



# THE RARA RAG

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## February Meeting: *Hartley, Colpitts and Pierce, Oh My!*

By Bill Marinucci, WB2GHC

The title of this article sounds like it might be the name of a law firm, or that of an accounting agency. Actually, Mr. Hartley, Mr. Colpitts, and Mr. Pierce are known for their involvement in developing radio circuits, specifically, oscillators. Each of these gentlemen has an oscillator named after them. Each oscillator is somewhat different, and they are the forerunners to the very sophisticated oscillators used in ham radio designs today.

Over the past few months, I have heard a great deal of enthusiastic activity on the 145.11 MHz repeater (WR2AHL, Bristol, NY) involving several local hams. W2LB (Larry), N8YG (Brad), AG2M (George), W3OAB (John), Pete (WB2UAQ) and a host of others talking about their projects...building a 1929 Hartley oscillator with period parts, then getting it on the air. Their conversation ranged from circuit design, finding the components, homebrewing it, debugging it (plenty of activity here), getting it on the air, more debugging, and having a ball working other stations with similar rigs. They had a reason to do this: to take part in the Bruce Kelly, W2ICE (SK) Memorial 1929 Contest.

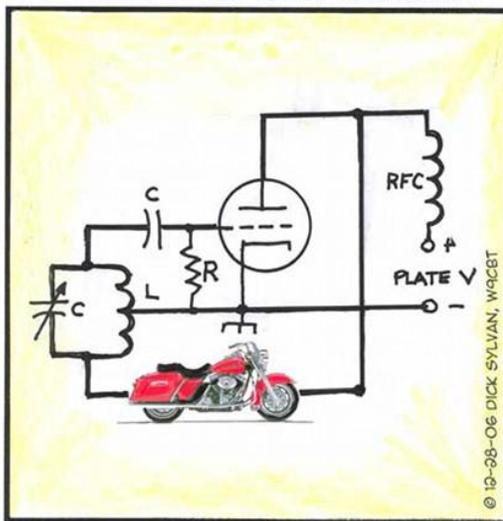
I looked forward to monitoring their conversations and hearing about how things were progressing throughout all phases of the project. It became a nightly activity for me to listen to. I felt like I was part of the project as well!

Their projects involved so many aspects of ham radio...electronic theory, homebrewing, debugging, getting on the air, CW, QRP QSOs, DXing, contesting, and just plain old ham radio fun.

Our February program is centered around this project, and should be enlightening as well as entertaining. Thanks guys for accepting the invitation and for putting together a presentation on your old-time adventures.

P.S.: Our program is not to be confused with the following oscillator circuit:

### HAM QUIPS BY DICK SYLVAN W9CBT



HARLEY OSCILLATOR CIRCUIT

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(<http://www.k9ya.org>)

## This month in the RaRa RAG...

Meeting Topic .....	1
Prez Sez .....	2
Calendar of Events .....	2
Letter from the Editor .....	3
VE News .....	3
Ham Tech: GlobalQSL.....	4
Member Spotlight.....	5
RaRa Academy.....	9
Raffle Prizes!.....	9
Picture Puzzler.....	10
Between the Ham Bands .....	11
RaRa Online .....	12
RARA at the RMSC .....	13
Scanner Listening .....	15
MC RACES / ARES News ....	19
RDXA News .....	19
RaRa 20 Years Ago.....	20
RaRa Officers .....	21
Area Club Contacts.....	21
Directions to Meeting .....	21

## RARA Meeting Feb. 4th, 2011 7:30PM

Henrietta Fire Co. #1  
3129 East Henrietta Rd. (15A)

Presenting:  
Early Amateur Transmitters



## The Prez Sez

By Frank Schramm, WB2PYD  
President, RaRa

It was great to see so many new faces at the meeting on Jan 7<sup>th</sup>. By a show of hands we had 12 people for whom it was their first RaRa meeting. Out of a total attendance of 95, that's over 12%. WELCOME one and all! Remember: Anyone is welcome to attend our meetings, member or not, on the first Friday of each month (September through May); the next meeting is on February 4<sup>th</sup>. Directions to the meeting venue are available on the very last page of this newsletter.

For those of you who have not been to a monthly RaRa meeting yet; let me describe what you can expect: For the first 20 to 30 minutes we share and discuss the happenings in the Amateur community. Then we spend 30 minutes having refreshments of assorted beverages and donuts. This is a great opportunity to make an eyeball contact with people you've spoken to on the air, meet new hams, or even seek assistance on a technical issue. After refreshments, we all sit down to enjoy our presentation of the evening. You'll notice that there is no "business" or other boring and mundane wastes of your time. The objectives for our monthly meetings are Entertainment, Education, and Socialization. "Come meet old friends at RaRa – Come make NEW friends at RaRa." I hope more of you make the time to join us and remember: "The coffee is always hot and the donuts are always fresh!"

The Board of Directors is constantly seeking new ways to provide you with reasons to belong to and participate in RaRa. Seeing the membership rolls grow to over 600; having 80, 90, or more people attend monthly gatherings; and the ever increasing attendance at members only social functions like the summer picnic, and winter cabin party are good indications that we're on the right track. We also have objectives and responsibilities to serve the community. While our Public Service communications efforts are par none; we realize there is so much more to do. Some new highlights to look forward to in 2011 include plans to participate in various local, and regional, festivals and events to promote public awareness of Amateur Radio. We are also very proud and excited to be laying the groundwork for our first charitable event, this fall, to benefit the Shriners Children's Hospitals.

Undoubtedly the highlight of the RaRa event calendar is our annual Hamfest, drawing thousands of attendees from near and far. The Hamfest production team has reconvened and is hard at work preparing for the June 4<sup>th</sup> event at our Hamfest site at Barnard Park, the same venue as last year. General admission and flea market vending is FREE to current RaRa members – just one more benefit of membership. So check your membership card and be sure the expiration date says 2011. If you need to join or renew, visit our website at [www.rochesterham.com](http://www.rochesterham.com) or see us at the club meeting.

It seems like a great time to be a member of RaRa – I hope you agree.

73,  
Frank  
WB2PYD

## Calendar of Events

- Feb 4** RaRa General Meeting – 7:30 PM  
Henrietta Fire Hall,  
3129 E. Henrietta Rd
- Feb 9** RaRa Board of Directors  
5:30 PM, RIT  
Bldg-17, Room 2110
- Feb 19** RaRa VE Testing sessions  
10:00 AM, RIT  
Bldg-9, Room 3139



## Silent Key

Don C. Partis, WA2AIV  
January 1, 2011

## Rag-Chew

Editor's Thoughts & Comments  
By Kevin Carey, WB2QMY  
[Editor@RochesterHam.org](mailto:Editor@RochesterHam.org)

Welcome to another issue of the *RARA Rag*. I don't have a lot to share this time so I'll keep this space to a minimum! You'll notice that we have a full lineup of articles—hopefully many will be of interest to you. A special treat is Ed Gable's *20 Years Ago* column, which also includes an installment of *40 Years Ago*. As I mentioned to Ed, this makes me feel younger, as I'm once again reading about things I didn't experience firsthand! This is no longer the case for the *20 Years Ago* column, though I always find that interesting, as well.



We are very pleased to welcome aboard a new advertiser, Light Beam Antenna & Apparatus, LLC. Be sure to check their website for information on some very interesting HF antennas. And just where are these antennas made? Canandaigua, NY!

For a future issue, I'd like to invite our readers to share their favorite hamfest memories. Perhaps you recall a favorite rig you bought at a hamfest, or met a ham friend for the first time in person. Maybe you passed a license test with flying colors and got on 2 meters for the first time on the way home. Whether recent or many years ago, we welcome your recollections for future articles in the *Rag*. No experience in writing articles? Don't worry; we're here to help you get it ready for publication. *73, and best DX!*

## VE News

By Ken Hall, W2KRH  
VE Team Leader

The RARA VE Team session was held on Dec 18<sup>th</sup>. We had eight candidates who successfully passed two Technician, four General and two Extra exams.

