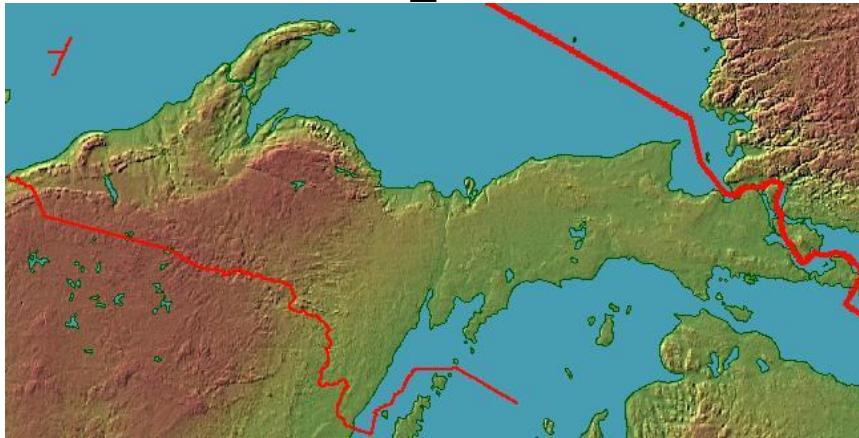


# 2010 New Yooper Ham Guide



**A service to the Upper Peninsula of Michigan Amateur Community from  
George Thurner W8FWG, Mike Swiatkowski AA9VI, and the Keweenaw County Radio Amateur  
Association**

**v12.0  
Last updated December 29, 2009**

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## WELCOME TO HAM RADIO!

Hello.....Glad to hear from you! With this all-new edition, we'd like to acquaint you with the radio clubs of the Copper Country, and at the same time answer some of your questions that you may have about the "Space Age" hobby.

We have three active organizations in the Keweenaw Peninsula, and they are:

Copper Country Radio Amateur Assoc. P.O. Box 217 Dollar Bay, MI 49922-0217 (906) 337-2542 <a href="mailto:w8cdz@arrl.net">w8cdz@arrl.net</a> <a href="http://ccraa.net">http://ccraa.net</a>	Keweenaw Co. Repeater Assoc. 225 Kearsarge Street Laurium, MI 49913-2109 (906) 337-2542 w8fwg@arrl.net <a href="http://kcra-mi.net">http://kcra-mi.net</a>	Husky A.R.C. EE Dept. – MTU 1400 Townsend Dr. Houghton, MI 49931 (906) 487-1303 <a href="http://www.sos.mtu.edu/w8yy">http://www.sos.mtu.edu/w8yy</a>
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See page 9 for more details on these organizations. If you'd like to know more about ham radio just come to one of the regularly scheduled meetings of these groups.

### Other U.P. clubs' contact information:

AARC-K8KIT-145.410 Alger Amateur Radio Club c/o Raoul Revord, W8RDR N3253 Buckhorn Rd. Wetmore, MI 49895 rrevord@up.net  Web Page: <a href="http://algerham.org">algerham.org</a>	ACARN-W8ARS Algoma-Chippewa ARES/RACES Network 1412 Minneapolis Sault Ste. Marie, MI 49783 N8JAT@arrl.net
ALGER CW MARAUDERS-NA8CW c/o Paul E. Genaw, K8PG 3664 E. Hallstromn St. Box 220 Chatham, MI 49816 E-Mail: <a href="mailto:pegenaw@charter.net">pegenaw@charter.net</a>	BARA-K8ATX-146.760 Blackjack Radio Amateur Assoc. c/o David L. Johnson, W9OC 1002 Charles St. Wakefield, MI 49968
CUPRA-KG8ZL/R-147.090+ Central U.P. R.A. 147.090+ Ishpeming 444.200+ (N8PUM/R) Negaunee 147.030+ (W8ZUL/R) Champion Central U.P. R.A. c/o B. Anderson, N8PUM 1015 School St. Ishpeming, MI 49849 n8pum@arrl.net	DCARS-K8ZAS-147.150+ Delta County Amateur Radio Society c/o R. Thompson, N8OYR 9560 Chaison N5 Gladstone, MI 49837 ricthompson@uplogon.com

EUPAR-W8EUP-147.210+ Eastern U.P. A.R.C. c/o David P. Dietrick, WA8OLD 220 Hursley St. S.S. Marie, MI 49783 iceman@30below.com	HARA-K8LOD-146.910 Hiawatha Amateur Radio Assoc. c/o Richard E.B. Schwenke, N8GBA 21 Smith Ln Marquette, MI 49855 n8gba@chartermi.net
IRARC-KC8MEC-145.170 Iron River A.R.C. c/o Dan Waters, AA9JG 3338 US Hwy 24 Iron River, MI 49935 dmwaters@up.net	MARA-W8NI-146.790 Manistique Amateur Radio Club c/o David B. Hopper, KA8K 27872 West M28 Eckerman, MI 49728 wb8skp@upmail.com
MARC KC8VC W3821 Waucadah Rd. Vulcan, MI 49892 mikebray@charter.net	MMARC-W8PIF-147.000 Menominee/Marinette Clubs c/o L. Rynish, N8OSK POB 1082 Marinette, WI 54143 SeadogMax@Yahoo.com
MRQUTTRA-KE8IL-146.970 Marquette Repeater Association c/o Mike Hoffman, KE8IL 132 Juliet Street Marquette, MI 49855 ke8il@arri.net	OCARA-K8ONT Ontonagon County Repeater Assoc. c/o Al Trainer III 26715 Hokkannen Rd Ontonagon, MI 49953 kc8ont@qsl.net
OVER THE AIR RAD. CLB UPR PEN.-KC8LVV c/o Howard B. Schweppe, N8MOS 47 Elder Drive Marquette, MI 49855 N8MOS@aol.com	SARA-W8UXG-146.730 Superior Amateur Radio Association c/o R. Reid, W8UXG 101 Third St. Ontonagon, MI 49953 w8uxg@up.net
S.P.A.R.K.-KA8CEO-146.610 Superior Peninsula Amateur Radio Klub c/o M. B. Ennis, KA8CEO POB 446 Newberry, MI 49868 mbennis@portup.com	TARA-147.360/444.950 Trenary Amateur Radio Association c/o Freddy J. Miller, W5TJC HCR1, Box 110 Trenary, MI 498901 W5TJC@tds.net
THARC Trap Hills Amateur Radio Club c/o Jeffrey K. Bjurstrom 3543E M28 Trout Creek, MI 49967 N8GZQ renhoek33@yahoo.com	UPDXACC Upper Peninsula DX and Contest Club NV8N

