

Mich-A-Con RF

Iron Mountain, Michigan

October 2004

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N8LT's Workbench

SWR, HOW MUCH IS TOO MUCH?

"In the old days no one knew what SWR was so they didn't worry about it; and they got along just fine." "It's only 2:1, that's not that bad." "What's the difference as long as it works?" "It's gotta be 1:1 or it won't work right." "Don't worry about it, just knock it down with a Tuner." To understand and make judgments about SWR you have to know something about what it is and when and why it's significant.

WHAT IS SWR?

The term SWR, when applied to transmission lines, stands for Standing Wave Ratio, which is short for Voltage Standing Wave Ratio (VSWR) or current Standing Wave Ratio (ISWR). Since VSWR and ISWR are always equal, simply SWR suffices. (Some people believe it stands for SWeat Ratio.)

The purpose of a transmission line is to convey a signal from its source to its destination while losing as little of the signal as possible, whether it's the output of a transmitter on its way to an an-

tenna or a signal intercepted by an antenna on its way to a receiver.

NOT JUST A PIECE OF WIRE

All transmission lines have a "characteristic impedance". When someone talks about a 'line being a 50 or 75 ohm transmission line, they're talking about the line's characteristic impedance (not its wire resistance). This number is significant because the manner in which a transmission line behaves depends very much on what it is connected (terminated) to. If a transmission line ends in a resistance (load) equal to its characteristic impedance (called a "matched" line) the line behaves as you'd expect, transporting RF from one end to the other without problems, much as a pipe line conveys water from one end to the other. The transmitter feeding the line "sees" the same resistance the line "sees" at its other end. Since virtually all modern radios prefer (insist on) working into a 50 ohm resistive load it is very desirable to make our antennas "look like" a 50 ohm resistance. Use a 50 ohm transmission

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Mich-A-Con ARC October 12th Meeting

The meeting was called to order by President Tom Martin, W8JWN, at 6:35 PM

Secretary Report:

The minutes of the September 14th meeting were read by Mike, K8DDB, and accepted.

Treasurer Report:

No Treasurer's report – Steve, KC8RYY, was absent

Repeater Report:

The repeater still has some noise on windy days, but it's not as bad as it used to be. Skip will ask We Energies about tightening cable ties on the

tower. Bob, WA8FXQ, needs to submit a bill for the new repeater antenna.

Old Business:

Discussed club needs for the Homeland Security funds that may become available next year. Priority #1 – Dickinson County Emergency Coordinator's radio is not working and should be replaced. Priority #2 – Upgrade the club repeater. Other items discussed were: Emergency communications trailer outfitted with HF, VHF/UHF radios, antennas/tower and emergency generator. Improve the packet link (440 MHz backbone on Felch Mountain.)

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Words from the President

A few weekends ago, I operated RTTY in the JARTS contest. The exchange for each contact was signal report and age. I would send to a station in Japan 599 61. He would send 599 34. As the contest went on, I noticed that the U.S. stations were on the average about 60 years old. Foreign hams averaged 45 years of age. This got me to thinking that American hams are getting "up there"!

I operate 20 meter RTTY almost every morning during the week. I point the beam at 30 degrees and call CQ DX. I usually get a pileup of Russian stations that lasts an hour or more. During our exchange of RST, weather, equipment, and age, I again noticed that there are a lot of 30-40 year old operators in that part of the world. Of course there is the odd 81 year old, but most are a lot younger than their American counterpart. Why?

Is there more interest in ham radio in Russia? Has the Internet become American youth's means of communication? Is Instant Messenger more fun than operating amateur equipment? Is our hobby too expensive? Is it too difficult to get a license? Have we, meaning licensed older amateurs, ignored them? Have we made the effort to get them interested? If we have, why don't they continue? Why do so many get a Technician license and then never operate? So

many questions.....

When I was teaching at Kingsford High School, many of Bill Bertoldi's (KB8SBP) Rockets for Schools Club members got tickets but never continued their interest in the hobby. I can't think of one that went beyond Technician. They made a few 2 meter contacts and that was it. They went on to college and the majority found other interests. Hopefully, someday, they will return to the hobby.

This year, Bill has 52 members in the club. That's 52 high school juniors and seniors that could be potential hams. He had to turn away freshmen and sophomores! He has done an outstanding job getting and maintaining their interest in building, launching, tracking, and recovering an amateur rocket. Many of our club members have also helped with the program over the years.

What's my point in all of this? I think that our club should approach Bill's group with a recruiting program. Perhaps a demonstration of how a computer can be used with the radio. Maybe demonstrate the thrill of working DX on CW with a QRP rig and an antenna that they have built. We've got to get them to see all of the aspects of our hobby, not just the use of a 2 meter handheld!

