FLASH
MAD RIVER RADIO CLUB

February/March 1992 **Editor: Tim O'Sullivan, KE8OC**

It's Great to be Back!

Hello out there! Boy it's great to be back on the air. I finally got an antenna, such as it is, up at the new QTH and can make it on the net again. I haven't felt so out of touch since I lived to Japan. It's not much, a 25' high trapped dipole, but will have to suffice until I can re-erect the tower in the spring.

I'd like to thank Randy Farmer, W8FN for his dilegence in working with DrawPerfect and coming up with our new banner. I think it's a definate improvement.

We also have our next MRRC meeting comming up at the QTH of John Tymensky, N8CXX, on Feb. 8, 1992, from Noon to 4pm. Details and a map are located elsewhere in this issue, so see you there. Go Mad River!

THE MAD RIVER RADIO CLUB

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From the 'Big Fish'
By Dave Pruett, K8CC

Seasons greetings and a happy MRRC New Year from the 'Big Fish'! Halftime's over fellas, and its time to march out onto the field carrying the MRRC colors for the second half of the contest season. Will you and your station be ready?

This month, rather than mounting my usual soapbox, we'll cover a number of items which came up at the K8MR Christmas Party meeting.

MRRC FASHIONS

Quite a few people have asked me about the MRRC jackets, sweatshirts and tee-shirts worn by many of the club membership. The first batch of MRRC-wear resulted from efforts a number of years ago by Joe Warden, WU2B, who was then 'Big Fish'. Recently, a second release of MRRC fashion became available, through the efforts of John Tymensky, N8CXX. John says that he is willing to procure another run of MRRC paraphanalia, if there is interest. If you would like a jacket, sweatshirt, or tee-shirt with the MRRC logo and your name, check with John for availability and pricing. It would be great if all our members attending Dayton would be wearing the MRRC colors!

CLUB CHAMPIONSHIP

A couple of years ago, K8MR suggested a MRRC Club Championship, which would the recognize the club member who accomplished the most

The MAD RIVER RADIO CLUB net occurs every Monday evening at 8:30pm EST on 3825 Khz ± QRM.

during the past season. The Championship wouldbe scored on a weighted point system, based on your score vs. the national category winner in certain contests during the year, and the MRRC member with the most Championship points at the end of the year would be declared the winner.

The particulars of the Championship are to be worked out, but I am pleased to report that Jeff Clarke, KU8E, has agreed to oversee the scoring. Jeff will work with K8MR to finalize the point structure in the near future.

FIELD DAY CHAMPIONSHIP

For several years back in the mid-eighties, MRRC had a **Field Day 1A Championship** as part of the annual June non-contest. The rules were simple -get a group of MRRC people together and go do Field Day in the 1A category. The prize was a traveling trophy, which was awarded to the group who prevailed with the highest score. A certain WPA operation always seemed to capture the honors, but it was a lot of fun and generated a lot of MRRC participation during Field Day.

At the Christmas Party, there was a lot of interest expressed in resurrecting the MRRC Field Day 1A Championship. K8MR has been given the task of retrieving the trophy from person who has it, and if there is enough interest, the Championship will rise again! Think about the idea, and be prepared to talk about it at Dayton.

'FLASH' STUFF

The editorial staff of this fine newsletter is in desparate need of articles. Hints & Kinks, equipment reviews, operating experiences - anything to do with contesting or our club in general is fair game for the pages of this rag. Obviously, we would be delighted if you could provide these items in electronic form. FYI, the 'Flash' is published using WordPerfect 5.1 and a laser printer. If you don't use WordPerfect, no problem - we can usually translate almost anything (even ASCII text) into a usable form. Even if you don't word process, we will be glad to type your article and make it look outstanding!

Please take some time and write an item for the 'Flash'. You'll be doing your part to help the club, and maybe have some fun doing it. It also helps other members get to know who you are, which never hurts when you're schlepping for QSOs during the second day of a 160m contest...

Along those lines, this month we are resurrecting an old 'Flash' tradition - the **STATION PROFILE**. Each issue we will profile a different MRRC member and their station (assuming they have one). "Big Gun" or "Little Pistol" - everyone is fair game. The goal of this is not just to fill pages of the 'Flash', but to also help us get to know one another and our capabilities.