**Q1. WHAT IS HAM RADIO?**

A1. Amateur radio or “ham” radio as it is called; is communicating. Hams, who must be licensed by the federal government, operate two-way radio equipment from their homes, cars, boats, etc. to other hams across town, across the country and even across the world and recently with spacecraft orbiting the earth. They use Morse code, voice, digital communications and some even have their own amateur television stations.

**Q2. WHAT ARE THE REQUIREMENTS FOR OBTAINING A HAM LICENSE?**

A2. Any citizen of the United States may become a ham by taking a written examination and obtaining a passing grade to earn their license.

**Q3. WHAT ARE THE EXAMS LIKE?**

A3. The written tests are made up of elements, and are of the multiple-choice type, with four answers given; one of which is the correct one. A passing grade is 74 percent (26 out of 35 questions answered correctly on the Technician and General exams and 37 out of 50 on the Extra class exam).

**Q4. HOW MANY CLASSES OF AMATEUR RADIO LICENSES ARE THERE?**

A4. At this writing there are three: Technician, General, and Extra.

**Q5. WHAT ARE THE REQUIREMENTS OF EACH CLASS?**

A5. See table 1 (below)

TABLE 1

	WRITTEN ELEMENT #/Questions
TECHNICIAN	2/ 35
GENERAL	2,3,/ 35
EXTRA	2,3,4/50

**Q6. (Removed)**

**Q7. HOW MUCH DOES AN AMATEUR RADIO LICENSE COST?**

A7. At this writing (01/01/08), the charge to take the exam is \$15. You can continue to take additional elements for free as long as you pass the previous exam element.

**Q8. WHAT IS THE TERM OF A HAM RADIO LICENSE?**

A8. It is good for 10 years with a 2 year period of grace, and renewable without testing. After 10 years the license is no longer valid, but it may be renewed within the next 2 years.

**Q9. WHAT METHODS OF STUDY ARE AVAILABLE TO PREPARE FOR TESTING?**

A9. Several methods are available. They are:

- A. Home study, using a textbook and/or computer assisted instructions.
- B. Home study, via the Internet. (Download sample exams)
- C. Video course from ARRL.
- D. Classroom study.

A. HOME STUDY, USING A TEXTBOOK: This is the most convenient if you have limited time. You may study whenever you have the extra time. If you have some electronics background, from another field or service time this may be for you.

B. HOME STUDY, VIA THE INTERNET: There are several good sources of information (check the ARRL web page at: <http://arrl.org/> and you will find these sources). Using your personal computer at home will again allow you to study when time permits. Try to establish a regular time schedule however, as we've found out this works best.

C. VIDEO COURSE FROM ARRL: Both the CCRAA and KCRA have courses on video tape for the Technician, General and Advanced Class licenses. The tapes come with computer software, enabling you to check your progress at home, with sample exams provided. See Jack at Swift Hardware in Houghton for the CCRAA, and George at 225 Kearsarge St. in Laurium, for the KCRA.

D. CLASSROOM STUDY: One of the organizations, (HARC) offer courses of instruction from time to time. They vary from a few days to a full 12 week course. Each student is expected to buy a textbook, but other than that, there is no charge for the courses.

**Q10. IS AN AMATEUR RADIO LICENSE EVERY SUSPENDED OR REVOKED?**

A10. On rare occasions! Part 97 of the Rules and Regulations must be adhered to, however. It would take a very serious violation to result in a suspension or revocation of a license.

**Q11. WHERE AND WHEN ARE THE AMATEUR RADIO EXAMINATIONS GIVEN?**

A11. Nationally, they are given by hundreds of radio clubs throughout the United States and its possessions. Here; in the Upper Peninsula of Michigan they are given several times per year, by five radio groups: 1. CCRAA, 2. HARC. 3 W5YI group. (In Iron Mountain) ,4. HARA (in Marquette), and the Sault Ste. Marie group. A copy of this year's schedule is attached to this document!

**Q12. IS THERE A NATIONAL ORGANIZATION OF RADIO HAMS?**

A12. Yes, the American Radio Relay League, located in Newington, Connecticut.

**Q13. IS THERE AN AGE LIMIT IN BECOMING A RADIO "HAM" ?**

A13. No. People of all ages and from all walks of life, men, women and children have become hams. The ages range from age 5 to age 80!

**Q14. MAY I OBTAIN COPIES OF THE QUESTIONS USED IN THE EXAMS?**

A14. Yes, they are now public domain, and anyone can obtain them. (The Internet is a good source. Again check: <http://www.arrl.org> They are also available in the study guide entitled: “Now You’re Talking”

**Q15. WHAT PUBLICATIONS ARE RECOMMENDED FOR HOME STUDY?**

A15. They are:

1. NOW YOU’RE TALKING (ARRL publication)
2. FCC RULE BOOK (ARRL publication)
3. TECH Q & A MANUAL (ARRL publication)
3. STUDY GUIDES (Obtain from the Internet or the FCC)

**Q16. SUPPOSE I ‘DO’ WANT TO LEARN THE MORSE CODE. HOW DO I DO IT?**

Q16. A good publication for beginners is: “Morse Code, the Essential Language”. It is available from the ARRL. Another way is to copy the code off-the-air from radio station W1AW. The headquarters station of the American Radio Relay League (ARRL). They give code practice several times daily. (See the schedule, included with this work) Audio tapes are available free of charge from the Copper Country Radio Amateur Association also.