Mich-A-Con ARC Activities - November 2004

SUN	MON	TUE	WED	THU	FRI	SAT
	1	2 Tnn 6:30	3	4	5	6 Exams
7	8	9 Meeting	10	11	12	13
14	15	16 Tnn 6:30	17	18	19	20 Breakfast
21	22	23 Tnn 6:30	24	25	26	27
28	29	30 Tnn 6.30				

Contests

Zombie Shuffle (CW QRP)
6 PM to Midnight Local Time
October 29
<http://www.zianet.com/QRP/>

ARRL November Sweepstakes (CW)
2100 Nov 6-0300 Nov 8

50th Anniversary European DX Contest (RTTY)
0000 Nov 13-2359 Nov 14

ARRL November Sweepstakes (Phone)
2100 Nov 20-0300 Nov 22

CQ WW DX Contest (CW)
0000 Nov 27-2400 Nov 28

Contest dates are UTC
see the ARRL web site
Nov Contests or November QST
for more information and for a complete listing of contests:
<http://www.arrl.org/contests/>

November Club Activities

Tnn (Tuesday night net) on the 2nd, 16th, 23rd and 30th at 6:30 PM on the 2-meter repeater. Dennis, KD8AIT, has been doing the honors of Net Control since September 28th. Please join us on 146.85 at the appointed time.

License exams will be given on November 6th at 9:30 AM central time at the Dickinson County Library.

Club meeting on Tuesday the 9th at 6:30 PM in the Grace United Methodist Church, 721 Norway Street, Norway Michigan. The meeting room is upstairs next to the Sanctuary.

Saturday Morning Breakfast, 9:00 AM on the 20th at the Holiday Kitchen in Iron Mountain. Breakfast's have been changed to the 3rd Saturday of the month to avoid holiday weekends, etc. Come alone, or bring your significant other and enjoy the food and friendly conversation. Help us prove to the hostess that there really are more than two members in our club!

License Study Materials
Available from the ARRL:

Technician Class:

Now You're Talking - 5th edition - Order No. 8810
\$19.95

ARRL's Tech Q&A - 3rd edition - Order No. 8829
\$12.95

ARRL Technician Class Video Course - 4th ed.
DVD Course No. 9116
VHS Course No. 8837
\$149 each + \$12 s&h

General Class:

ARRL General Class License Manual - 5th ed.
Valid beginning July 1, 2004 - Order No. 9205
\$16.95

ARRL's General Q&A
Valid beginning July 1, 2004 - Order No. 9213
\$12.95

ARRL General Class Video Course
Order No. 8349
\$149 + \$12 s&h

Your Introduction to Morse Code - Pass 5 wpm test
Cassettes No. 8322
Audio CD No. 8314
\$14.95 each

Ham University - Complete Edition - Learn Morse code with this easy to use software. Includes a written exam quiz generator with all three question pools. CD-ROM for Win95-XP
Order No. 8735
\$39.95

Phone: 1-888-277-5289

or

<http://www.arrl.org/catalog/lm/>

<http://www.arrl.org/catalog/8330/>

<http://hamuniversity.com>

N8LT's Workbench

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line to connect the two and all is well. Few antennas actually do exactly that however, and virtually none do it over an entire band.

So what happens if a transmission line is not "terminated" in the equivalent of a resistance equal to its characteristic impedance? Well, that depends upon what it is terminated to and how different that "load" is from the line's characteristic impedance. In a matched transmission line the voltage and current are constant throughout the length of the line no matter where we measure them along the line (neglecting any reduction that might occur due to line loss). In a "mismatched" line (terminating impedance not a resistance equal to the line's characteristic impedance) that's not the case. Under mismatched conditions the voltage and current vary over the length of the line. If one were to plot a graph (curve) of the voltage (or current) versus distance along the length of the line, the curve would appear as a "wavy" line, hence "standing wave". The curve would show voltage and current maximums and minimums along the length of the line. The line SWR is equal to the maximum voltage or current value divided by the minimum value. If the maximum value was three times the minimum value the SWR would be 3:1. The greater the mismatch the greater the difference between the maximum and minimum and, hence, the greater the SWR.

Considering that any increase in current will result in increased power losses in the wire resistance ($I^2 R$) and increased voltage causes increased dielectric (insulation) losses (E^2 over R) we can see that one side effect of SWR is to increase signal loss in the transmission line. The affects of the increases in voltage and current maximums are not offset by the minimums of the decreases because the power loss varies as the square of their values and the maximums are broader than the minimums.

Changes in voltage and/or current imply a change in impedance and that is exactly what happens. The impedance looking into a mismatched line can be considerably different than the impedance that terminates it. To make matters worse, it will likely contain reactance as well as resistance, even if the line is terminated in a pure resistance. Exactly what you get depends upon the electrical length of the line, but now days if it isn't 50 ohms resistive your radio

is frowning. Too far removed and it just may tell you to get lost!

TUNER TO THE RESCUE?

The purpose of an antenna tuner is to convert whatever impedance appears at the radio end of your transmission line into a 50 ohm resistive load to make your transmitter happy. But...every tuner adds some losses of its own. In extreme cases a great deal of loss. And, they have limits; get too far off and even a tuner can't bail you out. What's more, a tuner does nothing to reduce the losses in the transmission line. While tuners are sometimes a viable option (sometimes a necessity) on HF (below 30 MHz) they should not be used at VHF and above. If you think you need a tuner for VHF, you don't. What you really need is a better feed line match at the antenna! Transmission line losses are relatively high at VHF frequencies and even worse above. On VHF and above you cannot tolerate the losses accompanying a high SWR.

