



THE RARA RAG

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Founded in 1931

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THE "B2" SUITCASE SPY RADIO ONLINE MEETING AND PRESENTATION

SCOTT THEIS, W2LW, RARA VICE PRESIDENT

Imagine stringing an end-fed antenna and counterpoise in an apartment in enemy territory somewhere in France. Then imagine trying to contact England to send a message. At any time, you could be detected, captured, tortured and killed by the Nazis. At the same time, you had to carry and hide your equipment, keep it working and keep your cover.

Our online meetings will continue in August with an interesting presentation by Bill Hopkins. He will be providing us with an exposé on the B2 Suitcase Spy Radio and the women and men underground who risked their lives while using the B2 during World War II. (See page 13 for more.)



Bill Hopkins has been a member of RARA and the [Antique Wireless Association \(AWA\)](#) since 1995. He earned his first ham license in Seattle in 1960 as KN7NPF and the next year moved from Novice to General. His first rig setup was a Heathkit DX-20 and a National NC-125. Presently, he holds the Extra Class license, KA2YV. Bill is a retired professor emeritus of German Literature at Nazareth College.

He has traveled widely, often living in Europe (Yugoslavia, Austria, Germany). Bill writes a regular article series for the AWA quarterly Journal, called "The Item in Question" and frequently co-authors it with technology specialists at the AWA. He also serves as Secretary to the AWA Board of Trustees. You may contact him at: whopkin4@naz.edu.

The meeting will start 7:00 PM EDT. The portion of the meeting for club business will be a little shorter than normal to allow for extra presentation time. To register, go to the following link (a separate link will be provided to presenters):

<https://attendee.gotowebinar.com/register/8037747066670535693>

Bring snacks and enjoy the meeting at home — Join us online Wednesday, August 5th, 2020 at 7:00PM. Please arrive a little early to make sure you are completely set up.

AGAIN — DO NOT COME TO THE BSA/SWC — YOU WILL BE ALONE!!



PASSWORDS

Ok, we all work on trying to teach our brain to quickly remember a callsign to call them back or maybe some CW to know what they are saying. Our minds are a great tool in recalling things, BUT for PASSWORDS. For some reason, folks like to use the same password for everything and anything they have to log into. With over 38 years in the computer repair business, to this day it is scary when I go to login to someone's system and they use one password for their email, banking, credit card accounts and more.



A hacker has a field day robbing you blind and messing up your life for a while. I have heard so many reasons why folks use passwords like: 1111111, or asdfghjkl, or 12345678 saying that they can't remember all the different passwords. For the fun of it there is a great site: <https://www.my1login.com/resources/password-strength-test/> to check how strong your password is, try it now.

The easier way to handle this is a password manager program. With one of these programs you truly do only have to manage one MASTER password and let the program create, manage and remember long HARD to crack passwords.

Some of the one's I would suggest are:

- Enpass ~ <https://www.enpass.io/>
- Lastpass ~ <https://www.lastpass.com/>
- 1pass ~ <https://1password.com/>
- Roboform ~ <https://www.roboform.com/>

I have used a couple of them over time and settled with Enpass (it's free to use). I have the paid version, as I have it on 3 different computers, 2 laptops, 2 phones and a tablet. With just one program I can keep all my family information safe. I have passwords that are 56 characters long for my banking and there is no way anyone in this lifetime is going to crack, BUT the best thing is I only have to remember one password. Don't become a victim of identity thief and let them steal from you. Take the time and get a program to manage your passwords for all things you do on your computer.

As a result of the continuing COVID19 concern, our "in-person" RARA events have been canceled in the near term. These include the monthly meetings at the BSA, our Hamfest, Tour de Cure, RARA Banquet, RARA Picnic and more. Building on the success of our online monthly meetings and RARA Academies, the board has chosen to continue to hold the monthly online meetings. Look for details of these meeting to appear at rochesterham.org

CALENDAR OF EVENTS

WEDNESDAY AUGUST 5, 2020 - RARA General Meeting

7:00 PM - ON LINE

<https://attendee.gotowebinar.com/register/8037747066670535693>

TBD AUGUST, 2020 - RARA Board of Directors Meeting

6:30PM ON LINE

Email request for link to secretary@rochesterham.org



EDUCATION

TIM BROWN, WB2PAY, EDUCATION COORDINATOR

RARA LICENSE COURSES

The Technician License class is the only class being held this fall.