<u>Name</u>	<u>Callsign</u>	<u>Class</u>
Wayne Arthurton	KC2ZPO	T
Clark Jillson	KC2ZPQ	T
Vincent Burolla	KC2ZPP	G
James Empey	KB2CIC	G
Jay Golden	KC2YST	G
Scott Stamback	N2JGP	G
David Bushinsky	N2PRG	E
James Sweet	KB2MJE	E

Ten members of the VE team assisted with the testing. The next exam session will be at RIT on **January 19, 2011** at 10 AM in RIT Building 9, Room 3139.

[\(click for map\)](#)

Registration starts at 10:00AM. Check the [RARA website](#) for additional information.





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# Ham Tech: GlobalQSL

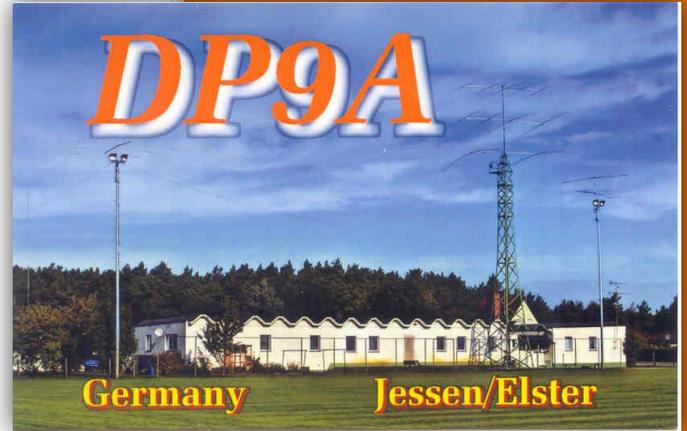
By Duane Fregoe, K2SI

Anyone who likes chasing DX awards and confirming contacts can appreciate how long it takes to assemble 300 QSL cards and send them to the Bureau. There is the writer's cramp from entering all the contact information on each card. Those with electronic logs have hopefully found a label-printing program that will print the labels with all the contact information. The final step is to sort them before mailing so the ARRL Bureau can process them quickly.

If you currently use an electronic logbook that can create ADIF files there is an easier way. Take a look at [www.globalqsl.com](http://www.globalqsl.com) for a new and exciting way to confirm contacts and chase awards. All you need to do is create a free account on their website. They will send you information on how to get started with the QSL Card designer program. Design your card and upload it back to the GlobalQSL website. The next thing to do is start scanning your electronic logbook for all the bands and modes you need confirmed for each entity. Create an ADIF of the selected contacts and upload that file to the GlobalQSL website. The cost to have printed 1,000 double-sided QSL cards along with the contact information and sent directly to the appropriate DX Bureaus is less than \$.10 per card. 100 cards is only \$12.50. Order a specific number of cards for your account and use them when you send in each log file of your DX contacts.

No more printing your own cards and labels. No more big envelopes and postage to send the cards to the ARRL Outgoing Bureau. No more processing cost by the ARRL Outgoing Bureau. It's almost like having your own outgoing QSL manager. Confirming response cards will come to you via the Incoming Bureau. Check the cards that you have received in the past 12 months and you may see some GlobalQSL cards in your collection.

*Next month: Fast Log Entry*



*Cards Received via GlobalQSL*

**DP9A**

DOK : Y37  
Locator : JO61LS  
CQ : 14  
ITU : 28

Club: DL0JE  
C/O :  
DK4WA  
Andreas Winter  
Muehlweg 5  
D-06917 Jessen  
Germany  
QSL via bureau

To Radio: **K2SI**  
Via:  
CFM 2 way QSO(s)

D/M/Y	UTC	BAND	MODE	RST	QSL
14 Nov 09	15:36'	15M	RTTY	599'	pse
14 Nov 09	21:41'	40M	RTTY	599'	pse
14 Nov 09	11:50'	20M	RTTY	599'	pse

WWW.GLOBALQSL.COM

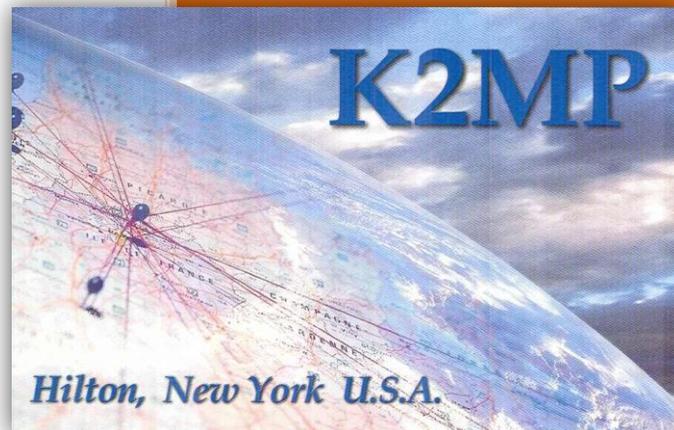
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ken@chairmkr.com  
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by a craftsman trained at  
The Windsor Institute.

## Member Spotlight: Ed Gable, K2MP

By Len Crellin, KC2PCD

Welcome to another edition of Member Spotlight. Each month we will try to present a new RARA member to highlight. If you have someone you think would be interesting for us to interview, please send me, Len Crellin ([kc2pcd@rochester.rr.com](mailto:kc2pcd@rochester.rr.com)), his or her name with a short introduction that we can include in the interview. Any photos or stories we can use will be appreciated too!

Our Ham of the month of February is Ed Gable, K2MP. Ed is certainly no stranger to this area's Ham community, but I think many of you will learn some new things about Ed. I must admit that being rather new to the amateur world I knew Ed as our auctioneer and that he was deeply involved with the AWA. It was great to hear so many new parts of his life. May we all have such a rich and rewarding journey. Here is a conversation with an outstanding ham I am proud to know: Ed Gable, K2MP.



QSL card of Ed Gable, K2MP

### 1. Ed, what got you interested in Ham Radio?

Well, Len, that's an interesting story. I'll try to be brief. As a wee bit of a lad I was attending a church bazaar sale with my Mom and spotted an old Silvertone console radio. I bugged her until she came forth with the two-dollar price and we brought it home. It didn't work, but much to everyone's surprise I fixed it and discovered the world of shortwave listening. One evening I turned the dial into an area with no broadcast stations and heard these people talking, just chatting away. I asked my Dad what I was hearing and he said those were ham radio operators and, knowing my interest in radio, said that he would take me to meet one.

That weekend we made the short trip to North Chili and met a man with a big booming voice and a very large, black, floor mounted transmitter with glowing windows and lots of meters. I was mesmerized. After a show and tell of the station the ham invited us to see some antique radios he had in his backyard barn. The barn was the first location of the *Antique Wireless Museum* and the ham was Bruce Kelley, W2ICE. That was the start of a 40-year friendship. Later, while in Hilton High School, I became aware of a chap who ran a radio and TV shop in town who was also a ham. That was Paul Rood, W2TQB, my first real Elmer who not only taught me ham radio, but also the radio/TV repair business that provided a lot of part time income through my school and college years.

### 2. That's interesting on how you met Bruce Kelley so many years ago. I know you took over for him as Curator of that museum many years later, making that chance meeting a unique happening. Tell me, Ed, how long have you been licensed?

I got my Novice ticket in 1957, working with a pal in high school, and got the call WN2MPM. Unlike a lot of hams, I really enjoyed my Novice days and worked mostly 40 meters with my only crystal on 7190 kcs. My first transmitter was a homebrew 6L6 and I had a surplus Navy RAO receiver my Dad bought out of the *Kodakery*. I earned my General class ticket in a short time, the code came easy to me, and got on 75 meter AM. My very first contact ever on phone was with the infamous "no lids, no kids, no space cadets" operator, W2OY. From that time I have always been on the air. I had a rig in dorm rooms, I was active as I1DFD while stationed in Italy with the Army and had indoor wire antennas in my first apartment... there was always a way to make a QSO. I took the FCC Extra test in 1977, and selected the shortened call of K2MP. I also have

an FCC Commercial ticket allowing some two-way radio and Marine radio servicing in the past.