JUST HOW MUCH LOSS CAN THERE BE?

Transmission line losses are usually expressed in dB per hundred feet of line at a given frequency. Losses increase with increased frequency. To put things into perspective, 3 dB represents 1/2 or a 50% loss in power; 6 dB is 75%. A feedline with 3 dB of loss would "lose" half of everything you put into it. Pump in 100 watts from the transmitter and only 50 watts will get to the antenna! If the line is mismatched the losses get even higher. To make matters worse, the same thing happens to received signals. Six dB will cut your receiver sensitivity in half.

An efficient VHF installation may use 50 feet of low loss RG-8/U coax such as the popular Belden 9913. With a perfect match (SWR 1:1 at the antenna) the line would have a loss of 0.95 dB on two meters. Twenty percent of the transmitter power would be lost on its way to the antenna. A 75 foot line would lose 28%. Dual band antenna? At 440 MHz the 50 foot line loss is 1.62 dB resulting in a loss of 31% of transmitter power, and for 75 feet of line the loss is 43%.

Using RG-58/U instead? With 50 feet of line on two meters you lose 42% of your signal, and at 75 feet, 56%. On 440 MHz the losses become 64% for 50 feet and 78% for 75 feet of line. And remember, these losses apply to received signals as well.

What about the new RG-8X/U or "Mini 8" ca-

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ble? Fifty feet of RG-8X/U has a loss of 1.38 dB on two meters or 27%, on 440 MHz it's 2.42 dB or 43%. The numbers for 75 feet of cable on two meters are 2.1 dB or 38% while the numbers for 440 MHz come in at 3.6dB and 57% loss.

I'LL JUST USE AN AMP!

"Can't I just boost my signal with an amplifier to 'make up' for the losses?" Yup. "And if I use one of those 'bilateral' amps with a receive pre-amp built in wouldn't that take care of the receive losses too?" Nope. "Why not, they seem to have plenty of gain?" Because all amplifiers not only amplify signal, they also amplify noise. To make matters worse, they even add some noise of their own, degrading the signal. The only way a receive preamp can "make up" for feedline loss is if it's placed at the antenna, and then it's still not perfect because of the noise it adds to the signal. You can't beat reducing losses in the first place.

BUT THERE'S MORE

The above losses are based on a matched (flat) transmission line. Most lines have some SWR. What effect does that have? SWR makes the line losses higher (of course). How much worse? At a 2:1 SWR, using the same low loss RG-8/U line of the above examples, losses increase from 20 to 23% for 50 feet on two meters, and from 28 to 32% at 75 feet. On 440 MHz it's 35% instead of 31% at 50 feet and 60% loss instead of 56% for 75 feet of line. The higher the cable loss the more dramatic the numbers become.

"Well, that's really not that much worse is it?"

MAYBE, MAYBE NOT

What makes you think your SWR is only 2:1? Just 'cause your SWR meter says so doesn't necessarily make it so! Sure, the bridge may be accurate (considering all the money you spent to get a "good" one). But, if you're like most lazy people you're trying to measure the SWR at the antenna from down at the transmitter. Now the SWR might well be 2:1 down at the transmitter, but that doesn't mean that's what it is up at the antenna! To find that out, you have to measure the SWR at the antenna. If the transmission line losses were zero, the readings at both ends of the line would be the same. But it isn't; so they're not.

Transmission line losses always lower the SWR readings taken at the transmitter end of the cable. A 2:1 SWR measurement at the transmitter with a 50 foot feed line of ordinary RG-8/U on 2 meters

would actually mean that the SWR of the antenna was closer to 2.5:1. With a 75 foot cable a 2:1 reading would mean an actual antenna SWR of 3:1. How about on 440 MHz? For the same line, a 2:1 SWR at the transmitter would represent an actual SWR of 3.5:1 at the antenna for a 50 foot line and about 6:1 for a 75 foot line.

Now if your using RG-58/U to save money, a 2:1 SWR measured at the transmitter for 50 feet of RG-58/U cable on two meters would mean an actual SWR at the antenna of nearly 3.7:1, and for 75 feet it would be 7:1. How about on 440 MHz? Well let's just say that if the feed line fell off your antenna and the end was just dangling in mid-air you would read about 2.1:1 SWR!

INCIDENTALLY

While all of the above applies to received signals as well as transmitted ones, it is worth noting that the SWR on a transmission line during receive is not determined by the antenna impedance but by the input impedance of the receiver. So, it's quite possible (likely) that the SWR on receive is different than on transmit. On receive the antenna to feed line mismatch affects the percentage of the intercepted signal sent down the transmission line (anything not accepted by the transmission line is re-radiated by the antenna) and the mismatch at the receiver determines the line SWR and how much of the signal is transferred to the receiver (any portion of the signal not absorbed by the receiver is reflected back up the transmission line).