**Q17. WHO ISSUES THE AMATEUR RADIO LICENSE?**

A17. The Federal Communications Commission (FCC).

**Q18. HOW LONG DOES IT TAKE, AFTER TAKE THE EXAM FOR THE LICENSE TO ARRIVE?**

A18. You will receive a paper copy of the license in about a week via the U.S. Postal Service. You can also obtain your newly issued callsign quicker from the FCC’s website at <http://wireless.fcc.gov/uls/> .

New call signs are issued alphabetically in sequential order (examples: KC8GDE follows KC8GDD, KC8GEA follows KC8GDZ, and KD8AAA follows KC8ZZZ). Michigan is part of the 8<sup>th</sup> callsign district, hence the 8 in the callsign. Wisconsin call signs have a 9 in them and Minnesota call signs have a 0 in them. Your call sign district is determined by the address on your FCC form 605. Check the FCC’s website daily to see if your name has been assigned to a call sign yet.

**Q19. HOW CAN I CONTACT THE FCC BY TELEPHONE?**

A19. You may call them at: 1-888-CALL-FCC. (This is a toll-free Nationwide number).

**Q20: WHICH PUBLICATIONS SHOULD I SUBSCRIBE TO NOW THAT I’M LICENSED?**

A20: If you are an ARRL member you will receive an informative monthly publication called “QST.” Other excellent publications include “CQ Amateur Radio” and “CQ VHF.”

**Q21. DIDN’T YOU MENTION THIS WAS A “SPACE AGE” HOBBY?**

A21. Yes. Once you obtain your Technician Class call sign you might actually speak to astronauts on the International Space Station or talk to other hams in other states via satellite repeaters... all with an

inexpensive radio. Of course, the more powerful mobile and base station radios help increase the odds of a successful contact. Nevertheless, some lucky hams have needed nothing more than a handheld transceiver to log a contact from “beyond this world!” To learn more about amateur satellites and the ISS visit <http://www.amsat.org>

### AMATEUR RADIO SATELLITES (from amsat.org)

Name	HF	VHF	UHF	L-Band	S-Band	APRS	Packet	Schedule
<a href="#">HO-68</a>		▲	▲				▲	<p><b>Mode V/U (J) FM Voice Repeater</b> Uplink: 145.8250 MHz FM, PL 67.0 Hz. Downlink 435.6750 MHz FM</p> <p><b>Mode V/U (J) Linear Transponder (Inverting): Operational</b> Uplink: 145.9250 - 145.9750 MHz SSB/CW Downlink 435.7650 - 435.7150 MHz SSB/CW</p> <p><b>Mode V/U (J) PacSat BBS Operational</b> Uplink: 145.8250 MHz AFSK 1200 BPS Downlink 435.6750 MHz AFSK 1200 BPS</p>
<a href="#">SO-67</a>		▲	▲					<p><b>Mode V/U (J) FM Voice Repeater</b> Uplink: 145.8750 MHz FM, PL 233.6 Hz. Downlink 435.3450 MHz FM</p>
<a href="#">VO-52</a>		▲	▲					<p><b>(Indian Transponder): Operational</b> Uplink: 435.2200 - 435.2800 MHz SSB/CW Downlink 145.9300 - 145.8700 MHz SSB/CW</p> <p><b>(Dutch Transponder): Operational</b> Uplink: 435.2250 - 435.2750 MHz SSB/CW Downlink 145.9250 - 145.8750 MHz SSB/CW</p>
<a href="#">AO-51</a>	▲	▲	▲	▲	▲		▲	<p><b>Mode V/U (J) FM Voice Repeater (QRP): Operational</b> Uplink: 145.8800 MHz FM Downlink 435.1500 MHz FM</p> <p><b>Mode V/U (J) FM Voice Repeater: Operational</b> Uplink: 145.9200 MHz FM Downlink 435.3000 MHz FM</p> <p><b>Mode V/S FM Voice Repeater: Operational</b> Uplink: 145.8800 MHz FM Downlink 2401.2000 MHz FM</p> <p><b>Mode L/U FM Voice Repeater: Operational</b> Uplink: 1268.7000 MHz FM Downlink 435.3000 MHz FM</p> <p><b>Mode L/U PacSat BBS: Operational</b> Uplink: 1268.7000 MHz AFSK Downlink 435.1500 MHz AFSK</p> <p><b>Mode L/S FM Voice Repeater: Operational</b> Uplink: 1268.7000 MHz FM Downlink 2401.2000 MHz FM</p>
<a href="#">SO-50</a>		▲	▲					<p><b>Mode V/U (J) FM Voice Repeater:</b> Uplink: 145.8500 MHz FM, PL 67.0 Hz. Downlink 436.7950 MHz FM</p>



<a href="#">ARISS</a>	▲	▲		▲	▲	<p><b>Mode V/V Crew Contact (Regions 2 &amp; 3): Operational</b>  Uplink: 144.4900 MHz FM  Downlink 145.8000 MHz FM</p> <p><b>Mode V/V Packet (Worldwide): Operational</b>  Uplink: 145.9900 MHz AFSK 1200 BPS  Downlink 145.8000 MHz AFSK 1200 BPS</p> <p><b>Mode V/U (J) FM Voice Repeater (Worldwide): Operational</b>  Uplink: 145.8000 MHz FM  Downlink 437.8000 MHz FM</p> <p><b>Mode V APRS (Worldwide APRS Digipeater): Operational</b>  Simplex: 145.8250 MHz FM 1200 BPS  Downlink 145.8250 MHz FM 1200 BPS</p> <p><b>Mode V Imaging: Operational</b>  Downlink 145.8000 MHz SSTV</p> <p><b>Mode U/V (B) FM Voice Repeater (Worldwide): Operational</b>  Uplink: 437.8000 MHz FM  Downlink 145.8000 MHz FM</p>
<a href="#">AO-27</a>	▲	▲				<p><b>Mode V/U (J) FM Voice Repeater: Operational</b>  Uplink: 145.8500 MHz FM  Downlink 436.7950 MHz FM</p>

**Q22: WHAT ELSE CAN I DO BESIDES TALK ON THE RADIO?**

A22: With the advent of AFSK (audio frequency shift keying) you don't even have to speak to communicate worldwide. The new digital modes such as BPSK, RTTY, Olivia, slow scan television, and CW can be operated from your keyboard! The RigBlaster Plus, shown below, plugs into your computer and your radio. Think of it as a radio modem. It translates audio squeals into text on your screen! There is plenty of free software out there that you can use to operate these modes. Digital modes have an advantage over voice because they can be used when signal levels are weak or the noise floor is high. These days during the solar minimum you can get more bang for your buck when you communicate using a digital mode. You may also use the rigblaster or a Kantonics/AEA terminal node controller for wireless email. Go to winlink.org to learn more about wireless email.