**3. Wow, 54 years of active hamming. With all of that experience what is your favorite activity within the hobby?**

Oh gosh, Len, were gonna run out of space and our *Rag* Editor is going to need a big eraser, but here goes... Len, a hallmark of my ham career has been versatility and trying new things. I'm not a super star at anything, but I dabbled in it all. I have had QSOs on CW, AM, RTTY, SSB, FM, SSTV, PSK-xx, Satellite, Aurora, Meteor bursts, PACKET, HELL, OLIVIA, MT63, THROB and on ham bands of 1.8 MHz thru 1.2 GHz. Right now I'm mostly DXing. I'm on the DXCC Honor Roll and have worked all DXCC entities but still need a valid card from Crozet to be on top of the Honor Roll. I have 9 band DXCC, DX Challenge award, DXCC on phone, CW and RTTY, was awarded the RDXA KE2WK DXer of the year award, I have the ARRL Satellite DX Achievement award and probably a few others.

I used to do a lot of VHF work but when moving to the current QTH I only put up a HF + 6 meter tower. I have 50 MHz WAS, that took 24 years to complete, mostly back in the 60's, VUCC, ARRL 6-meter 600 Club Award, etc. I did a lot of traffic handling early in my career on 75-meter phone nets, some VHF FM and in Army MARS as AAR2FH. Army MARS was particularly satisfying when during the first Christmas Holiday of *Operation Desert Storm*, a group of fellow Harris/RF employees set up a direct packet link and handled (I'll never forget the number) 12,621 pieces of formal traffic for the GI's. Also satisfying was handling of weekly phone patch traffic for a medical missionary in the mountains of HI8 land to her sponsoring church in Rochester. I still have a working HF phone patch set up but it gets precious little use now days. In the early to late 70's the Field Day group *band-dit-dahs* using K2MP (because I had the only SSB radio and an Extra Class Ticket) was a constant high scorer and even grabbed first place, 3A, in the Division one year. We hotly competed with Gos's Geeks (Dick Goslee K2VCZ/KG2I) (or was that Gos's Gang ?) in 3A and had an annual bet of a case of beer on the line. We probably ran pretty even over the years... maybe the Geeks pulled off a few more wins, I forget! Len, my favorite mode is CW, but the onset of arthritis in my advancing years has made sending via a paddle difficult and sometime embarrassing. I can barely manipulate a straight key now and that was once a source of pride and joy to rip off nicely formed and spaced characters. I see a keyboard in the future so we'll keep going.

**4. Sorry about the arthritis Ed, but you sure have had a long ham career and wide variety of experiences. Ed, I know you're a past RaRa President and Life member of RaRa. Tell the readers more about your RaRa positions, committees and those in other organizations as well.**

OK, Len. I was on the RaRa Board starting in 1974, and was elected President in 1977. I've held a few committee positions including that of hamfest ticket chairman, I was on the TVI committee, RACES and ARES committees where I held Assistant Radio Officer positions, the technical committee for club station K2JD, several project leadership positions for public service events, especially the popular Hamlin Beach Triathlon. I'm especially proud of my ten years with RaRa's Code and theory classes, the last three years as Chairman. I taught the General and Technician



*Ed Gable, K2MP in action at the RARA Auction*

class theory for ten years, two sessions a year, with fifty+ students per class during the hey day of the classes. That's some 1,000 students that I helped pass their test and enter the fold.

Today, 20 years later, I still have people stop and say thanks. RaRa has a long history of support of the ARRL and my work was recognized by ARRL Director Hugh Turnbull who named me an ARRL Atlantic Division Assistant Director, a position I still hold. I've held positions in all of the Rochester amateur organizations with the exception of RAPS. I was twice chairman and once Secretary of the Rochester VHF Group, Secretary/Treasurer of the Rochester DX Association, and Secretary and Chairman of the Rochester Radio Repeater Association. I firmly believe, and practice, that you should give back to people and organizations that help you along the way. As such I was always eager to jump in and help out where required. Those efforts were recognized by my being named Atlantic Division Amateur of the Year, twice, for years 1981 and 1999.

Sitting here at the keyboard and remembering RaRa, it comes to mind that I have been writing for the *RaRa Rag* for many years. I'd have to dig back in the files to be exact, but I'm pretty sure I have had an article in every single RaRa Rag for the last 45 years. I think that's a record and represents the demise of two typewriters and three computers. As far as other organizations, I sit on the Board of Directors for the *Hammond Museum of Radio* in Guelph, Ontario Canada, and just recently I was inducted as a Fellow in the world's oldest Radio Club, *The Radio Club of America*.

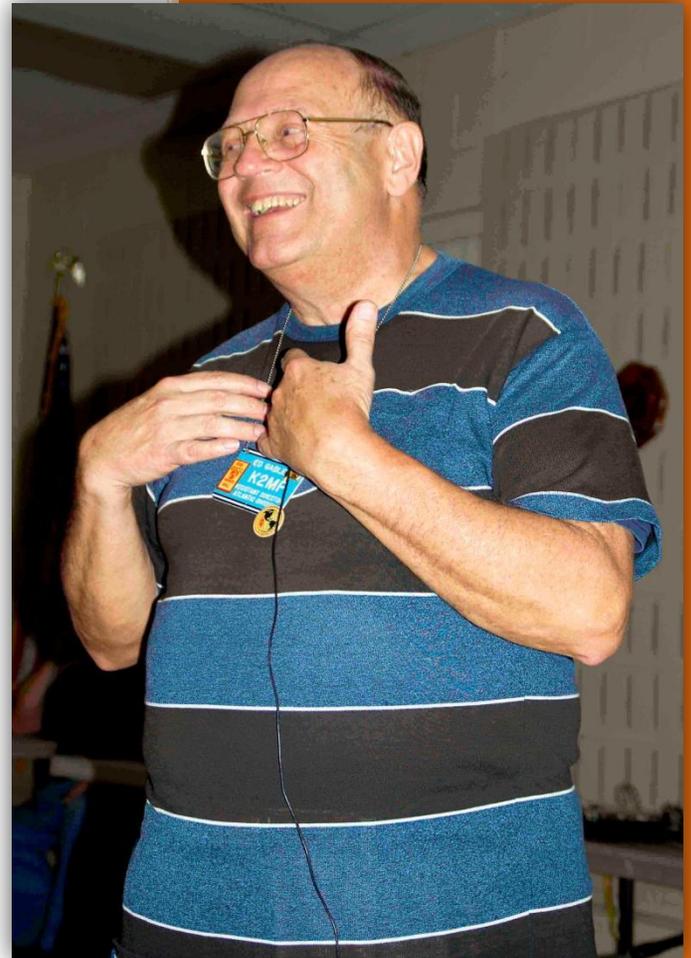
**5. Ed, the Rochester Amateur Radio community is better off for your efforts and contributions. Have you always been a Rochester resident, or are you a transplant?**

I was born and raised here, did all of my schooling here at MCC, RIT and St. John Fisher and my entire working career was here. So, I guess the answer is yes; I'm a Rochester area native, but always a West-sider.

**6. Being a lifelong native, your work must have been local. Did it involve radio and technology?**

Yes, it sure did. After Army duties I immediately joined an almost new company, RF communications. Boy, talk about the right place at the right time. My first years were in the design lab working on kilowatt HF transmitters...and they paid me for doing that! I spent 32 years there in varying management positions in Test Engineering, Production and QC/QA. Harris/RF was a wonderful place to work, was greatly managed and offered lots of opportunity and benefits including paid advanced education which I took advantage of a lot.