CAUTION

The Military RG- /U cable designators are no longer used as military standards and as a result the RG- numbering system has come to be a generic designator only. Not all RG- /U cables are created equal. There can be very substantial differences for RG-8/U and other cable types depending upon the manufacturer, materials used, methods of construction, and intended purpose. At 150 MHz the attenuation of new "RG-8/U" cables can vary from 1.5 to 2.8 dB depending upon the particular cable. The next time you're tempted to use some "surplus cable" intended for "who knows what", maybe you should check it first. Different cables also have different limitations such as maximum voltage/power, minimum bending radius, loss, and weather resistance. The only way to be sure of what your getting is to check the manufacturer's specification sheet for the cable you intend to buy. This data often appears in catalogs and is usually readily available over the internet from the manufacturer.

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Club Membership Drive

Of the twenty-eight members that paid dues in 2003, twenty-three have renewed their membership. May 11th was the deadline for the payment of dues. Those that didn't pay were dropped from the active membership list and will no longer receive correspondence via regular mail. Former members with an up to date email address will, however, continue to receive email as there is no cost to the club to do so.

We were able to attract fourteen new members to the club this year and we are seeking more. A single issue of this newsletter is being sent to a new local Ham every month in an effort to increase club membership. Please pay us a visit at one of our monthly meetings or just complete the application/renewal form on page 9 to become a member.

N8LT's Workbench

This series, written by our resident expert on the technical side of things, focuses on technical topics that you, the reader, want him to write about. Lee wants your input. This is your chance to get those gnawing questions answered so that you can become more self-reliant when repairs are needed to your electronic gear.

What subjects would you like to see covered?

Please send your input to me and I will collate the responses and give them to Lee.

Send your input to:
mikebray@chartermi.net
(906) 563-7020

Mike Bray, K8DDB
W3821 Waucedah Road
Vulcan, MI 49892-8483

Tnn

The Tuesday Night Net began operating on September 28th, with Dennis, KD8AIT, as Net Control. We had seven members and two visitors check in. Bill, KB9URW, reported that there is a ARES / RACES net on the 146.88 MHz (PL 136.5) repeater Mondays at 8:15 PM and he welcomed us to listen in. The repeater has been moved from Wausaukee to McAlister and the antenna is now 300 feet high.

The October 5th net had five members and one visitor check in.

The October 19th net had two members and one visitor check in (mobile form Hancock.)

Skywarn Net

A Skywarn Net Procedure and a Skywarn Net Control Operator (NCO) Script have been developed and are available from a link on the Skywarn page of the club web site:

<http://www.qsl.net/ka1ddb/>

Beginning in March of 2005, and running through October, there will be a Skywarn Training Net on the club's 2-meter repeater on the fourth Tuesday of every month. The Net will start at 6:00 PM, a half-hour before the normal Tuesday Night Net and should last less than a half-hour. Check-ins will be taken first. Then any announcements will be read. After that, a short training topic will be covered. Just before the Net closes, there will be an opportunity for questions and answers and discussion.

Dennis, KD8AIT, has volunteered to be NET Control for the Skywarn Net. We also need Alternate NCOs to ensure the availability of an NCO should a weather watch/warning be declared for our area. Please look over the Skywarn Procedure and NCO Script on our web site and consider providing this service to your community. Call Tom, W8JWN, to volunteer!

ARRL's Level I Emergency Communications Course

The objective of the ARRL's Level I Emergency Communications Course is to introduce you to the general concepts of emergency communication and to how you, as a volunteer, can best help.

What is a Communication Emergency?

A communication emergency exists when a critical communication system failure puts the public at risk. A variety of circumstances can overload or damage critical day-to-day communication systems. It could be a storm that knocks down telephone lines or radio towers, a massive increase in the use of a communication system that causes it to become overloaded, or the failure of a key component in a system that has widespread consequences.

Examples are easily found. Violent storms and earthquakes can knock down communication facilities. Critical facilities can also be damaged in "normal" circumstances: underground cables are dug up, fires occur in telephone equipment buildings, or a car crash knocks down a key telephone pole. Hospital or 911 telephone systems can fail. Even when no equipment fails, a large-scale emergency such as a chemical or nuclear accident can result in more message traffic than the system was designed to handle. Some emergency operations occur in areas without any existing communication systems, such as with backcountry searches or fires.

What makes a good emcomm volunteer?

Emcomm volunteers come from a wide variety of backgrounds and with a range of skills and experience. The common attributes that all effective volunteers share are a desire to help others without personal gain of any kind, the ability to work as a member of a team, and to take direction from others. Emcomm volunteers need to be able to think and act quickly, under the stress and pressure of an emergency.

Where do you fit in?

Amateur Radio operators have been a communication resource in emergency situations ever since there has been radio. Someone once described hams as "communication commandos." To the agencies they serve, Amateurs are immediately available communication experts.