**Q23: OK, 1 FINAL QUESTION. WHY... WOULD I WANT TO MAKE CONTACTS WITH STATIONS AROUND THE WORLD?**

A23: Perhaps you would like to compete in nationwide or worldwide communications contests that occur nearly every month. Perhaps you would just like to chase "DX" or rare countries. Perhaps you want to receive a nice award commemorating your efforts. Amateur or "ham" radio is a great way to learn about technology and a fun way to meet new friends.

### **THE COPPER COUNTRY RADIO AMATEUR ASSOCIATION, INC.**

Was formed for the purpose of bringing together people with a common interest. It replaced the former Lake Superior Radio Club, which was active in the 1950's. Monthly meetings are held in the community of Dollar Bay, at the Fire Hall. A clubhouse south of Calumet houses HF and VHF radio transmitting and receiving equipment. This facility can serve a five-county area, and works with the local emergency services to serve as a base of operations, in cases of natural disasters. Emergency power is supplied and counties of Baraga, Houghton, Keweenaw, Marquette and Ontonagon are covered from this location. This organization has a VHF repeater in Hancock and has regular monthly meetings. Both have the same call sign of W8CDZ.

### **THE KEWEENAW COUNTY REPEATER ASSOCIATION, INC.**

This group is not a "club" as such, but is a repeater organization, providing its membership with a repeater located on Mt. Horace Greeley in Keweenaw County. It came into being in 1983, for the purpose of providing radio coverage in this northernmost county in Michigan to help in search and rescue work, and to assist local law-enforcement officials in finding lost hunters, and boaters, on Lake Superior. It has its own club call sign of K8MDH and operates and maintains a VHF repeater.

### **THE HUSKY AMATEUR RADIO CLUB**

This club, on the campus of Michigan Technological University in Houghton is one of the oldest clubs in the area, having started operation in the early 1920's. Composed of mostly students at the University, memberships are available as "associates." The Husky Amateur Radio Clubs owns and maintains amateur radio station W8YY and is active in HF, VHF and digital communications. Radio classes are offered annually, and scholarships are available through the club. This club's Volunteer Examiner Team, in cooperation with the CCRAA gives amateur radio license tests throughout the year.

### **THE A.R.R.L.**

Those famous initials belong to the American Radio Relay League, founded in the year 1914. ARRL is the National organization for radio hams. With headquarters in Newington, Connecticut they provide services such as daily code practice, legal assistance, bulletins of interests to radio amateurs, text books, study guides and a host of other services. As a member of ARRL you will enjoy receiving the monthly publication QST. Thanks to the hard work of experimenters, the radio "hams" made the League what it is today: our voice in the Amateur Radio Service. They also serve as the International Secretary to the International Amateur Radio Union (IARU), which like the ARRL in the United States, has societies in 123 different countries throughout the world. They also have Official Observer status in the International Telecommunications Union (ITU), which is a branch of the United Nations, in charge of world conferences and agreements concerning radio communications.

### **THE VOLUNTEER EXAMINER PROGRAM**

The “VE” program, as it is called is a group of amateur radio operators who volunteer their time to give radio exams in the local area, and there are several thousand clubs throughout the United States that do this. Historically, the FCC gave these exams, but with budget constraints in the Federal government, the radio amateurs themselves took over the job. All it takes is for an individual to fill out a standard application form (called an FCC 605 form), and appear at one of the examining points at the time and the date listed, pay a small fee (\$15) at this writing (01/01/10) and complete a series of written and/or Morse code elements (optional) for a specific class of amateur license.

### **THE FEDERAL COMMUNICATIONS COMMISSION**

This is the law-making and regulatory branch of all radio services within the United States and its possessions. “Ham” radio is only a small part of the service it regulates. They regulate commercial broadcast stations, public-safety, television stations and ship-to-shore installations. If you wish to communicate with the FCC, they now have one National Call Center. You may reach them at: 1-888-CALL-FCC. This is a toll free number.

## W1AW CODE PRACTICE SCHEDULE

Pacific	Mtn	Cent	East	Mon	Tue	Wed	Thu	Fri
6 am	7 am	8 am	9 am		<a href="#">Fast Code</a>	<a href="#">Slow Code</a>	<a href="#">Fast Code</a>	<a href="#">Slow Code</a>
7-9 am 10 am-12:45 pm	8-10 am 11 am-1:45 pm	9-11 am noon-2:45 pm	10 am-noon 1-3:45 pm	<b>Visiting Operator Time</b>				
1 pm	2 pm	3 pm	4 pm	<a href="#">Fast Code</a>	<a href="#">Slow Code</a>	<a href="#">Fast Code</a>	<a href="#">Slow Code</a>	<a href="#">Fast Code</a>
2 pm	3 pm	4 pm	5 pm	<a href="#">Code Bulletin</a>				
3 pm	4 pm	5 pm	6 pm	<a href="#">Teleprinter Bulletin</a>				
4 pm	5 pm	6 pm	7 pm	<a href="#">Slow Code</a>	<a href="#">Fast Code</a>	<a href="#">Slow Code</a>	<a href="#">Fast Code</a>	<a href="#">Slow Code</a>
5 pm	6 pm	7 pm	8 pm	<a href="#">Code Bulletin</a>				
6 pm	7 pm	8 pm	9 pm	<a href="#">Teleprinter Bulletin</a>				
6:45 pm	7:45 pm	8:45 pm	9:45 pm	<a href="#">Voice Bulletin</a>				
7 pm	8 pm	9 pm	10 pm	<a href="#">Fast Code</a>	<a href="#">Slow Code</a>	<a href="#">Fast Code</a>	<a href="#">Slow Code</a>	<a href="#">Fast Code</a>
8 pm	9 pm	10 pm	11 pm	<a href="#">Code Bulletin</a>				