With a full 401(k) from Harris/RF and an opportunity, I took an early retirement and started my own consulting company on the then latest industry buzzword, ISO-9000. I became a certified system Lead Auditor and immediately had more business than I needed. During all of that I was busily active with the Antique Wireless Association Museum and became the museum Curator in 1997, after the passing of Bruce Kelley, W2ICE. I retired from that position (my 3<sup>rd</sup> retirement) in November of 2009. I'm now fully retired, although for some reason I still spend two days a week volunteering on AWA business. Funny how that works!



*Ed Gable, K2MP presenting at a RARA meeting*

**7. Now that you're retired, are there any other hobbies or interests in the future?**

I've always been kind of a gearhead. I've been a member of the Hilton *Carb Kings* Auto club (yeh, black satin jackets and the whole bit) since 1957, the same length of time I've been a ham. My first ride was a '52 Chevy with dual Stromberg 97's and a split exhaust. (High five to those who recognize S97's). I've been driving Corvettes for 30 years or more and my current ride is a standard C6 coupe with 400 hp and a paddle shifting 6 speed.

I'm also a book collector specializing in boy's books of 1900 to 1920. I have a complete set of Tom Swift, Hardy Boys and, of course, Radio Boys. I also enjoy collecting Lighthouses. They're hard to move, so I'm happy enough to visit lighthouses and document my visits on film. I've seen lighthouses on both coasts of the US and many on the Great Lakes, but there are many more to go. Lighthouse trips in the Vett...it hardly gets any better.

**8. I don't hear you on local repeaters very much, which do you frequent?**

I guess you're right, Len, I don't get on repeaters very much, especially to just chat. The local repeaters are a wonderful service and the owner/operators deserve a lot of credit and thanks. In the early days I was quite active on them. I still have my special FCC license to operate a 222 MHz link transmitter to control the early WR2ABQ 28/88 repeater. I remember working at the very top of the Kodak Office building installing the 28/88 repeater with Ron Jakubowski, K2RJ, and Joe Hood, K2YA. Those were cutting edge days of repeaters. I use .48 simplex for chatting with locals and monitor 145.11 while in the car.

**9. Is there anything else you would like to share?**

Yes there is, Len, thank you for the opportunity. Having been an active RaRa member for fifty years, I have witnessed and been part of a lot of history-making events in the local Radio Amateur community. Some would say the heyday of RaRa is past, that ham radio is changing and Amateurs no longer need a central club. I say no! When I was a young lad growing up in Hilton with my Silvertone radio, I had no clue that a radio club like RaRa existed at a time when I needed it most. Thank heavens I found a good Elmer, but what if I didn't... you wouldn't be reading this today and I would be a mechanic working on 52 Chevies. I'm proud of RaRa and its activities and in its new cadre' of leaders. These are leaders who lead differently than I did, or would have, but effectively leading nonetheless in today's changing world. Congratulations to you all and keep up the good work. 73, Ed, K2MP

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## Another RARA Academy: Join Us!

By Duane Fregoe, K2SI

RARA Academy #2 is being planned for February 12, 2011. For this Academy there will be a presentation on APRS. Automatic Packet Reporting System is widely used in many of our public service events to locate vehicles during the event. The presentation will show what is required and how easy it is to set up a radio for APRS. Another presentation will be on Echolink. Echolink is VOIP form of communication for the amateur radio community. Echolink is run on your computer, iPhone, iPod touch, or any Android phone. The final presentation will be on 6-meter operation. Six meters can be a lot of fun when the band is open and a Technician class license is good for full access. The Academy will be at RIT and start at 9:00AM. Visit the RARA website ([www.rochesterham.org](http://www.rochesterham.org)) for a flyer with complete details.

## Raffle Prizes!

By Dan & Sue Waterstraat, W2DEW & KC2SUE,  
Awards Chairpersons

CW ops will love this prize to be given away at the next RARA meeting: A new-old-stock, new-in-the-box, Russian CW key! This was made for the military so it's built heavy duty. It has a hinged cover over the mechanism and a built-in RFI filter. A four-screw terminal strip makes the key connections. You can bypass the filter if desired. This key also has a built-in mounting base. Keys just like this were probably used to tap out cold war messages.

For those times when the power goes out, we have a Coleman LED Micro Lantern. This has bright, white LEDs and runs up to 125 hours on three AA batteries. This is a compact light with a hang-up loop and also works well as cordless trouble light.

For our third prize, we're starting something new this month. We're setting up a "Raffle Grab Bag" (well, actually a tote bin) that will have a number prizes in it such as a digital multimeter, antenna insulators, books, and other useful stuff. You'll be able to pick one prize out of the Grab Bag if the other raffle prizes don't interest you. Raffle tickets are 1 for \$1, 3 for \$2, and 10 for \$5. Stop by the raffle table to see what we've got.  
73, Sue and Dan.

## RaRa Club LOGO Items



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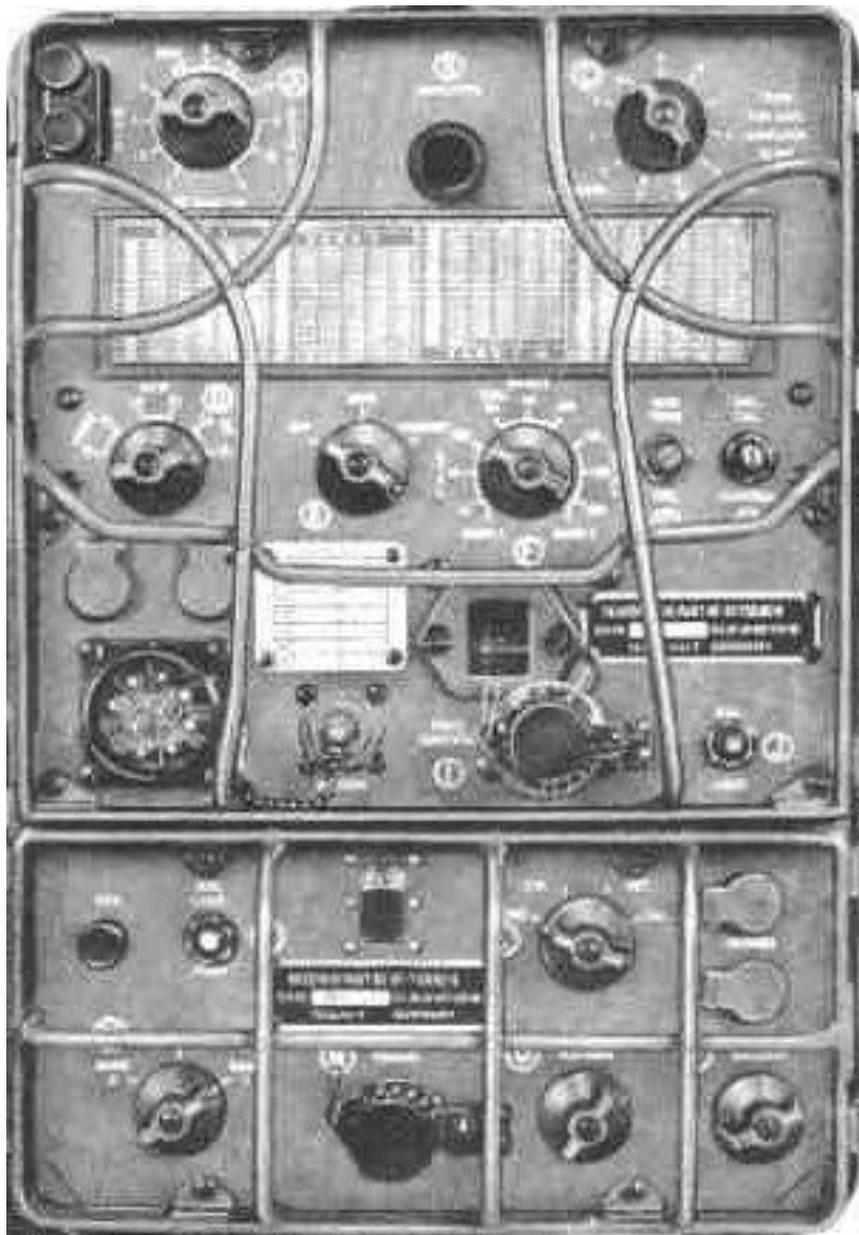
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## Picture Puzzler

By Kevin Carey, WB2QMY

Last month we featured a photo of a device built on a pine board with a single tube, large coil, and a variable capacitor. My congratulations to the following readers who correctly guessed that this was an old-time transmitter (1929 vintage) for use in Antique Wireless Association operating events: Tim Barrett (K9VB), Don Kiser (AC2EV), George Haupt (AG2M), and George Masny (KA2GPJ). Not all correctly guessed that this was a TNT (Tuned-Not Tuned) circuit, but that's pretty hard to tell from a just a picture! The transmitter was built by me in 1995, with help from Bruce Kelley, W2ICE (SK).