STATION RATING SYSTEM

Something else that we used to do in the past was to publish a chart which showed the capabilities of MRRC member stations. We did this by establishing several broad categories based on power, tower height, and general antenna configuration. The purpose was twofold -to help members identify others with similar setups with which to compete, and to help station owners spot members who might be candidates for guest or multi op work.
Since after Dayton I will no longer be burdened with the responsibilities as 'Big Fish', I will take on the Station Rating System and Station Profile tasks for future issues.

DAYTON 1992

Dayton is right around the corner, and there are a couple of things we as members need to be thinking about. First, is our annual Dayton **Contester's Hospitality Suite**. MRRC has sent in the deposit for our regular suite - room 425 at the Dayton Stouffer's hotel, and we plan to do our usual thing both nights. Be prepared to help with the operation of the suite. We will need people to man two hour shifts tending bar, as well as set up and tear down.

Yeah, I know that tending bar or making a ice run is not high on the list of favorite Dayton activities. However, if the clubs did not sponsor these suites, there would be no place for us to rub elbows with our contesting brethren. Also, the suite helps establish name recognition for MRRC. Please be thinking about what **YOU** can do to make our 1992 suite a success.

The second item of Dayton business is the annual MRRC Railroad whereby its officers are "elected" for a year's worth of servitude. Please be thinking about candidates for the offices of President and Treasurer. This includes yourself - it's not really that much work, and it puts you right in the thick of things. There is probably no better way to get

to know all of the MRRC gang. As they say in the sport shoe ad - **JUST DO IT!**

'Big Fish' (continued)

UPDATE ON DOC SHELLER, KN8Z

Most of you probably know that over the holidays, long time MRRC member Doc Sheller, KN8Z suffered some severe heart problems, resulting in quadruple bypass surgery. It was really touch and go for a few days, but I am pleased to report that the latest reports have Doc recovering just fine. He was on the phone to the MRRC gang attending the Christmas Party, and it was rumored that the only reason he didn't attend the meeting was that Mrs. KN8Z wouldn't let him out of the house!

In any event, all of us in Mad River wish Doc a speedy recovery. The club also thanks Jim, KC8MK, and Ed, N8HTT, who kept those of us outside the Columbus area abreast of Doc's condition. Thanks also go to Rick, WX8T, and the Columbus gang for their support of Doc through this time of very real trial.

LAST, BUT NOT LEAST...

We just finished running the 1992 CQWW 160M contest, which again saw outstanding participation amoung MRRC stations. The KN8Z station, led by a recuperating Doc and manned by a capable crew, again had an outstanding score, followed by WD9INF, who was assisted by W8IQ. Goose, WD8LLD led the way in single op over Ken, AA8AV operating the K8CC station. Its interesting to note that Ken had a sizable lead in QSOs, while Goose pulled through more DX to take the crown (obviously, his beverages work!).

ARRL DX is just around the corner, and I hope that everyone will get on and make a few points for the club. There will be several club multiop efforts on both modes, and with the help of some strong single operator efforts, we can improve our results from last year.

It was great to see so many of the MRRC gang at the Christmas Party, and I hope to see many of you at the N8CXX meeting on February 8.

73, Dave, K8CC

STATION PROFILE: W8UA
By Dave Pruett, K8CC

Mike Socha, W8UA, was originally licensed in 1965, and obtained his present call in 1977. Most of his early ham career was spent building equipment and chasing DX. Serious contest participation began with the construction of his current station in the late seventies. He has been a MRRC member since 1982.

The present W8UA QTH is in Brighton, MI, about an hour northwest of metropolitan Detroit. The station antenna farm consists of two Rohn 25G towers. The first tower is 115' high, and carries a Telrex 3L 40 (29' boom), a pair of 204BAs which can be driven upper-lower-both, and a 4L 15M beam fixed on South America. The second tower is 85' tall, and supports a pair of 5L NBS yagis for 15M (switchable upper-lower-both), a 6L W1HDQ design 10M yagi (37' boom), and a 4L 10M Skywalker on a rotatable sidemount. For 80M, W8UA has a pair of ground-mounted verticals, spaced ¼ wave apart and driven 90° degrees out of phase, switchable east or west. Rounding out the antenna farm are a RingoRanger and an 11L yagi for 2M voice and packet work.