Amateurs have the equipment, the skills, and the frequencies necessary to create expedient emergency communication networks under poor conditions. They are licensed and pre-authorized for national and international communication. Hams have the ability to rapidly enlarge their communication capacity to meet growing needs in an emergency, something commercial and public safety systems cannot do. Many of the skills are the same ones used in everyday ham activities.

However, just having radios, frequencies, and basic radio skills is not enough. Certain emergency communication skills are very different from those you use in your daily ham radio life. Courses like this one will help fill that need, as do local training programs and regular emergency exercises. Without specific emergency communication skills, you can easily become part of the problem rather than part of the solution.

As you might expect, technical and operating skills are critical. Just as important, though, is your ability to function as a team player within your own organization, and the organization you are serving. Those critical skills are also covered in this course.

Enrollment/Self-study

The course is offered by the ARRL, on-line, on a monthly basis. Students are assigned a mentor with whom they correspond while working their way through the course material. There is a \$45 charge to enroll, which is currently reimbursed upon successful completion of the course (you must pass a certification exam administered by a volunteer examiner.) See the following links for more information:

<<http://www.arrl.org/cce/courses.html>>

<https://www.arrl.org/forms/cce/reg.html?co_num=EC-001>

The course book can also be purchased from the ARRL for self-study. Order #8462—\$12.95

Order via the ARRL web site:

<<http://www.arrl.org/catalog/?item=8462>>

Or order toll free: 1-888-277-5289

ARRL DIGITAL COMMUNICATIONS STUDY UNDER WAY

The ARRL Ad-Hoc Committee on Amateur Radio Emergency Service--ARES--Communications (ARESCOM) is seeking the assistance of the amateur community in documenting what digital communications systems now are in use today on the VHF and UHF bands. While the majority of digital communication is via packet, there are many different packet systems in use, and they are interconnected using a variety of methods.

The ARRL Board of Directors resolved at its July 2004 meeting to encourage the deployment of e-mail via Amateur Radio--"as exemplified by Winlink 2000"--to meet the needs of served agencies and others involved in providing disaster communications.

ARESCOM now wants to gather input on systems already in place. "We are seeking input from packet System Administrators, not individual users, as we need information on how the packet nodes are linked and what connectivity methods the packet systems use with systems outside their coverage area," said ARRL Ad-hoc ARESKOM Committee Chair Dick Mondro, W8FQT. The committee plans to wrap up data collection December 31.

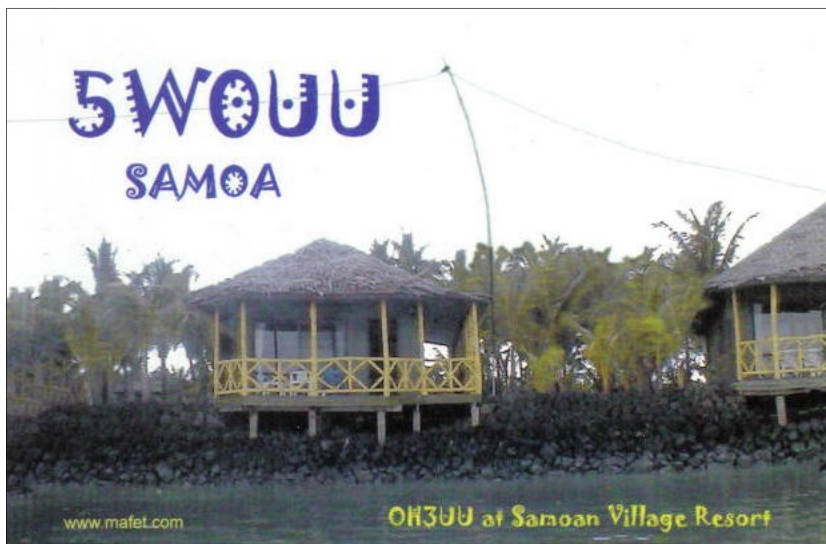
The study seeks detailed information on current packet infrastructure, and one person may respond on behalf of several system operators if they all approve. "We simply ask that the names and call signs of all involved be listed," Mondro said.

To participate download the on-line form <<http://www.arrl.org/digtest/TestSurvey.pdf>> or <<http://www.arrl.org/digtest/testSurvey.doc>>. After providing all applicable information, submit the survey form via e-mail <dcti@arrl.org> or via surface mail to ARRL, DCTI Study, 225 Main St, Newington, CT 06111.