Our new mystery for this month is pictured below. Guess what this item is, and send your answers to me at [Editor@RochesterHam.org](mailto:Editor@RochesterHam.org). All correct guessers will be recognized in the next issue of the *RARA Rag*.



## Web Outtakes

### Tower Climbing Video

Ever wonder what it's like to be on a tower 1739 feet (530 meters) in the air? Check this video...it may not be possible to watch it without getting sweaty palms! Wait for the short cartoon intro to finish, and then hold on to your seat!

[www.liveleak.com/e/07b\\_1284580365](http://www.liveleak.com/e/07b_1284580365)

—Tnx Jay Golden, KC2YST and Frank Schramm, WB2PYD

### Ham Radio, 1939 Style

Fans of the "Hardy Boys" will enjoy this 1939 video clip:

[www.youtube.com/watch?v=CJclDxOTtYE&feature=related](http://www.youtube.com/watch?v=CJclDxOTtYE&feature=related)

—Tnx Jim Hastings, W2RFM

*Mystery Photo: Be the first to guess what this is, roughly when it was made, and be recognized in the next RARA Rag!*

## Between the Ham Bands

Jay Golden, KC2YST

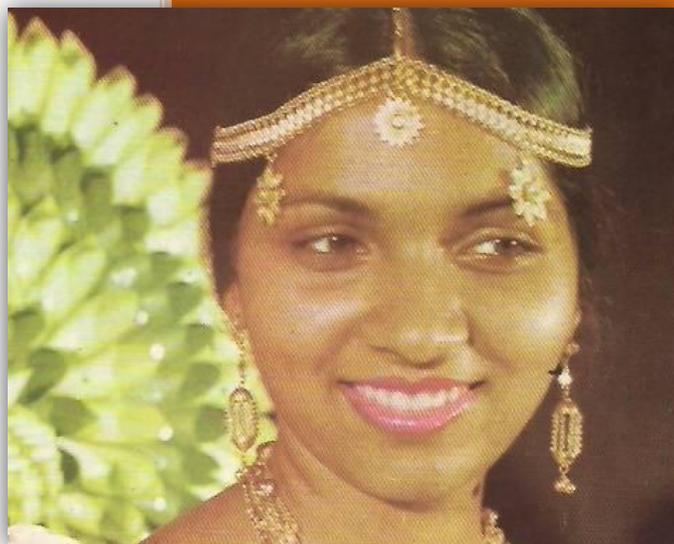
Winter is the season when propagation provides us with the year's best opportunities to catch those otherwise elusive broadcasters in Asia and the Pacific basin on the 120-meter band. We East Coast listeners can enjoy copying stations in Australia and Indonesia in the early morning, usually beginning around 0900Z and continuing until about 1300Z, when the "grey line" (the darkness-daylight line) moves eastward and the Australian and Indonesian stations then are in full daylight. Although Australian stations are government-owned and somewhat powerful (50 kW), their signals don't often hurdle over the grey line. An example of an Australian broadcaster frequently audible in eastern North America around 1100Z is ABC Northern Territory on 2325.

The Indonesian broadcasters typically emit only 10 kW at most, and regional stations are even smaller, hence, their appeal as DX catches. The Indonesian stations are usually found in the 90-meter band; their music is wonderful. Radio East New Britain is heard on 3385 around 1200Z, and Radio Milne Bay is found on 3365 about the same time.

As many DXers know, the 90-meter band, and the 75 and 60-meter bands, are the "tropical" bands, and winter evenings offer the greatest likelihood of hearing stations located between the Tropics of Cancer and Capricorn. These bands have been reserved for local broadcasters, many of whom serve audiences in remote areas in their countries, which explains why they may not respond to your reception report with their QSL. The 90-meter band and the 75-meter band are the home of many privately owned Latin American stations, audible here beginning with darkness and, with the exception of Brazilian stations, disappearing by midnight. Brazilian stations can be heard until several hours after midnight here; a popular Brazilian easily copied on the east coast is Radio Brasil Central on 4985, heard in our part of the world at 0430Z. Because the Latin American and Brazilians are essentially due south of western New York, they are heard throughout the year. And on winter late afternoons it is possible to hear African stations on the 75 and 60-meter bands: Uganda is heard at 2000Z on 4975 (approximate: their signal wanders). If African stations are of interest, the 49, 31, and 25-meter bands are the places to check.

Summer thunderstorm activity in the Northern Hemisphere is an impediment to DXing, which partially explains why SWLs and hams eagerly await winter. Generally speaking, winter yields shorter days and longer periods of darkness during this period of less QRM. Daylight hours, regardless of season, are when the international broadcasters in Europe are able to punch through the QRM with their 100, 250, and 500 kW signals. This is not to say, however, that the situation changes when darkness falls, for with the daily disappearance of the sun those signals become clearer and QSB diminishes. Most of the powerhouse broadcasters, VOA included, have target audiences, and North America is a target for nearly every European state-owned broadcaster.

In recent years international broadcasters have begun leasing blocks of time on transmitters elsewhere rather than construct their own in their target



*Sri Lanka Broadcasting Corp. QSL*



*Radio New Zealand QSL*

areas; an example of this is China Radio International's daily program on the Canadian Broadcasting Corporation's Sackville, NB transmitter on 11885 at 1330Z. As a result of this practice, it isn't always possible to know the location of the transmission you're hearing.

A few English-language transmissions audible in our locale are as follows:

**All India Radio** at 2030Z on 7550 kHz

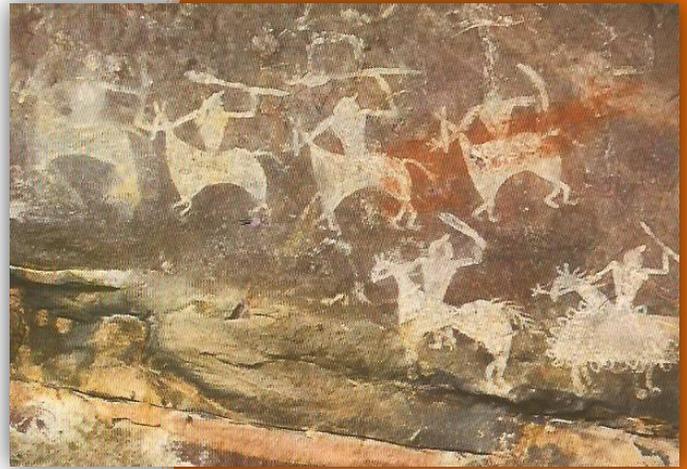
**Radio New Zealand** at 1000Z on 9765 kHz

**Sri Lanka Broadcasting Corporation** at 1530Z on 11905 kHz

**Radio Africa** from Equatorial Guinea at 1605Z on 15190 kHz

**Voice of Africa** from Libya at 1430Z on 21695 kHz.

Finally, the QSL cards shown with this article are from my SWL DXing collection. *Best DX!*



All India Radio QSL

## Visit the RaRa website

Did you know that your club's website at [www.rochesterham.org](http://www.rochesterham.org) offers these features and more?...