Inside, Mike last year made the switch from tube technology to a new ICOM IC-765 transceiver. The radio interfaced to a 10 MHz XT computer for logging using NA and CT software. Mike is working on a system where the antenna switching is automatically controlled by the radio. For amplification, he has his choice of a homebrew single 3-1000Z, a Drake L4B, or a homebrew pair of 4-400As for 160m. For packet, a Kenwood 2M box and an ADM-3 terminal round ot the station.

Mike's main interests in contesting are the CQWW and ARRL DX contests, although he has been known to make a domestic contest QSO or two. He has hosted others as guest operators (K8CC and K8JM, to name a few), and often fill an operating chair at the K8CC multioperator efforts. When not contesting, Mike likes to chase DX, and belongs to the Southeast Michigan DX Association. He needs only a few countries to have them all, and definately prefers CW to SSB.

When not spending time on amateur radio, Mr. Socha is a sales representative for automation machinery products.

BEVERAGE SWITCH

By Elmer "GOOSE" Steingass, WD8LLD

During the past couple of years, we have batted around various ideas on how to improve the receiving antennas for 160 meters at WD8LLD. The station presently employs a 650 foot unterminated east/west beverage antenna and a full size inverted vee that is mounted at 80 feet for receiving, in addition to a base insulated quarter wave vertical transmitting antenna. Although the vertical antenna does fairly well on receive, the beverage antenna showed some promise as the primary receiving antenna when used with a preamp. Articles previously published by ON4UN stated that in addition to having slightly better gain, a terminated beverage exhibits a unidirectional pattern as opposed to its bidirectional unterminated counterpart. The question that arose out of reading these articles was what would happen if the termination resistor could be switched from one end to the other to "steer" the beverage either to the east or to the west. This would allow one beverage antenna to become two antennas without the need to run another 650 foot piece of wire. An hour or so with a sketch pad yielded the circuit shown in Figure 1. The box containing K1 and associated circuitry is mounted on one end of the beverage and the box containing K2 and its associated circuitry is mounted at the other end of the beverage wire. An 8' ground rod is driven at each end of the beverage for the ground connections needed to terminate the antenna system (K8CC uses radials that will also work very well).

The Circuit operates as follows. In the default position, the end of the beverage attached to the box containing K2 is terminated to ground through the K2 relay contacts and termination resistor R_t. The value of this resistor is chosen so that it matches the characteristic impedance of the beverage wire (More on choosing that later). The signal coming in on the other end of the beverage wire is transformed from the beverage impedance to 50Ω by the L network composed of L1 and C1, passes through a .01μfd blocking capacitor to the RG-58 coax and on in to the shack. In addition to providing a signal path to the receiver, the coax is also the DC path for the relays. When the relays are energized with 12VDC, the end of the beverage connected to the box containing K1 is terminated through the K1 relay contacts and R_t. The signal now appears on the K2 side of the beverage, passes through another .01μfd. blocking cap, through the L network made up of L2 and C2, and out of the box to a length of coax that runs back to the shack side of the beverage. this coax enters the K1 box where it is connected to the RG-58 bound for the shack. RF chokes are installed on the coils of both K1 and K2 to prevent any signal coupling from the beverage to the relay coils.

Once in the shack, the coax from the beverage enters the power supply coupler, shown in Fig.2, containing a .01μfd cap to isolate the