**Code Frequencies** are 1.8175, 3.5815, 7.0475, 14.0475, 18.0975, 21.0675, 28.0675 and 147.555 MHz.

**Voice Frequencies** are 1.855, 3.99, 7.29, 14.29, 18.16, 21.39, 28.59 and 147.555 MHz.

**Slow Code** = practice sent at 5, 7-1/2, 10, 13 and 15 words per minute (wpm).

**Fast Code** = practice sent at 35, 30, 25, 20, 15, 13 and 10 wpm.

**Code bulletins** are sent at 18 wpm.

**2010 UPPER MICHIGAN AMATEUR EXAM SCHEDULE**

<b>V.E.C.</b>	ARRL	W5YI	ARRL	W5YI	ARRL	ARRL
<b>Sponsor</b>	CCRAA/HARC	W5YI	HARA	IRARC	DCARS	EUPARC
<b>City</b>	Houghton	Iron Mountain	Negaunee	Iron River	Gladstone	Sault Ste. Marie
<b>Time</b>	9am ET	9:30 am CT	8:30 am ET		10am ET	11 am ET
<b>Location</b>	MTU DHH (see note #2)	Dickinson Co.Library	Mrqt Co. Health Dept.		City Hall	Faith Lutheran Church
<b>Room</b>	G32 (Ballroom)	Conference	Basement of H.D.	US 2/US41		
<b>Contact</b>	<a href="mailto:wa8qnf">WA8QNF</a>		<a href="mailto:n8gba">N8GBA</a>	<a href="mailto:aa9jg">AA9JG</a>	<a href="mailto:w8hsj">W8HSJ</a>	<a href="mailto:wa8old">WA8OLD</a>
<b>Name</b>	Glenn	Mark	Richard	Dan	Howard	Dave
<b>Telephone</b>	(906) 482-7743	(906) 776-1553	(906) 249-3837	(906) 265-4240	(906) 428-9476	(906) 635-0215
<b>Month</b>						
January	23			*See Note 3	9	
February		6				27
March			13			
April	10				10	24
May		1				
June			12			
July	10				10	
August		7				
September			11			25
October	9				9	30
November		6				
December			11			

**Notes:**

- All examinees should arrive 1/2 hour before test time to register. Please 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 one other ID. (usually a birth certificate or SS card), a calculator if needed (make sure your memories are cleaned out), and the test fee. (2010 Exam Fee remains the same as last year, \$15.00)
- DHH (Douglas Houghton Hall at Michigan Tech). Park in Lot #8, (East side of DHH), across from WADS Residence Hall Use door #9 on the South-East side of DHH.
- The Iron River Club (IRARC) will NOT be giving SCHEDULED ham exams this year. Call and arrange for a special exam session.
- DCARS Exam session @ 10am Eastern Time at the Gladstone City Hall at 300 10th St.
- PLEASE NOTE: THE EXAM SESSIONS FOR THE CCRAA/HARC CLUBS IS NOW HELD IN DOUGLASS HOUGHTON HALL, ROOM G32 (THE BALLROOM) ON THE MAIN FLOOR.) [East end of the M-T-U campus]

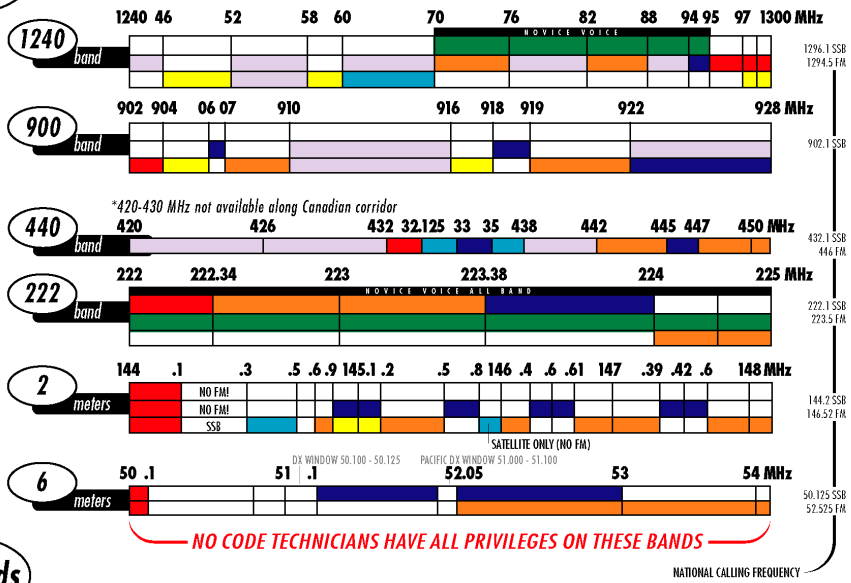
**Abbreviations:**

CCRAA: Copper Country Radio Amateur Association E-Mail: wa8qnf@arrl.net  
HARC: Husky Amateur Radio Club E-Mail: wa8qnf@arrl.net  
HARA: Hiawatha Amateur Radio Association E-Mail: n8gba@chartermi.net  
W5YI: Iron Mountain Group (No Club) E-Mail: None  
IRARC: Iron River Amateur Radio Club E-Mail: dmwaters@ironriver.tv  
DCARS: Delta County Amateur Radio Club E-Mail: hsj99@charter.net  
EUPAR: Eastern U.P. Amateur Radio Club E-Mail: wa8old@att.net