- ✓ Photos of meetings & events (you might be in there!)
- ✓ Info on upcoming meetings/programs
- ✓ 2011 Hamfest information!
- ✓ Online membership & renewal
- ✓ Public service info & sign-up
- ✓ VE testing info
- ✓ Back issues of the *Rag* in PDF
- ✓ Officer contact info
- ✓ List of past presidents (how many do you remember?)
- ✓ Order RARA logo products (hats, shirts, mugs)
- ✓ Useful Internet links
- ✓ Ham Radio 101—tons of tutorial info, plus net & repeater listings

**Rochester Amateur Radio Association, Inc.**

**RARA**  **Rochester HAMFEST**

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Upcoming Meetings

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The **Rochester Amateur Radio Association, Inc. (RARA)** is a widely diversified, highly active amateur radio club centered in the Rochester, NY area. We were founded in 1930, and incorporated in September of 1960. Currently with over 575 active members, we are one of the largest Amateur Radio clubs in North America; attracting international members from near and far.

We are an American Radio Relay League (ARRL) affiliated club since 1931, and a charter Special Service Organization, **RARA** provides a unifying focal point for much of the amateur radio activity in Western New York.

**New at RARA on the web:**

- RARA Academy - Download the flyer and RSVP TODAY!
- New: Updated Rochester area Repeater Listing
- Fall program listing updated.
- Fall Licensing courses - Register now!
- Newest photo gallery posted. Have some fun. Make your own comments and captions!

# Hands-on Ham Radio Exhibit at RMSC

By Peter Fournia, W2SKY

*Editor's note: This is the first of two articles submitted for the RMSC event. Read both for an informative overview of this fun Special Event. The second write-up follows this one –K.C.*

This was our 14<sup>th</sup> year at the Holiday Science and Technology Exhibit at Rochester Museum and Science Center. We operated for three days following Christmas. It went well. RARA led the hands-on displays and RDXA led the HF station. Some of the hands-on exhibits were upgraded this year thanks to Ev Tupis W2EV, Peter Schuch WB2UAQ and Jon Dickason N2JAC.

Ev's newest exhibit, and one of the most popular ones, looked like a solar-powered radio... but it wasn't a radio! A response typical of the onlookers came from a 10-year old boy. His response to the music coming from the small audio amplifier with attached solar cell: "Neat, a solar-powered radio!" "No", I responded. "That is an audio amplifier, not a radio." I challenged him with the question "Where is the music coming from?"

Perplexed by my comment, the boy grabbed the light unit shining onto the solar cell. He moved the light beam onto and off the cell. Music was turned on and off by the light. He examined the label on the audio amplifier. It read "Radio Shack Audio Amplifier"...definitely not a radio. Continuing his investigation he noticed a wire leading from the light shining onto the solar cell and traced it to my computer USB port. He also observed an audio file playing selections from Cher's "Believe" album with the animation dancing on the computer display

Now the expression on this face changed from inquiry to discovery. "Oh, I know!" he said. "The music is coming from that computer and is going through the light. The solar cell detects it and it comes out of that amplifier. That's neat!" I thought, wow, he actually used the word "detects".

"Yes, you got it", I said. His father who was observing was also impressed. "Wow, you mean you can actually put music onto that light?" I replied that it is common. Have you heard of fiber optics communication? The boy's 16-year old brother was equally impressed. "That's really cool", he said. The three of them left impressed with a new vision of ham radio.

And so it went with many people who viewed our hands-on display. Of course I end each enlightening experience with the comment that this is a display about ham radio. Hams have fun with all kinds of communications including radio and light, digital and analog. I point out the HF station beside us and suggest that they check it out. Many did.

Peter, WB2UAQ made some improvements to his display. It is a 40-meter oscillator with an inductively coupled tuner containing a strength indicator. Viewers can peak the indicator and hear the result on a nearby communications receiver. The tuner also responded to the RDXA HF station when they were transmitting.



Jon, N2JAC made a 3-cell lemon battery that powered a clock radio. Each lemon cell supplied 0.5 volts, which is enough to replace the 1.5v AA battery normally required by the clock radio. Surprisingly, many adults were familiar with lemon and potato batteries but it was a discovery with most children.

In addition to the above we had K2OID's pulsed motor, W3OAB's Morse Code machine, and W2SKY's computer running a satellite tracking program, digital mode sound files, and APRS. A simple crank generator and the magnetic levitation spindle left over from the radio coach program were also on display.

I greatly appreciate the people who scheduled their time for this exhibit. A schedule is extremely helpful because it lets us provide seamless coverage of our exhibit without overburdening the volunteers. The volunteers were: Lee Morelli WB2JOR, Tim Barrett K9VB, John Werner, KC2TNO, Zack Werner KC2VCM, Len Crellin KC2PCD, Bob Karz K2OID, Jon Dickason N2JAC, Peter Schuch WB2UAQ, Bill Hopkins AA2YV and Peter Fournia W2SKY. Of course the volunteers get quintuple benefits for helping out. The benefits are: 1) they are gratified by educating people about radio, 2) they are gratified by helping RARA and the hobby, 3) they get to see other RMSC displays in their off time, 4) they socialize and observe the RDXA HF operation, and finally 5) they get RARA volunteer points.



## RMSC Event

By Irv Goodman, AF2K

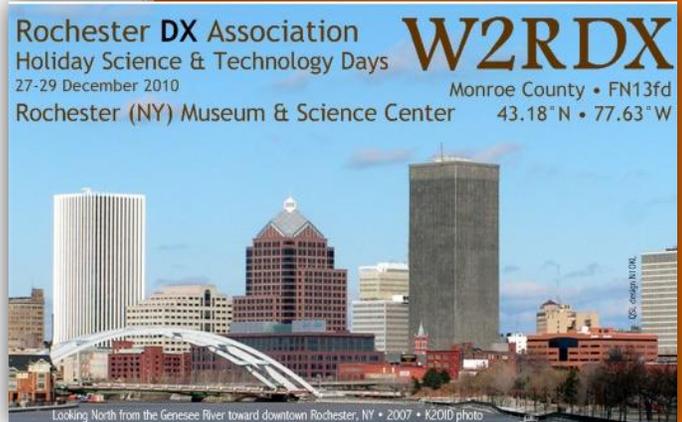
Once again, the Rochester Amateur Radio Association, Inc. and the Rochester DX Association, Inc. combined efforts to set up a ham radio station plus hands-on demonstrations at the Rochester Museum and Science Center's annual Holiday Science and Technology Days event. Our activity was for three days, Monday Dec. 27th to Wednesday Dec. 29th, of the four-day event.

The Kenwood TS-450S XCVR (Thanks Xerox ARC) and the G5RV antenna (Thanks N2BEG), 70-feet above ground on the roof, functioned perfectly. Total QSOs were 454, compared to 116 last year and 113 in 2008.

If you are in the log, and want one of our attractive custom QSL's with photo by K2OID and designed and furnished by N1OKL, be sure to send us your card along with an SASE to AF2K, QSL Manager. You can view photos of the event taken by N2YGG, W2FBS, W2SKY and AF2K. Check RDXA and RARA websites.

Grateful thanks and appreciation are hereby extended to the 22 dedicated volunteers listed below who provided equipment, labor and public relations. N2BEG, Doug; K1PY, Vic; N1OKL, Mike; KC2QLJ, Brent; N2CK, David; W2SKY, Peter; K2DB, Paul; KC2TNO, John; W2EV, Ev; WB2UAQ, Pete; W2FBS, Rich; N9VB, Tim; N2JAC, Jon; KC2VCM, Zach; WB2JOR, Lee; N2YGG, Anmari; AF2K, Irv; K2OID, Bob; W2LB, Larry; AA2YV, Bill; W3OAB, John; and KC2PCD, Len.

WELL DONE!!



*RDXA QSL Card used at RMSC 2010*

## Filling Up Those Scanner Channels

Jim Sutton, N2OPS

With the needle nose pliers in hand I inserted crystals in the sockets of thousands of scanners over the years at Christiano Hardware in Leicester. We always started with sheriff and fire crystals. Then the debate was on for what to put in the remaining six channels. Now scanners have from 100 to 1000 or more channels. Filling them is easier than you think. Nearly all scanners allow you to group frequencies into banks. Popular channels can be entered multiple times to help ensure calls on these frequencies are not missed.

