LNO	114452-B	K1LT/8	137678-M
K8BE	109872-A	W8FN	120120-B
W8CAR	97160-B	W8LNO	102200-B
K8SS	95336-B	W8UPH	89568-B
K8MR	87360-B	K8BE	77234-B
N8EA	86380-B	AD8P	60582-B
W8UPH	85968-B	WB8VPA	43332-B
K8DB (K8MR)	77142-B	W8MRF	4884-B

TOTAL: 1,621,490

TOTAL: 1,717,486

It is also interesting to consider scores on the basis of points per operator. This is the sum of all points contributed by that operator through single operator efforts, plus a proportion of the points from any multi operator station with which he participated:

KBND	338744	K8SS	170672	KW8N	51465
K8MR	310578	W8YVR	142080	N8ATR	51465
W8FN	254616	K1LT	131603	N8DMM	51465
W8LNO	216652	K8LT	131603	W8IJP	51465
WB8MZZ	196988	W8CAR	122801	WB8VPA	43332
K8BE	187106	N8EA	86380	W8AUB	25824
K8AZ	183816	N8DET	75336	K8DB	25641
W8UPH	175536	AD8P	60582	K8MK	25641
K3LR	171236	K8US	51465	W8MRF	4884

Once again, congrats to KBND and to everyone who participated for MRRC. It is on this basis of "points per operator" that the plaque for "Most Points Contributed" will be judged. The purpose of this award is to encourage activity by the membership. It can be seen from the results that 7 of the top 10 were on for both modes. It is also apparent that the score from a multi-op station will rarely equal the resulting score if it's operators would do single-op efforts. This is not to discourage multi-ops (which are a lot of fun and are excellent training for new operators), but overstaffing one station is not making the most from the club's resources. We've got the best collection of the best ops in the Midwest right here in MRRC, and we need EVERYONE to make the most of their skills if we are to WIN !!!!

Sweepstakes Preparations  
Tim Duffy, K3LR

It is not too early to start getting things ready for the 1983 SS! If you do your antenna work now you can take advantage of the good weather, and have plenty of time to experiment with your antennas prior to the contest season.

In our area of the country, 40 meters is the big QSO band for SS: some 70% of my QSOs are made on 40 meters. The most significant factor is the antenna, and although this may be the most productive band, it has the simplest antenna. 95% of my QSOs on 40 meters over the past three years have been made using a dipole at 35 feet.

Now the rest of the story ....

To have an effective signal on 40 meters, you must be able to dominate a 1000-mile diameter of signal area. This 1000-mile circle is important to us because it include the high-density Amateur population centers in W1-W2-W3-W4-W8-W9 and a part of W0. To understand how to dominate this area, take a look at the geometry of the signal path involved.

On 7 MHz, we reflect off of the F2 layer of the ionosphere, which is approximately 230 miles high. We must first go through the D layer (approximately 50 miles high), which absorbs 7 MHz energy. Our goal is to minimize radiation at "useless" angles and maximize radiation at those angles which improves our signal in the 1000-mile circle.

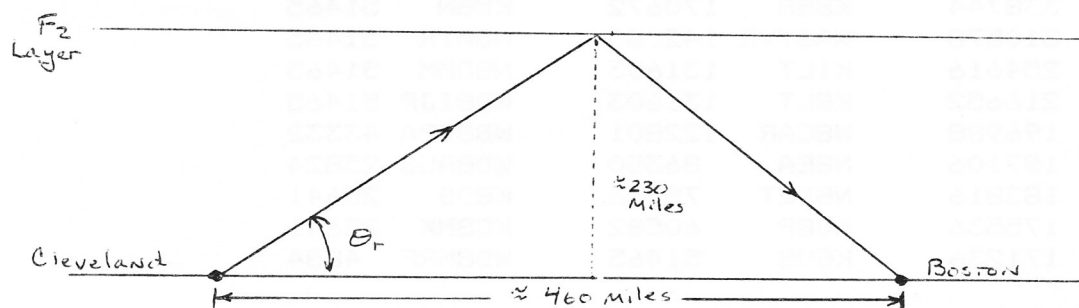


Fig. 1 - Signal Path to Saturate the 1000-Mile Circle

At the longest distance in which we are interested, about 500 miles, the lowest radiation angle that we need is approximately 45 degrees: we need an antenna that has good radiation between 40 and 80 degrees. The closer the station is to us, the higher is the required radiation angle.