# AMATEUR RADIO BAND PLAN

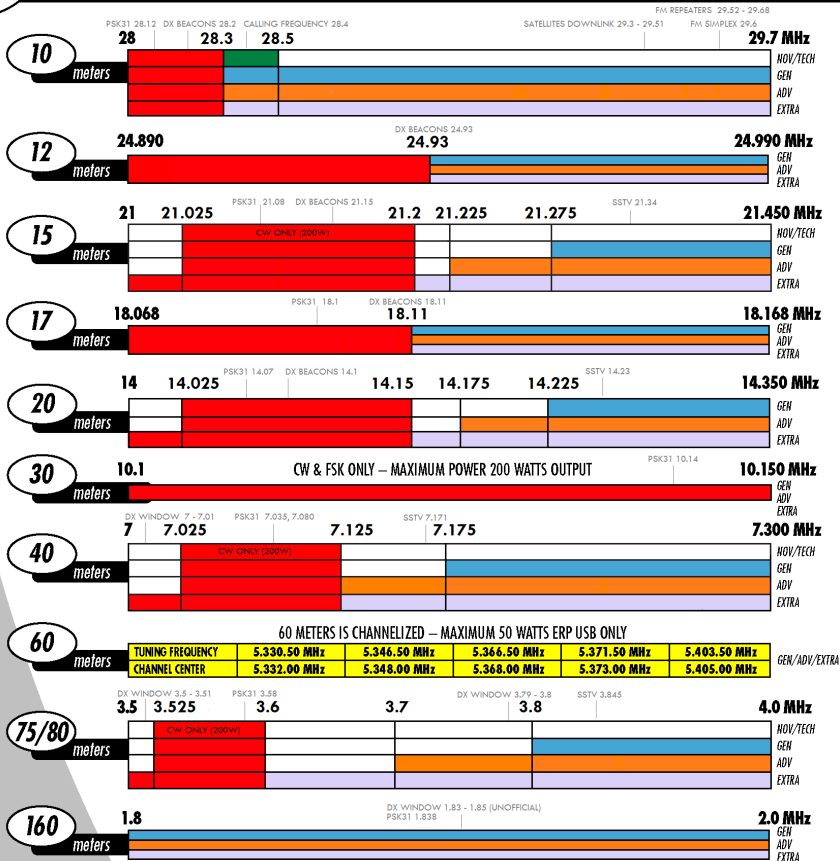
## UHF/VHF

- NOVICE VOICE AND DATA\*
- AMATEUR TELEVISION FAST SCAN
- SATELLITE (NO FM)
- CW AND WEAK SIGNAL (NO FM)
- DIGITAL
- FM SIMPLEX
- SSB
- FM REPEATER



## HF Bands

- TECHNICIAN VOICE
- GENERAL VOICE, CW, SSTV, FAX
- ADVANCED VOICE, CW, SSTV, FAX
- EXTRA VOICE, CW, SSTV, FAX
- CW, DATA
- NO PRIVILEGES



\* Effective February 23, 2007

Developed by Gordon West, WB6NDA,  
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## 2008 UPARRA COORDINATED AMATEUR RADIO REPEATER LISTING

	Output/Offset	Location	Call	Sponsor	Notes
<b>WESTERN</b>	146.760 -	Bessemer	K8ATX	BlkJckRA	o(ca)
	147.315 +	Calumet	K8MDH	KewCoRA	o a e WX z 100.0
	*442.550 +	Calumet	W8CDZ	CCRAA	
	*444.150 +	Copper Harbor	K9SJ	K9SJ	
	146.880 -	Hancock	W8CDZ	CCRAA	o a e z 100.0
	444.500 +	Houghton	W8YY	HuskyARC	o a
	145.170 -	Iron River	N8LVQ	IRARC	o e 107.2
	444.175 +	Iron River	N8LVQ	IRARC	o e 107.2
	146.670 -	L'Anse	W8CDZ	CoprCtyRA	o e x 100.0
	147.075 +	Wakefield	KB8ZXE	KB8ZXE	o
	147.300 +	White Pine	N8GZQ	THARC	o
	*442.075 +	White Pine	N8JUP	THARC	
146.730 -	Winona	W8UXG	SARA	o a e	
<b>CENTRAL</b>	145.210 -	Channing	K9DZD	K9DZD	o
	146.700 -	Cooks	WA8WG	WA8WG	o r s WX
	145.130 -	Escanaba	KB9BQX	KB9BQX	o
	147.150 +	Escanaba	K8ZAS	DeltaCoRA	o
	444.300 +	Escanaba	WD8RTH	WD8RTH	o
	*147.240 +	Gladstone	N8DP	N8DP	
	444.450 +	Gladstone	N8OYR	N8OYR	o e
	*147.195 -	Grand Marais	K8KIT	AARC	
	146.640 -	Gwinn	N8RRZ	HARA	o e
	146.850 -	Iron Mountain	WA8FXQ	MchAConRC	o(ca)e WX
	444.850 +	Iron Mountain	WA8FXQ	MchAConRC	o(ca) e 100.0
	146.910 -	Ishpeming	K8LOD	HARA	o e
	444.200 +	Ishpeming	N8PUM	CUPRA	o e
	146.970 -	Marquette	KE8IL	MrquttRA	o e
	147.270 +	Marquette	KG8YT	HARA	o(ca) WX
	444.800 +	Marquette	KE8IL	MrquttRA	o a 100.0
	*53.110 +	Menominee	AB9PJ	AB0PJ	
	147.000 +	Menominee	W8PIF	M&MARC	o e WX 107.2
	444.075 +	Menominee	W8PIF	M&MARC	o e
	*444.500 +	Menominee	W9JTL	W9JTL	
	145.410 -	Munising	KC8BAN	AARC	o
	147.090 +	Republic	KG8ZL	CUPRA	o e-sun
	147.330 +	Stephenson	K8NB	K8NB	o e
	147.030 +	Trenary	WD8CSZ	TARA	o
146.790 -	Wetmore	W8NI	MARA	o	
<b>EASTERN</b>	147.090 +	Deer Park	KC8GKK	KC8GKK	o e 114.8
	*53.270 +	Newberry	KC8GKK	KC8GKK	
	146.610 -	Newberry	KC8GKK	SPARK	o 114.8
	444.900 +	Newberry	W8CJB	W8CJB	o 131.8
	146.640 -	Pickford	W8EUP	EUPAR	o e WX
	444.100 +	St. Ignace	K8HEW	K8HEW	o (ca)
	444.375 +	St. Ignace	N8NXP	N8NXP	o WX 103.5
	147.105 +	Sault Ste. Marie	KB8SKC	KB8SKC	o (ca) e WX z
	147.210 +	Sault Ste Marie	W8EUP	EUPAR	o a e WX
	442.850 +	Sault Ste. Marie	KB8SKC	KB8SKC	o(ca)e WX z
147.330 +	Strongs	W8ARS	ACARN	o e	