Trunking systems have *talkgroups* rather than individual frequencies. Be sure all trunking system frequencies are entered for each system. The frequency groups can be repeated in banks that have different talkgroups.

### *PUBLIC SAFETY*

Law enforcement, fire and EMS make up most of our scanner listening. Frequencies can be grouped by service or by proximity to your location. I have a local bank for the very basic channels that pertain to my location for listening while watching TV or focusing on another task. Then I have individual banks for each surrounding county. Another bank has all of the state agencies such as conservation and forestry.

Most public safety communications start on a primary or dispatch frequency. Nearly all fire communications go to a scene or fireground working frequency after they go enroute. Most area counties have multiple secondary frequencies so you should have no trouble quickly filling these banks.

Law enforcement often will go to a TAC channel for special events and situations such as hostage standoffs. These almost always work best in a separate bank or locked out until needed.

EMS units often go to another frequency to talk directly to the hospital emergency room.

### **COMMON PUBLIC SAFETY FREQUENCIES**

Frequency	Use	CTCSS/P L	Remarks
155.370	Law enforcement intersystem	CSQ	Sometimes called "point-to-point." Allows communications between agencies on different frequencies.
154.665	State Police Car-to-Car	110.9	Common to all law enforcement. Often used at special events
154.695	State Police Statewide Frequency	CSQ	Searches and prison breaks are a few of the situations that go here.
39.46	County law enforcement dispatcher network	206.5	Rarely used.
45.88	County-to-County fire and EMS	CSQ	Will alert you to action in adjacent counties.
46.22	Statewide low band fireground channel 2	CSQ	Common channel for fires involving multiple counties.
123.450	Air-to-air	AM	Interesting pilot chat.
155.175	EMS MCI (multiple casualty incident)	CSQ	Some counties use PL or DPL.
155.340	Ambulance-to-hospital	CSQ	DTMF tones are used to connect to individual hospitals.

State Police have different frequency pairs for each troop with different PL's for each zone. CTCSS capable scanners will allow for the many frequency and PL/DPL combinations.

A new generation of interoperability channels will be coming into use across the nation, as shown in the tables below.

**UTAC**

Description	NPSTC ID	Mobile TX (MHz)	Mobile RX (MHz)
Calling	UCALL40	458.2125	453.2125
Calling	UCALL40D	453.2125	453.2125
Tactical	UTAC41	458.4625	453.4625
Tactical	UTAC41D	453.4625	453.4625
Tactical	UTAC42	458.7125	453.7125
Tactical	UTAC42D	453.7125	453.7125
Tactical	UTAC43	458.8625	453.8625
Tactical	UTAC43D	453.8625	453.8625

**VTAC**

Description	NPSTC ID	Channel (MHz)	CTCSS Tone +/-
Calling	VCALL10	155.7525 base/mobile	CSQ/156.7 (5A)
Tactical	VTAC11	151.1375 base/mobile	CSQ/156.7 (5A)
Tactical	VTAC12	154.4525 base/mobile	CSQ/156.7 (5A)
Tactical	VTAC13	158.7375 base/mobile	CSQ/156.7 (5A)
Tactical	VTAC14	159.4725 base/mobile	CSQ/156.7 (5A)

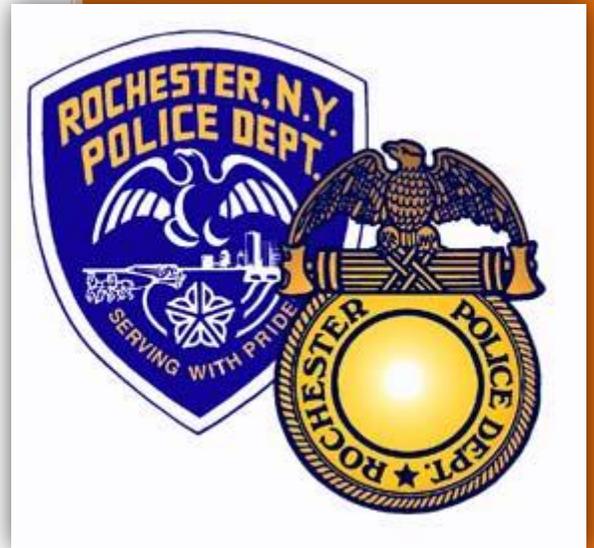
**ITAC**

Description	NPSTC ID	Mobile TX (MHz)	Mobile RX (MHz)
Calling	8CALL90	821.0125 (806.0125)	866.0125 (851.0125)
Calling - Direct	8CALL90D	866.0125 (851.0125)	866.0125 (851.0125)
Tactical	8TAC91	821.5125 (806.5125)	866.5125 (851.5125)
Tactical - Direct	8TAC91D	866.5125 (851.5125)	866.5125 (851.5125)
Tactical	8TAC92	822.0125 (807.0125)	867.0125 (852.0125)
Tactical - Direct	8TAC92D	867.0125 (852.0125)	867.0125 (852.0125)
Tactical	8TAC93	822.5125 (807.5125)	867.5125 (852.5125)
Tactical - Direct	8TAC93D	867.5125 (852.5125)	867.5125 (852.5125)
Tactical	8TAC94	823.0125 (808.0125)	868.0125 (853.0125)
Tactical - Direct	8TAC94D	868.0125 (853.0125)	868.0125 (853.0125)

The frequency in parenthesis, which is 15 MHz lower, will be the frequency used after re-banding.

***INSTITUTIONAL***

Colleges, schools, correctional facilities, and other institutions can make for great scanner listening. Some listeners consider these secondary thus they may go into a separate bank. Be sure to activate these when you hear of situations on the regular public safety frequencies.



### WEATHER RELATED

Emergency management, highway department, DOT and power utilities are frequencies that come to life during windstorms, snowstorms and other weather related situations. Don't forget Skywarn ham repeaters, as they are truly the front line severe weather reports.

### SPECIAL EVENTS

So-called "dot" and itinerant frequencies often spring to life when events such as the county fair are in town. MURS is a new VHF service that allows family and or business comms on five frequencies. PL's/DPL's are a must here to zero in on individual operations.

Some very interesting listening can be had on the Family Radio Service and General Mobile Radio Service channels, as well.

VHF Dot/MURS Frequencies	Designator
151.505	Itinerant
151.625	Red Dot - Itinerant
151.820	MURS 1
151.880	MURS 2
151.940	MURS 3
151.955	Purple Dot
154.570	MURS 4/Blue Dot
154.600	MURS 5/Green Dot
158.400	Itinerant

UHF Dot/GMRS/FRS Frequencies	Designator
462.5500	GMRS 1
462.5625	FRS 1/GMRS splinter
462.5750	GMRS 2 White Dot
462.5875	FRS 2/GMRS splinter
462.6000	GMRS 3
462.6125	FRS 3/GMRS splinter
462.6250	GMRS 4 Black Dot
462.6375	FRS 4/GMRS splinter
462.6500	GMRS 5
462.6625	FRS 5/GMRS splinter
462.6750	GMRS 6 Orange Dot
462.6875	FRS 6/GMRS splinter
462.7000	GMRS 7
462.7125	FRS 7/GMRS splinter
462.7250	GMRS 8
464.5000	Brown Dot - Itinerant
464.5500	Yellow Dot - Itinerant
467.5625	FRS 8
467.5875	FRS 9
467.6125	FRS 10
467.6375	FRS 11
467.6625	FRS 12
467.6875	FRS 13
467.7125	FRS 14
467.7625	J
467.8125	K
467.8500	Silver Star
467.8750	Gold Star
467.9000	Red Star
467.9250	Blue Star



### For Sale

Brand new shortwave **Tak-Tenna**, a compact shortwave array, pictured below. Never used, designed for the 49-meter band. **Asking \$50**. Contact Robert Krueger, 585-530-7819, or via e-mail at [racs@frontiernet.net](mailto:racs@frontiernet.net).