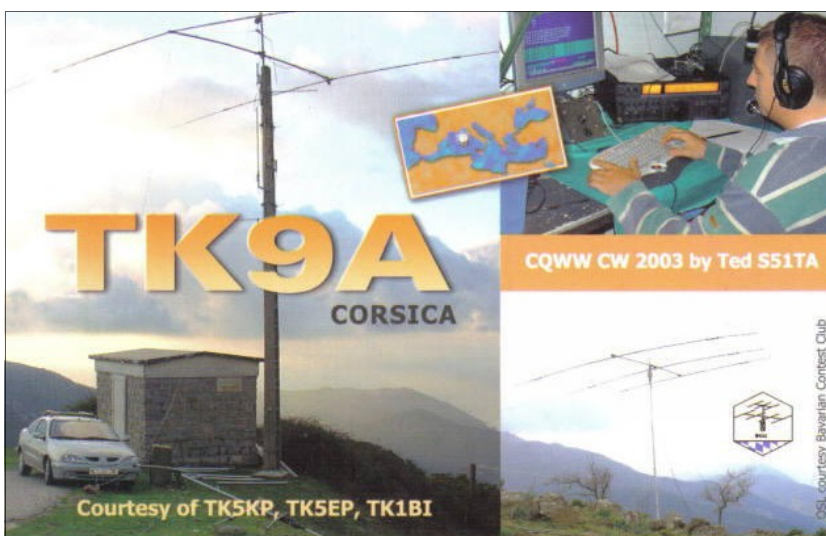
Those interested in sharing comments and ideas are invited to subscribe to the DCTI Reflector <DCTI-subscribe@yahoogroups.com>. For more information, visit the ARRL Digital Communications Study Web page <<http://www.arrl.org/digtest>>.

From the ARRL Letter, October 15, 2004, published by the American Radio Relay League.

DX Worked With The KC8VC Club Callsign



5W0UU, Western Samoa. Worked by Tom, W8JWN, on 10 meters SSB in October of 2003. KC8VC—Yaesu FT1000MP & amp at 1000 watts to a Yagi antenna at 85 feet.



Ted, TK9A, Corsica. Worked by Mike, K8DDB, on 10 meters CW in November of 2003. KC8VC—Ten Tec Argonaut V at 5 watts to a wire vee beam at 20 feet.

All club members are invited to use the club callsign to help the club attain WAS and DXCC. As club callsign trustee, I have been keeping a computer log of all KC8VC QSOs, so if you use the club call please notify me as soon as possible so I can enter it into the log. Please give information required for the log such as: station worked, date and time (UTC), frequency, RST sent and received, mode and power. Also give me a description of the equipment you were using.

Club QSL cards are available from me. Send me an email or give me a call and I will get them to you.

KC8VC WAS and DXCC Status can be accessed from a link on the Membership page of the club web site: <http://www.qsl.net/ka1ddb/>

K8DDB

ELMERS

Many hams fondly remember the "Old Timer" that gave them the help they needed to get started in the hobby or learn some new facet of it. But, it's not just the old timer that can provide help, it is the ham that enjoys a particular facet of the hobby that knows it best. It doesn't matter if that person is an old timer or just recently licensed.

Elmers are listed below along with their areas of interest. Give them a call if you need help.

Mike Bray, K8DDB
(906)563-7020: HF/CW, QRP, Portable Operation, Kit Building, DXing, Contesting, Computer Logging, Paper Chasing, QSLing

Tom Martin, W8JWN
(906)774-5463: Contest operation, digital modes and associated software and linear amplifier refurbishing

Please consider being listed as an Elmer, send an e-mail to [Mike, K8DDB](mailto:Mike.K8DDB)

Radio Kit Manufacturers

American QRP Club:
<http://www.amqrp.org/>

Elecraft:
<http://www.elecraft.com/>

Emtech:
<http://emtech.steadynet.com/>

Oak Hills Research:
<http://www.morsex.com/ohr/>

Ocean State Electronics:
<http://www.oselectronics.com/index.htm>

Pacific Antenna:
<http://www.pacificantenna.com/>

Small Wonder Labs:
<http://www.smallwonderlabs.com/>

Ten Tec:
<http://www.tentec.com/>

Wilderness Radio:
<http://www.fix.net/~jparker/wild.html>

ARRL Michigan Section News

Our fellow citizens in Florida are pulling themselves up by their bootstraps and we as hams have an opportunity to lend support to the youngsters who may have lost everything in the recent Hurricane disasters. Over the next few weeks you will hear about the League's campaign to send toys to these youngsters in Florida in time for the Holiday Season. I urge everyone to seriously consider supporting this drive. Between now and Thanksgiving, hams across the country are being asked to purchase a new child's toy and send it with a QSL card or 3x5 showing their callsign to: Ham Radio The United Way White Dove Project 50 Kindred Street - Suite 207 Stuart, FL 34994. According to Allen G. Pitts, WIAGP ARRL Media and Public Relations Manager, the toys should be selected for either boys or girls in the age range of 1 to 14, and sent unwrapped. This really looks like an excellent club project. Check the ARRL's main web page for details: <http://www.arrl.org/news/stories/2004/10/18/2/?nc=1>

K8CQF, KB8VNI, N8EXV and I all send our thanks to everyone for their efforts in this year's Simulated Emergency Test (SET). Many complex scenarios were developed by ECs to test certain specific facets of their local Emergency Plans, while others worked cooperatively in District-wide efforts to test liaison and mutual-aid plans. Reports of lessons-learned have been beneficial and I urge each EC to share their learning experiences with their DEC and fellow ECs. A reminder to all ECs, please file both your SET report as well as your SET Net activity report immediately. These reports should go to Ray KB8VNI with a copy to your DEC. Ray will be collating all reports for forwarding to League Headquarters.