The class will be ONLINE and begins September 8th at 6pm using Go To Meeting platform.

Instructor will be Karl Heinz Kremer, K5KHK.

Classes are FREE to RARA members and \$15 for non members.

[Click here to join RARA!](#)

License Manuals may be purchased for \$25.

Class reservations are required.

Please email

education@rochesterham.org

to ensure you have a seat!

The General and Extra classes will not be held this September. For those doing self study, the instructors Freddie Sulyma, WB2GFZ, and John Viggiano, NV2K, will help with tutoring if you have a problem with a topic.

To arrange for tutoring, email:

education@rochesterham.org

VE TESTING

We expect RARA VE testing will resume in September. Location TBD

ELMERS

RARA's Elmers have a wealth of Ham Radio knowledge, expertise and specialties. If you have a technical or operational question, let the RARA Elmers help you.

Elmers are listed at:

<https://www.rochesterham.org/learn.htm>

OR

If you are not sure who to contact, send your inquiry to

education@rochesterham.org

RARA ACADEMY WORKSHOPS

September 19th - Antenna Analyzers

Time: 10am - 12noon

Learn how Analyzers can be used for

SWR measurements

Smith Charts

Coax Loss

Cable Impedance

Coax Length & Velocity Factor

Measure Capacitance & Inductance

Location: Online - Go To Meeting

Pre-registration required.

To register, email

education@rochesterham.org

Presenters: Larry Brightenfield, W2LB, Pete Schuch, WB2UAQ, and Brian O'Connor, KA2CGB.

Academy Recordings are available at

https://www.rochesterham.org/rara_academy.htm

PUBLIC SERVICE REPORT

MIKE MOORE, KC2NM, PUBLIC SERVICE COORDINATOR

I regret to inform everyone that our two Public Service Events planned for September will not be held as planned. [Bike MS: ROC the Ride 2020](#) has been changed to a virtual event. Details for what a virtual event is may be found at the website but there will not be an organized road course, SAG and Sweep Vehicles, or command post. This event was to be held Sept. 12 starting and ending in Genesee Valley Park. We thank those who have already signed up for this event. I will contact you via email with the cancellation confirmation. Thank you Phil, K2ELV for serving as event captain.

The 16th Annual Lift Bridge Regatta, originally scheduled for Saturday, September 19, 2020, has been canceled. Concerns over the inability to meet U.S. Rowing and State guidelines for the prevention of the spread of the coronavirus prompted this unfortunately necessary decision. Ham radio operators have been providing valuable communications support to the regatta for at least a decade by connecting the far-flung start and finish lines with net control, and the mid-point of the course, along with various Ham radio operators who shadowed the race officials, enabling everyone to have situational awareness. The Fairport Crew Club, sponsors of the regatta, is planning to hold the regatta next year. Our thanks go to Mark Pedersen, KC2UES, Communications Team Leader for the Lift Bridge Regatta.

SEPTEMBER 2020 RARA BUSINESS MEETING

The board has discussed how to handle the business meeting in September. We have reached the following resolution:

"RESOLVED THAT as a result of the current COVID restrictions on in person meetings by local, state and federal authorities, the Board of Directors hereby authorized a meeting and vote via electronic means for the Annual Meeting to set forth (1) review and approval of 2019 Annual Meeting Minutes, (2) election of officers, (3) election of Board of Directors, and, (4) determination of dues for the following year, consistent with Article II, section A Annual of the By-laws of the Rochester Amateur Radio Association, Inc., and the temporary rules set forth by Robert's Rules of Order Official Interpretations 2020-1 and Sample Rules for Electronic Meetings."

ARTICLE VIDEOS

The June, July and this issue of the RAG include videos to accompany some of the articles..



This symbol is the link to the videos.