Term	Definition
Dot	Symbol on the radio and/or carton to indicate the frequency
FRS	Family Radio Service 0.5 watts
GMRS	General Mobile Radio Service licensed to families
Itinerant	Frequencies for businesses that move about in their operation
MURS	Multiple Use Radio Service 1.0 watts for commercial and family use
Splinter	GMRS frequencies shared with FRS, 5.0 watts
Star	Symbol on the radio and/or carton to indicate the frequency

### AVIATION

There are many aviation frequencies to choose from including airport communications, enroute, military, airline teams, airport maintenance, airport security and emergency crews.

### RAILROADS

Another bank should be set up for railroad listening. 452.9375 MHz is a must if you want to know when a train is nearby. This frequency is the telemetry between the engine and the end of the train. The data bursts will be heard when the train is about 3 miles away.

### BUSINESS

Here you will truly have a potpourri of listening opportunities. Again PL's/DPL's are a must here to zero in on individual operations.

### WHERE TO FIND FREQUENCIES AND TALKGROUPS

Radio Reference website

<http://www.radioreference.com/>

In-depth listings of frequencies, PL's, channel designators, codes and unit numbering. FCC grants show newly licensed or renewed frequencies.

FCC Frequency Lookup website

[http://fjallfoss.fcc.gov/General\\_Menu\\_Reports/engineering\\_search.cfm?accessible=NO](http://fjallfoss.fcc.gov/General_Menu_Reports/engineering_search.cfm?accessible=NO)

This contains everything in the FCC files. Search by individual counties and frequency ranges. Select "No Limitations (may include expired licenses and cancelled applications)" to see any expired or pending licenses,

Do your homework and you will have a greatly enhanced scanner listening experience.

### MY FREQUENCY LIST

<http://n2ops.net/LinkClick.aspx?fileticket=nYA0a3GGqAw%3d&tabid=38&mid=373> Listed by frequency with PL/DPL's and channel designators.

### THANK YOU

I enjoy the input from each of you. Thank you so much for your suggestions and encouragement. Don't hesitate to email me with any questions on scanner frequencies. [jim@n2ops.net](mailto:jim@n2ops.net)  
Until next time, 73 to thee.



## Monroe County ARES / RACES News

By Jim DiTucci, N2IXD

Monroe County Amateur Radio Emergency Service, Inc. holds its meetings on the fourth Thursday of each month.

The next ARES Meeting will be held on: **Thursday, February 24, 2011, at 7:00 PM**

Meetings are held at the **Greater Rochester Chapter of the American Red Cross HQ, 50 Prince Street, Rochester, NY 14607.** (Behind the Rochester Auditorium Theatre, 885 Main St. E.)

**ARES NET:** Monroe County ARES/RACES meets on the air every Thursday of the month at 9:00 pm, on the 146.61 MHz. (-) 110.9 Hz PL repeater. The exception to that are nights when we hold our regular meeting, generally on the 4th Thursday of the month.

**Additional ARES / RACES information can be found at [www.monroecountyemcomm.org](http://www.monroecountyemcomm.org)**



## RDXA News

Scott Hoag, K2ZS

With the Science Days event behind us for the year, we should take a moment to thank all those who participated. If you worked W2RDX during the event you can forward Irv, AF2K your QSL information and receive a QSL card for the special event.

This month's program will feature Roy Wildermuth, W2IT, with a discussion and demonstration of portable military equipment and its operation. Find out how to spot that gem in the sea of boat anchors at your next hamfest. Meetings start at 7:30 PM and take place at the Monroe County Emergency Operations Center, 1190 Scottsville Road in Rochester.

## Morse Code Video

Interested in how Morse Code used to be taught in the U.S. Army? Check out the interesting video at: <http://tinyurl.com/264lf7g> — Tnx Jim Hastings, W2RFM

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315-486-5502 (Winter)

## RaRa Rag 20 (and 40!) Years Ago, February 1991

By Ed Gable, K2MP  
RaRa Historian



The February meeting brought Gerald English, KB2DVV, as the guest speaker for the evening. Jerry, Meteorologist for the National Weather Service in Rochester, selected the topic of downdrafts and tornadoes to enlighten and educate RaRa members attending at the 40/8 Club on University Avenue.

"It's Time to Play in the Snow," was the headline announcing RaRa's *Winter Funfest*. It all started at Noon at Hopkins Lodge in Mendon Ponds Park. Featured were an array of homemade chili, Gos's chicken soup, homemade deserts and more. Writing for the Rochester DX Association was Bob Fortman, WE2T, who reported that their next meeting would be on contest logging and dupe checking. An unusual half-page help wanted ad was inserted by East Rochester's Microwave Data Systems as they eagerly sought help in expanding.

Ed Gable, K2MP, RaRa Licensing Class Director, then in its 35<sup>th</sup> year, reported the start of the spring session. New this time will be the start of code free Technician licensing. Sessions were 13 weeks and held each Monday evening at 111 Westfall Road. With regret it was reported that Bruce Tougas, Jr., N2DIB, Samuel A. Caputo, W2RSL and Robert W. Wetherald, W2CZT, were reported as Silent Keys. Sam Caputo and Bob Wetherald were both past RaRa Presidents, in 1946 and 1953, respectively. From the Want Ads you could buy a Heath HW-2XL 2-meter HT, with charger, for \$200.00, from Jim, KA2FFE. Vorndran Marine Canvas, of N. Clinton Avenue, city, remained a long-term advertiser.

### And 40 Years Ago (February, 1971)...

The regular meeting featured a technical talk by Richard Abrahams, K2YRZ, of RF Communications, speaking on a new component finding much use, the SCR. The Hamfest Committee announced that the 1971 Rochester Hamfest would move to a new location, the Monroe County Fairgrounds.

The Rochester VHF Group Editor, Ed Gable, W2MPM, reported on the local January VHF contest winners; W2UTH, K2YCO, WA2GCF, K2WW and WB2JFL. Ed Gable, W2MPM, also the RRRR Editor, reported that Harold Hay, WA2ABQ, Charlie Mills, K2LDU and Ted Marston, WA2RPI, put on a video program explaining typical repeater operations. (Anybody have a copy of that video? -Ed) Long time VHF enthusiast and local VHF Club supporter, Bob Jeffers, W2ALL, said farewell as he moved to New England. Sadly, it was reported that Ray Springett, WA2AIL, instrumental in RaRa's Code and Theory classes for 11 years, passed away.

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# THE RARA RAG

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..... Sue Waterstraat, KC2SUE  
Club Historian ..... Ed Gable, K2MP  
Club Station Trustee ..... Jim DiTucci, N2IXD  
Education Coordinator ..... TBA  
Hamfest Producer ..... Frank Schramm, WB2PYD  
Public Service Coordinator ..... Duane Fregoe, K2SI  
License Testing Coordinator ..... Ken Hall, W2KRH  
Membership Secretary ..... Sue Goslee, N2HKA  
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Refreshments Coordinator ..... Tom Austin, KA2GXX  
Webmaster ..... Frank Schramm, WB2PYD

RaRa meets on the first Friday of each month from September through May. Come join us at:

**Henrietta Fire Company No.1**  
**3129 East Henrietta Rd.**  
**Henrietta, NY 14467**

[Get Directions](#)

## Rochester Area Radio Club Contacts

### **Antique Wireless Association (AWA)**

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### **Drumlins Amateur Radio Club Ltd. (DARC)**

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### **Fisherman's Net Amateur Radio Club**

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### **Genesee Valley Amateur Radio Assn**

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### **Monroe County ARES**

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### **Rochester Amateur Radio Association (RaRa)**

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### **Rochester DX Association (RDXA)**

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### **Rochester Radio Repeater Association (RRRA)**

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### **Rochester VHF Group (RVHFG)**

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### **Squaw Island Amateur Radio Club (SIARC)**

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### **XEROX Amateur Radio Club (XARC)**

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**March Rag Deadline**  
**February 17, 2011**