Band intruders continue to frustrate many of us as strange users show up on the low end of ten meters, while still others have shown up on the two meter band. I am urging everyone to be alert to these usurpers of our frequencies, make recordings, take notes as to freq, time, date and any vehicle identification, such as license tag or trailer number. By no means should anyone ever attempt to take direct action, but simply collect the data and report it to our Official Observer Coordinator Don Sefcik N8NJE. The FCC is taking action against these individuals, and the careful collection of the complete details is vital to the successful pursuit of these scoff-laws. If you are interested in participating with

the Official Observer Corps, please let Don know. Our Michigan Section OO Corps consists of many serious volunteers, each having passed an exam to qualify, and we all applaud their efforts for the time and effort spent to keep our bands clean.

September Station Activity Reports (SAR) with my thanks to all: K8KV 171, VE3EUI 163, K8AE 84, WD8USA 75, WB8TKL 36, W8RNQ 31, WI8K 28, K8UPE 26, K8ZJU 17, KC8UKM 15, N8UN 13, KC8MLD 7, WA8EFK 7. By the way, SARs are simply the combination of radiograms handled by your station during the month. Please forward them to me for inclusion in the news columns.

73, Dale WA8EFK

(Note: Edited to fit available space)

No News Is . . . No News

There have been no changes to the Amateur Radio Part 97 rules nor any news to report regarding FCC action on proposals that address the number of license classes, the 5 WPM Morse code requirement (Element 1) to obtain a General or Extra license, or other amateur licensing qualifications or privileges. The FCC continues to review the thousands of comments it received on 18 petitions for rule making--including a petition from the ARRL--that, in general, address various facets of license restructuring and the Morse code requirement.

Prompting most of these petitions were actions taken during World Radiocommunication Conference 2003 (WRC-03). The FCC first must issue a Notice of Proposed Rule Making and assign it a docket number, then invite comments on what it decides to propose, based on the petitions it has before it. The ARRL estimates that the FCC is only about one-third of the way through its review of the petitions, however, and does not anticipate any final FCC action--in the form of a Report and Order--until sometime in 2006. The ARRL has posted answers to frequently asked questions on its own restructuring initiative on its Web site <http://www.arrl.org/news/restructuring2/faq.html>.

From the ARRL Letter, October 15, 2004, published by the American Radio Relay League.

October 12th Meeting

(Continued from page 1)

Dennis, KD8AIT, reported that the Tuesday Night Net went well. We had 9 check-ins on September 28th and 6 on October 5th. Meeting attendees discussed making the net less formal to encourage more participation.

Tom, W8JWN, asked Mike, K8DDB, to send a copy of our newsletter to George Croy, W9MDP, president of NEWDXA.

Discussion of a club banner was postponed until the next meeting due to Steve's, KC8RY, absence.

New Business:

Mike, K8DDB, discussed the new procedure and Net Control Operator (NCO) Script for the club's Skywarn Net. It was suggested that we come up with predefined locations to dispatch Storm Spotters to (locations that have multiple exit routes.) Skywarn Training Nets will be conducted on the fourth Tuesday of the month at 6:00 PM (one half hour prior to the regular Tuesday Night Net) from March through October. Dennis, KD8AIT, volunteered to be the NCO for the Skywarn Net. We need volunteer(s) to be Alternate NCO.

Lee, N8LT, stated that Dave, KV9P, wants to give away 4 UHF transmitters (not ham band).

Adjournment:

The meeting was adjourned at 7: 30 PM

The meeting was followed by a demonstration of Amateur TV by Bob, WA8FXQ. Bob uses this equipment to monitor deer from his hunting camp. He also demonstrated an underwater camera that is used to monitor fish from his charter fishing boat.

Submitted by: Mike Bray

Attendees:

Mike Bray, K8DDB (Secretary)
 Lee Michaud, N8LT
 Skip Caswell, KE9L
 Dennis Beurjey, KD8AIT
 Terry Moriarity, KB9ZER
 Tom Martin, W8JWN (President)
 Bob Meyers, WA8FXQ
 John Hurschik, KB8DSC (guest)

Amateur TV Demonstration



Bob, WA8FXQ, demonstrated ATV following the October business meeting. He uses ATV to monitor deer from his camp. He also demonstrated an underwater camera that is used to monitor fish from his charter fishing boat.

N8LT's Workbench

(Continued from page 4)

CONCLUSION?

All this may only count when signals are weak or marginal. When a signal is strong you can afford to throw some of it away. Of course the poorer the performance of your antenna system the more limited your normal range of communication will be.

When feed line losses are relatively low, as they usually are on HF (below 30 MHz), the consequences are usually not nearly so severe (but can be). At 2 meters it becomes quite significant, and by 440 MHz, well, you just can't afford any mismatch.

There is a great wealth of information available on transmission lines. You'll find very good information in the ARRL Handbook and Antenna Books, cable manufacturers catalogs, and of course many web sites. Manufacturer's sites, such as Belden.com for example, are a good web starting places. Books and magazine articles usually provide application and use information not typically available at manufacture's web sites.