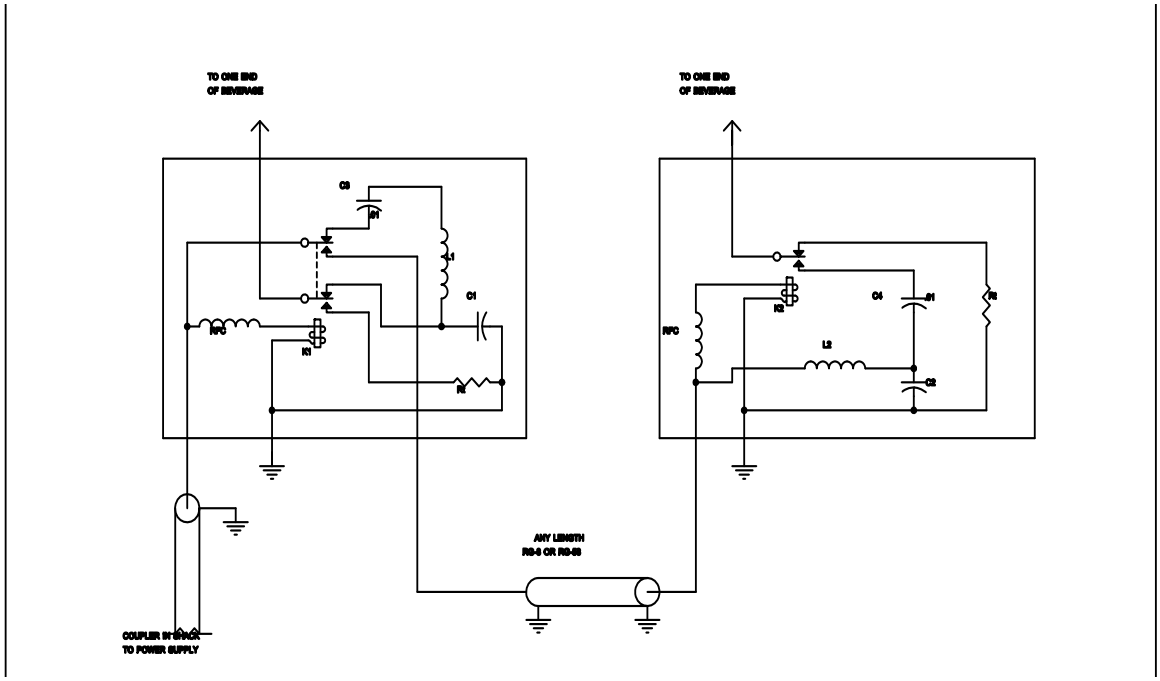


Figure 1

signal bound for the receiver from the 12 VDC power supply. This may be a bit of overkill, but the idea is to keep any 12 VDC or possible noise generated by the power supply out of the receiver. [RF Choke added to isolate supply from the signal. Ed.]

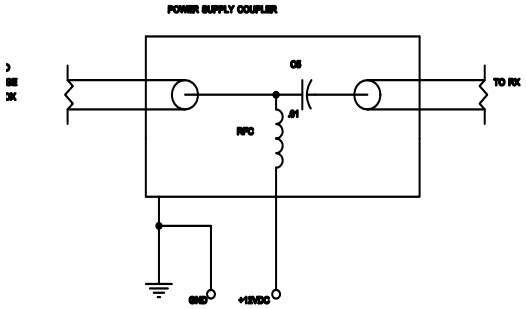


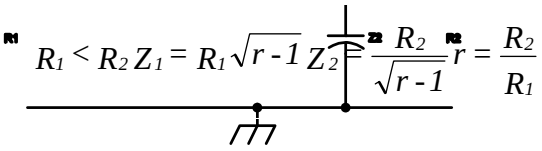
Figure 2

It should be noted that ring transformers, such as those mentioned in ON4UN's book or K8CC's article in the NCJ, can also be used in lieu of the L networks used here to match the beverage impedance to 50Ω. Due to the availability of an impedance bridge, we could determine the exact impedance of the beverage and design the L networks to match the antenna right down to 50Ω with no guesswork. If the reader decides to use this approach, it would be a wise idea to purchase a noise bridge or cultivate the friendship of someone who owns or works at an AM broadcast station that owns an Operating Impedance Bridge (OIB). Once the impedance of the beverage is known, the L networks can be designed using the equations shown in Table 1. If it is not possible to locate either a noise bridge or OIB, the network can be designed using the approximate characteristic impedance values contained in Table 2. Keep in mind that some experimentation will be necessary as the characteristic impedance of the beverage wire can be greatly affected by the proximity of nearby objects, such as other antennas or trees. It should be noted that the use of an L network makes this system a 160 only beverage system. If multiple band use is planned for the beverage, the ring transformer method described by ON4UN and others is the better approach.

As mentioned earlier, the termination resistor R_t should be chosen so that its value closely matches the characteristic impedance of the beverage antenna. Again, the use of a noise bridge or an OIB will make choosing the proper value of resistance a relatively simple task, as the value can be directly read off the bridge. If it is not possible to gain access to a bridge, the resistor value can be chosen from those listed in Table 2 and optimized through experimentation.