A 4-element beam at 3/4 wavelength (100 feet) has -10 dBi gain at 65 degrees. A 2-element yagi at 100 feet also has a substantial gain reduction in the 40 to 90 degree range when mounted in the horizontal plane. What should our antenna be?



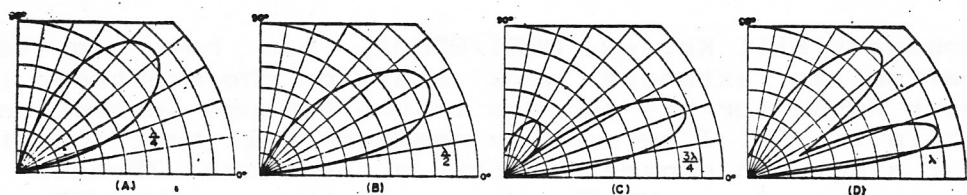


Fig. 2 - Vertical radiation patterns for yagi antennas at various heights above ground, as marked.

The antenna which shows good radiation at the angles that we are interested in is a dipole, mounted at a relatively low height to take advantage of the ground. A dipole mounted at  $1/4$  wavelength (approximately 35 feet) over perfect ground has +8 dBi gain at 65 degrees, a gain of +18 dB at 65 degrees over the 4-element beam!

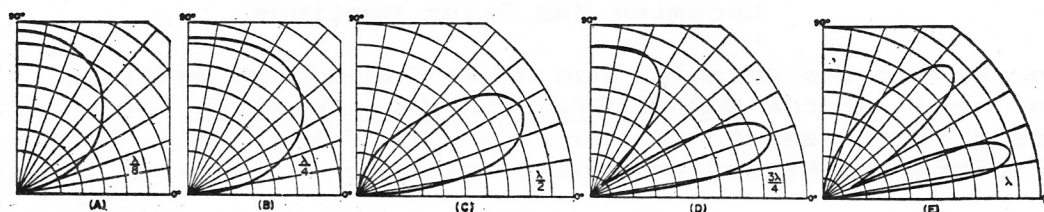


Fig. 3 - Vertical radiation patterns for dipole antennas at various heights above ground, as marked.

The earth is not a perfect ground, of course, so a reflecting element should be placed directly underneath the dipole, making the antenna into a 2-element beam pointed up, as shown in the diagram below.

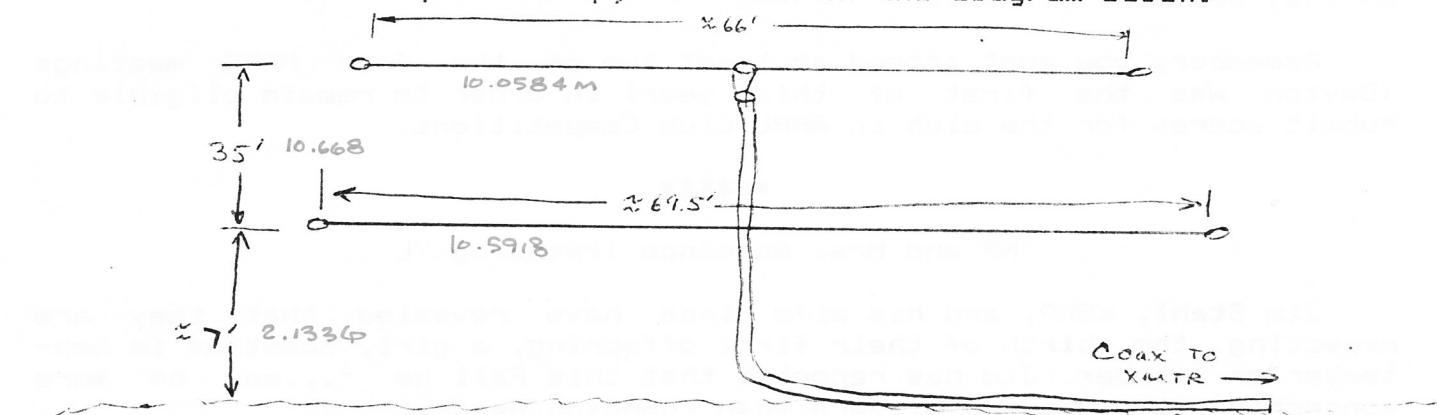


Fig. 4 - The K3LR 40-Meter "Deathray" Sweepstakes Antenna

A dipole mounted this close to the ground shows very little horizontal directivity (it is more or less omnidirectional), so our only concerns are to get it in the clear and as far as possible from other 40 meter and 15 meter antennas.