What's an acceptable SWR for you?

N8LT

Club Apparel:

Our club apparel is supplied by:

Shirt Tails
 408 S Stephenson Ave.
 Iron Mountain, MI 49801

Phone: (906)774-3370
 or
 finleyd@up.net

Prices:

Jacket with liner \$45
 (Tall add \$5, 2X or 3X add \$5,
 to add your name or call sign
 on the front is \$5)

T-Shirt - \$10
 (2X or 3X add \$1)
 Sweatshirt - \$16
 (2X or 3X add \$2)

If you wish to have the club logo printed on an item of clothing that you have purchased elsewhere, there is charge of \$6.

Club patches are available from:

Steve Johnson, KC8RY
 917 Coolidge Ave
 Kingsford, MI 49802

They are 3 inches in diameter and sell for \$3.00 each. If ordering by mail, please include a SASE along with your payment.



Mich-A-Con Amateur Radio Club
Membership Application/Renewal Form

Please remit dues to club treasurer:
Steve Johnson, KC8RYY
917 Coolidge Ave
Kingsford, MI 49802

Name: _____
Address: _____
City, State, Zip: _____
Call Sign: _____
Email Address: _____
Phone: _____

ARRL Member? Yes _____ No _____

Single \$20 _____ * Family \$30 _____ *

If family membership, please list additional names and call signs:

* The dues for NEW members are prorated - you only pay for the remainder of the year! Please remit \$1.67 per month for a Single membership or \$2.50 per month for a Family membership.

Exam Schedule

City: Iron Mountain
Location: Dickinson County Library
Room: Conference Room
Time: 9:30 AM Central Time
Contact: Mark Lewis, N8UKD
Telephone: (906) 774-6598

Exam Date: Nov 6, 2004
Exam Date: Feb 5, 2005
Exam Date: May 7, 2005
Exam Date: Aug 6, 2005

Examinees should bring 2 pencils, a pen for the official paperwork, the originals AND copies of any previous credit that you have earned (Certificates of Successful Completion or current license), 1 photo id (usually a driver's license) and 1 other id. (usually a birth certificate or SS card), a calculator if needed (make sure your memories are cleaned out), and the test fee (2004 fee is \$12).

Mich-A-Con RF is published by the Mich-A-Con Amateur Radio Club of Iron Mountain.

Items for Mich-A-Con RF should be in the editor's hands by the first week of the month to be included in the next edition.

Our newsletter needs contributions from the membership to help keep the information presented each month new, interesting and fun to read. Please consider writing an article related to Amateur Radio to share with your fellow members. Send the article in plain text and attach any photos, etc., don't worry about format, that's the editor's job.

Send to:
mikebray@chartermi.net
(906) 563-7020

Repeaters

The club maintains two repeaters, which are located on Pine Mountain in Iron Mountain, with tower and facilities provided by the Wisconsin Electric Power Co.

Identifier: WA8FXQ/R IMT

Output	Offset	PL Tone
146.850 MHz	minus	—
444.850 MHz	plus	100

Both repeaters have an auto patch with a toll restriction. The auto patch on the 2-meter repeater can be used with permission. The 440 auto patch is for club use only.

A club net is held on the 2-meter repeater every Tuesday at 6:30 PM except the 2nd Tuesday of the month, which is club meeting night.

Mich-A-Con RF

Mich-A-Con ARC
c/o Michael F. Bray
W3821 Waucedah Road
Vulcan, MI 49892-8483

Mich-A-Con RF

Club Meetings

The Mich-A-Con Amateur Radio Club meets on the second Tuesday of the month at 6:30 PM in the Grace United Methodist Church (upstairs in the room next to the sanctuary), 721 Norway Street in Norway, Michigan. Visitors and prospective members are always welcome!

The URL for the Mich-A-Con ARC web site is:

<http://www.qsl.net/ka1ddb/>

Previous editions of Mich-A-Con RF can be accessed by a link on the news page.

The ARRL DX Bulletin on the Upcoming Activities page is updated each Thursday and the contests section is updated on a monthly basis.

CLUB OFFICERS

President:

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(906) 774-5463
tmartin@chartermi.net

Vice President:

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(715) 251-3137
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mikebray@chartermi.net

Treasurer:

Steve Johnson, KC8RYY
(906) 776-1597
sjohnson4@chartermi.net

Reminders

The monthly meeting for November is on TUESDAY the 9th at 6:30 PM in the Grace United Methodist Church, 721 Norway Street, Norway, Michigan. (upstairs in the room next to the sanctuary.)

Saturday Morning Breakfasts have been changed to the THIRD Saturday of the month at the Holiday Kitchen in Iron Mountain (on Stephenson Avenue across from Econo Foods) – Nov 20th at 9:00 AM

Don't forget to provide input on the articles you would like to see in Lee's new column, N8LT's Workbench.

Please let Mike, K8DDB, know what club equipment you have in your custody so he can update the Club Equipment List.