It would be great if you provide a video with your article, if it is appropriate for your article: demonstrating a project, close up of a build technique, operating a new mode, etc.

Please email the editor if you will provide a video with your article it in the RAG. editor@rochesterham.org

Please mark your calendars for our upcoming RARA Public Service Events

Pumpkin Patrol	Overpasses of the New York State Thruway	Friday & Saturday	Oct. 30-31, 2020
Holiday Science & Technology Days	Rochester Museum & Science Center	Monday - Wednesday	Dec. 28-30, 2020

CANCELLATIONS

Lift Bridge Regatta

Fairport, NY. The 16th Annual Lift Bridge Regatta, originally scheduled for Saturday, September 19, 2020, has been canceled. Concerns over the inability to meet U.S. Rowing and State guidelines for the prevention of the spread of the coronavirus prompted this unfortunately necessary decision. Ham radio operators have been providing valuable communications support to the regatta for at least a decade by connecting the far-flung start and finish lines with net control, and the mid-point of the course, along with various Ham radio operators who shadowed the race officials, enabling everyone to have situational awareness. The Fairport Crew Club, sponsors of the regatta, is planning to hold the regatta next year. Mark Pedersen, KC2UES, Communications Team Leader for the Lift Bridge Regatta.

Roc City Net Hamfest

Hello from the RARA Hamfest Committee, As you have probably heard by now, the Batavia hamfest was cancelled at the last minute. Unfortunately, it is now the case that the Roc City Net Hamfest which was scheduled for August 24th is also cancelled. The RCN crew was very inviting to RARA (And anyone else) coming to the event. It's unfortunate that it didn't work out this year. Our hamfest committee has agreed to stay on for another year, so we're turning our focus to 2021. At this time we are aware of three other hamfests in upstate NY. Check [Upstate Ham](#) for details and updates.

International Lighthouse Lightship Weekend

Cancellation of RARA International Lighthouse Lightship Weekend and Open House - August 22-23, 2020

The Charlotte-Genesee lighthouse is planning to open soon in a limited way to small groups for short visits following uncertainty about its opening in 2020. With the NYS guidelines currently in effect because of Covid-19, for our special event station, our operators would need to:

- Have operating stations on separate tables 6 feet apart
- Not share microphones, log sheets and writing instruments
- Wear masks when demonstrating or educating visitors

[ILLW](#) has developed into a nice social gathering of members with increased participation in recent years. The RARA board of directors believes that the health risks for this event are very similar to the RARA summer picnic and license testing, both of which have been cancelled this summer. Because of the less than appealing operating conditions and possible health risks to operators and guests, the RARA board has decided that the ILLW special event station operation will not be held this year. We had also planned a public open house to showcase our club and highlight Amateur Radio through the special event operation. We will not hold the open house.

[Charlotte-Genesee Lighthouse Historical Society's](#) mission is to preserve and maintain the Genesee Lighthouse Tower (1822), the Lighthouse Keeper's House (1863), and its historic acreage as an educational center. We look forward to working with this organization in the years to come. The RARA board wishes to thank Dave Timmons W2DST and his team of operators for organizing the special event operation and regrets that the event can not be held this year.

FIELD DAY 2020 AT HOME IN QUARANTINE: A NON-TRADITIONAL OPPORTUNITY

DON VALLONE, KD2REU



The ARRL's annual Field Day happens every year on the last full weekend in June.

Traditionally, it has always been an exciting and fun way for amateur radio operators to practice their emergency communication skills and prove their relevance to the community by

demonstrating their skills to operate radio traffic off the grid. The activity simulates emergency conditions by operating their equipment off the power grid and with only portable shelter. In the event of a real emergency its always possible that a radio operator may be placed into a situation where a catastrophic event has caused the electrical grid, wireless communication, or even housing and transportation to be interrupted for a period of time. In such conditions, it may still be critical to communicate with the outside world. Enter licensed ham radio operators who have practiced their communication skills without the need to have this infrastructure in place. On Field Day, we literally go out in a field and set up tents. We erect portable antenna towers and throw wire antennas up into the trees. We use emergency power, emergency lighting, and subsist in the outdoors in our emergency shelters exposed to the forces of nature...rain, wind, bugs, and more bugs. We contact other radio operators around the country and exchange information such as our location and operating configuration. To make it more exciting and fun, it takes the form of a contest to entice operators to make as many contacts as possible and even earn extra points by handling special radio traffic, using renewable power resources, using the event to educate the public about ham radio, and promoting the event and the hobby in the media.