## N8ET/G5CMX Returns!

The emminant Bill Kelsey, N8ET/G5CMX, has returned to Mad River country after an extended work stay on the sceptered isle. Bill is perhaps best known for his success in the Burmuda Contest and his subsequent trip to VP9. I personally remember Bill best for his beating me in my first single-op contest effort, a mediocre 75-meter single-band WPX SSB attempt from W8LT. His call then was WB8UKX, and I was not pleased.

Reportedly, Bill will put up a single tower and tribander for this year, and will begin the construction of the big stuff next spring. We can expect some big things from N8ET!

Welcome back, Bill.

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## Upcoming Mad River Meetings

Plan now for two upcoming Mad River Radio Club meetings! The first will be held at the NOARSFEST, Saturday, July 23. The program will be "Maximizing Your Sweepstakes Score" by Tim Duffy, K3LR. Bring your own special "hints and kinks" and share the information with the group!

The second meeting will be held at the Findlay Hamfest, Sunday, September 11. The program for this one will be by Dave Pruett, K8CC, who will discuss techniques for raising and lowering antennas from towers without the use of cranes.

The third and final meeting of 1983 will be held at the annual K8MR Christmas Party on Friday, December 30. Details will follow for this one as they become available.

Remember, you must attend at least two of the four MRRC meetings (Dayton was the first of this year) in order to remain eligible to submit scores for the club in ARRL Club Competitions.

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## MR and Mrs. Announce Impending YL

Jim Stahl, K8MR, and his wife Linda have revealed that they are expecting the birth of their first offspring, a girl, sometime in September or October. Jim has reported that this Fall he "...may be more concerned with changing diapers than changing bands."

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FLASH Deadlines

Submission deadlines for the remainder of 1983 are as follows:

<u>Issue</u>	<u>must be received by</u>
August '83	August 1.
October '83	October 1.
December '83	December 1.

The FLASH is now scheduled for publication in February, April, June, August, October, and December of each year.

PLEASE NOTE!

VP2E 1983 Update  
Jeff Maass, KBND

The 1983 VP2E operation is taking form, with our attention focused to a number of single-operator, single-band operations in the CQWW CW DX Contest. We will also be active for the ARRL 160 Meter Contest and the ARRL 10 Meter Contest.

Below are the operators currently signed up and the bands that they will use during CQWW CW:

Band	Operator	Anguilla Call
160	None (Yet!)	?
80	Walt Amos, K8CV	VP2ES
40	Jeff Maass, KBND	VP2EV
20	Lee Hiers, AA4GA	VP2EZ
15	Jeff Clarke, KU8E	VP2EEW
10	Rob Van Geen, WB6SHD	VP2ESE

Up until now, I have been accepting reservations only from those who have been a part of the previous FS7 and VP2E operations. Effective June 15, I will accept reservations from others interested in joining our Anguilla trip.

I have a couple of spots open between November 30 and December 14, a period which includes the ARRL 160 and 10 Meter Contests as well as a lot of casual DXing. The pace of this trip will be more relaxed than our operations in the past, with each operator setting his own goals and limitations for his own single-band CQWW effort. I am not seriously recruiting only contesters for the last part of the trip: casual operators will be accommodated for the November 30-December 14 period.

Interested operators should contact me as soon as possible for more information.

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Teleconference Radio Network (TRN)

*Couple of*

Every <sup>^</sup> months ~~or so~~, Rick Whiting, WOTN, and the Honeywell Amateur Radio Club organize a nationwide gathering on the air with some featured speaker giving a presentation on his special area of interest. The first TRN that I heard was a presentation by Vic Clark, W4KFC, concerning the ARRL. The most recent presentation was by Joe Reisert, W1JR, on the current state-of-the-art of antennas. (Who out there can tell me about "open sleeve dipoles"?)

These TRNs offer the listeners at several "interactive sites" the opportunity to ask questions of the speaker and receive answers for all to hear. The presentations have been well thought out, and thus far have been very interesting.

The next presentation will be by Barry Goldwater, K7UGA, and should also be worth hearing. If you don't know which of your local repeaters carry the TRN, get on the air and ask around, check on HAMNET on CompuServe, or write to WOTN at his CBA.