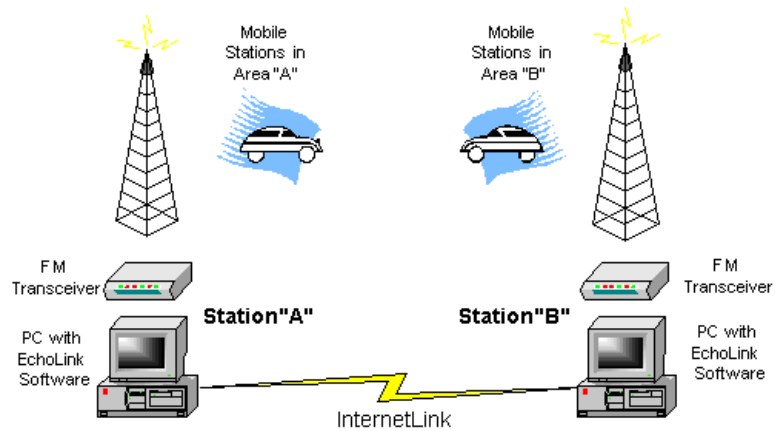




## ECHOLINK IN THE U.P.

EchoLink® software allows licensed Amateur Radio stations to communicate with one another over the Internet, using voice-over-IP (VoIP) technology. The program allows worldwide connections to be made between stations, or from computer to station, greatly enhancing Amateur Radio's communications capabilities. There are more than 200,000 validated users worldwide — in 162 of the world's 193 nations — with about 4,000 online at any given time.

### Linking Example



Echolink is available on these U.P. repeaters:

Callsign	Location	Node	Comments
KD8JAM (relay to K8MDH)	Calumet	405654	147.315+ repeater (PL 100.0)
W8YY-R	Houghton	355330	MTU 444.5+ repeater
W8RDR-R	Munising/ Grand Marais	275200	145.41-/ 147.195+ repeaters linked to node 2052
KB0P-L	Marquette/ Marquette/ Gwinn	2052	147.27+/ 443.45+/ 146.64- repeaters (PLs 100.0)
K9MLD-R	Ironwood	319316	146.805- repeater
KC8QZG-L	Newberry	240336	146.61- repeater

## IRLP IN THE U.P.

Very similar to Echolink, just using a slightly different protocol, is available in the Eastern U.P.

Callsign	Location	Node	Comments
VE3KD	Soo, Ontario	2330	147.06+ repeater



## UPPER PENINSULA SKYWARN

<http://kcra-mi.net/skywarn/>

- **Live Radar and Satellite Images**
- **Severe Weather Warning Maps**
- **Current Conditions and Forecasts**
- **Learn How to Submit Your Observation**
- **OnDemand Spotter Training**
- **NWS Spotter Training Schedules**
- **APRS Weather Station Construction**
- **U.P. Wide Email Discussion List**

SKYWARN is a concept developed in the early 1970s that was intended to promote a cooperative effort between the National Weather Service and communities. The emphasis of the effort is often focused on the storm spotter, an individual who takes a position near their community and reports wind gusts, hail size, rainfall, and cloud formations that could signal a developing tornado. Another part of SKYWARN is the receipt and effective distribution of National Weather Service information.

The organization of spotters and the distribution of warning information may lie with the National Weather Service or with an emergency management agency within the community. This agency could be a police or fire department, or often is an emergency management/service group (what people might still think of as civil defense groups). This varies across the country however, with local national weather service offices taking the lead in some locations, while emergency management takes the lead in other areas.

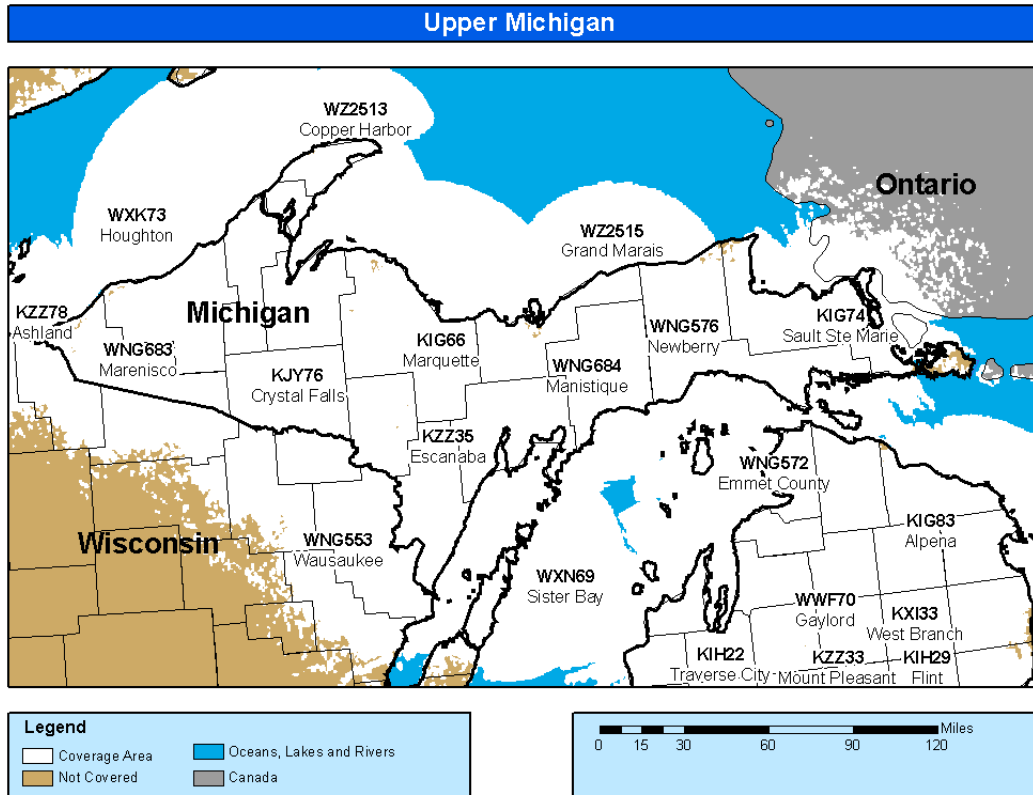
SKYWARN is not a club or organization, however, in some areas where Emergency Management programs do not perform the function, people have organized SKYWARN groups that work independent of a parent government agency and feed valuable information to the National Weather Service. While this provides the radar meteorologist with much needed input, the circuit is not complete if the information does not reach those who can activate sirens or local broadcast systems.