Table 1

L NETWORK EQUATIONS



$$R_1 < R_2 \quad Z_1 = R_1\sqrt{r-1} \quad Z_2 = \frac{R_2}{\sqrt{r-1}} \quad r = \frac{R_2}{R_1}$$

WHERE:

R_1= SMALLER TERMINATING RESISTANCE
R_2= LARGER TERMINATING RESISTANCE
Z_1= SERIES ARM REACTANCE
Z_2= SHUNT ARM REACTANCE

There are numerous other methods that can be used to optimize a beverage antenna system for 160 meter operation. The method described here has been used with great success at WD8LLD and presents a simple way of augmenting an existing beverage antenna system.

Table 2

CHARACTERISTIC IMPEDANCE
OF BEVERAGE ANTENNAS
(extracted from LOW BAND DXING by ON4UN)

height above ground	Characteristic Z(ohms) (ft.)	#16AWG	#14AWG	#12AWG
1		409	396	383
3		481	469	456
6		523	510	497
10		547	535	521
13		564	552	539

Score Rumors

CQWW SSB

KW8N	1102	37	145	556,374
15M				
N8MSF	584	33	107	195,860
10M				

ARRL 10

N8MSF	1611	139	447,858	S/O
SSB				
KP2A				
(KW8N)	4857	172	1,670,808	S/O
SSB				

VHF SS

K8CC	137	49	ABD	
K8MFO	97	32	B	
K8MR	90	27	B	
WD8AUB		77		17
B/ROVER				

CQ 160 CW

WD8LLD	740	83	159,111
K8CC (AA8AV)	899	69	140,000
WD8AUB	255	61	35,380
K8MR	182	47	19,646
N8ATR	127	53	16,536
N8CXX	111	43	11,000
N8CQA	122	39	10,803
KN8Z(+ops)	1114		96
294,000 WD9INF (+W8IQ,K8DD,N8CQA)			
	785		72
123,000			

NAQP CW

W8FN	500	198
AA8AV	380	166
AF8A	408	151
WD8IXE	306	132
K8MR	258	136
WD8AUB	181	???

NAQP SSB

K8MR	375	160
KW8N	140	37
(+N8MSF)	247	52
	191	50
	259	61
	255	59
	182	45
	1274	304

387,296

DE K8MR

Sign of a burned out contester:

You spent more money last year buying jewelry to appease your wife than you spent on buying equipment for your station.

NEWS FROM SCIENCE:
CORPORATE AMERICA DISCOVERS NEW ELEMENT

The heaviest element known to science was recently discovered by Corporate America physicists. The element, tentatively named Administratium, has no protons or electrons and thus has an atomic number of zero. However, it does have 1 neutron, 125 assistant neutrons, 75 vice neutrons, and 111 assistant vice neutrons. This gives it an atomic mass of 312. These particles are held together by a force that involves the continuous exchange of meson-like particles called morons.

Since it has no electrons, Administratium is inert. However, it can be detected chemically as it impedes every reaction it comes in contact with. According to the discoverers, a minute amount of Administratium caused one reaction to take over four days to complete when it normally would have occurred in less than one second. Administratium has a normal half-life of approximately three years, at which time it does not actually decay but instead in which assistant neutrons, vice neutrons and assistant vice neutrons exchange places. Some studies have shown that the atomic mass actually increases after each reorganization.

Research at other laboratories indicates that Administratium occurrs naturally in the atmosphere. It tends to concentrate at certain points such as government agencies, large corporations and universities and can usually be found in the newest, best appointed and best maintained buildings.

Scientists point out that Administratium is known to be toxic at any level of concentration and can easily destroy any productive reaction where it is allowed to accumulate. Attempts are being made to determine how Administratium can be contained to prevent irreversible damage, but results to date are not promising.

[Author Unknown; reprinted from ChiMe (Chicago area Mensa), October 1991. tnx W8FN.]

MRRC MICHIGAN MEETING

The next MRRC metting will be held at the QTH of John Tymensky, N8CXX, on Saturday February 8, 1992 from Noon to 4pm. John is located at 12333 Sandy Bottom in South Lyon, MI. Talk in on 146.52 simplex or 147.21+ repeater. Phone: (313) 437-7147.

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