SKYWARN spotters are not by definition "Storm Chasers". While their functions and methods are similar, the spotter stays close to home and usually has ties to a local agency. Storm chasers often cover hundreds of miles a day. The term Storm Chaser covers a wide variety of people. Some are meteorologists doing specific research or are gathering basic information (like video) for training and comparison to radar data. Others chase storms to provide live information for the media, and others simply do it for the thrill. Many amateur radio operators are key trained weather observers who report their local conditions to a Skywarn net controller on an amateur radio repeater. This information is then relayed to the local NOAA field office meteorologist.



# National Weather Service

## NOAA Weather Radio



SITE NAME	CALLSIGN	FREQ (MHz)	WATTS	<a href="#">NWS PROGRAMMING OFFICE</a>
Copper Harbor	WZ2513	162.5	100	MARQUETTE, MI
Crystal Falls	KJY76	162.475	1000	MARQUETTE, MI
Escanaba	KZZ35	162.5	1000	MARQUETTE, MI
Grand Marais	WZ2515	162.425	100	MARQUETTE, MI
Houghton	WXK73	162.4	1000	MARQUETTE, MI
Manistique	WNG684	162.525	300	MARQUETTE, MI
Marenisco	WNG683	162.55	300	MARQUETTE, MI
Marquette	KIG66	162.55	300	MARQUETTE, MI
Newberry	WNG576	162.45	300	MARQUETTE, MI
Sault Ste Marie	KIG74	162.55	1000	NORTH CENTRAL LOWER MI

**THE MICHIGAN PENAL CODE (EXCERPT)**

**Act 328 of 1931**

\*\*\*\*\* 750.508.amended THIS AMENDED SECTION IS EFFECTIVE MAY 31, 2006 \*\*\*\*\*

**750.508.amended Equipping vehicle with radio able to receive signals on frequencies assigned for police or certain other purposes; violation; penalties; radar detectors not applicable.**

Sec. 508. (1) A person who has been convicted of 1 or more felonies during the preceding 5 years shall not carry or have in his or her possession a radio receiving set that will receive signals sent on a frequency assigned by the federal communications commission of the United States for police or other law enforcement, fire fighting, emergency medical, federal, state, or local corrections, or homeland security purposes. This subsection does not apply to a person who is licensed as an amateur radio operator by the federal communications commission. A person who violates this subsection is guilty of a misdemeanor punishable by imprisonment for not more than 1 year or a fine of not more than \$1,000.00, or both.

(2) A person shall not carry or have in his or her possession in the commission or attempted commission of a crime a radio receiving set that will receive signals sent on a frequency assigned by the federal communications commission of the United States for police or other law enforcement, fire fighting, emergency medical, federal, state, or local corrections, or homeland security purposes. A person who violates this subsection is guilty of a crime as follows:

(a) If this subsection is violated in the commission or attempted commission of a misdemeanor punishable by a maximum term of imprisonment of at least 93 days but less than 1 year, the person is guilty of a misdemeanor punishable by imprisonment for not more than 1 year or a fine of not more than \$1,000.00, or both.

(b) If this subsection is violated in the commission or attempted commission of a misdemeanor or felony punishable by a maximum term of imprisonment of 1 year or more, the person is guilty of a felony punishable by imprisonment for not more than 2 years or a fine of not more than \$2,000.00, or both.

(3) Subsection (2) does not apply to a person who carries or has in his or her possession a radio receiving set described in subsection (2) in the commission or attempted commission of a misdemeanor punishable by a maximum term of imprisonment of less than 93 days.

(4) This section does not apply to the use of radar detectors.

**History:** 1931, Act 328, Eff. Sept. 18, 1931;—Am. 1939, Act 295, Eff. Sept. 29, 1939;—CL 1948, 750.508;—Am. 1957, Act 242,

Eff. Sept. 27, 1957;—Am. 1990, Act 77, Imd. Eff. May 24, 1990;—Am. 2002, Act 672, Eff. Mar. 31, 2003;—Am. 2006, Act 39, Eff.

May 31, 2006.

**Constitutionality:** This section, which prohibits equipping or using a vehicle with a radio receiving set capable of receiving frequencies assigned for police purposes, was enacted to facilitate law enforcement activity. This section's restriction of persons permitted to monitor those frequencies involves classifications which are rationally related to the statute's objective, consistent with equal protection and due process guarantees. *People v. Gilbert*, 414 Mich. 191, 324 N.W.2d 834 (1982).

**Former law:** See section 5 of Act 152 of 1929, being CL 1929, § 578.

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