What was NOT traditionally in 2020 was the COVID-19 Coronavirus pandemic. Large public gatherings were restricted this year as quarantines and social distancing were still being enforced. Any social interaction would require size restrictions, masks, and social distancing enforcement. Radio clubs that usually operate in large groups for the event could not gather to support each other in a public venue or even involve the public on site. Being an actual public emergency, the COVID-19 pandemic actually created an unintentional opportunity to practice operation under true emergency conditions – many quarantined at home and unable to replenish their supplies of toilet paper and hand sanitizer! The ARRL took note of this unique opportunity and modified some of the rules for the event to allow hams to operate from their homes yet still contribute to their local club as a participator in the event. Modified rules prompted software

developers to make last minute updates to digital operating and logging software applications such as WSJT-X and N1MM. With more hams operating independently, the number of individual stations on the air would increase. This would prove to be another unique challenge to the Field Day operation for 2020.

This year my operating field would be my back yard. Fortunately, I live in a somewhat rural suburban area with lots of trees and open air. We have a large pond at the edge of our property and we get many visitors from the woods and the water. Instead of human visitors at a public event, my field station played host to an elderly turtle, whitetail deer, a pair of curious rabbits, songbirds, bullfrogs, crickets, and throngs of insects.

Field Day preparation at my station began with upgrading my emergency power supply to a new Bioenno Lithium Phosphate battery. It is a small, lightweight option for powering my rig all day, and it can travel with me easily (even on a plane in my carry-on luggage). It fully charges from any state of discharge in a couple of hours and has no memory limitations. I can recharge off the grid using my portable generator. My ICOM IC-7300 will be my primary rig for Field Day operation, but I also want to monitor traffic on VHF with my HT and possibly even bring my IC-9700 out to the field site to operate digital or make a satellite contact with more than the 5 Watts my HT limits me to. Since the 9700 operates with the same power supply, it will be an easy swap if needed. Installing my portable emergency shelter in the back yard came next. It has been a while since this screen tent was used, but it will make the perfect field site to keep rain and sun off the equipment. I tried to choose a relatively level area of ground...and up she went...eventually.

Now for some interior decorating! I'll need a table so I have a place for my equipment. I'll also need a chair and a place for guests to sit. I was anticipating having my wife and kids visit me from time to time, but I have to admit that one of the downsides to operating Field Day from home is the shortage of excitement, enthusiasm, and comradery that is shared with fellow hams at the club site!

Finally, I was ready to operate. I connected my quarter-wave ended wire antenna to my rig, plugged in the battery, powered up my laptop and waited for 2:00 local time. The second it turned 2:00 radio silence turned into a cacophony of CW Morse code tones calling out CQ! Up the dial, phone operators called "CQ Field Day" and were immediately met with replies from hams around the country eager to rack up contacts. It seemed like a good start to the event and a good time to enjoy a cold adult beverage.



I opened WSJT-X and checked the FT8 bands for activity. I started on 6m and my first contact was a local ham from my own town who was also eager to get an early start. There appeared to be no Sporadic E to reflect more distant signals so I migrated to the longer wavelengths to catch some DX. I made several contacts but nothing farther than two or three hundred miles from my QTH. After the initial wave of excitement from the early starters, the chatter quieted down a little. I switched over to FT4 but the bands seemed unusually quiet...or at least no signals strong enough to be decoded. But I did hear activity. I made some adjustments and kept listening. Apparently, WSJT-X was having an issue decoding FT4, as confirmed by a number of other operators experiencing the same thing! Well, not to worry because there are plenty of other modes to utilize. Never put all of your eggs in the same basket!



I moved off the laptop and onto the radio for some phone contacts. There was a lot of noise and it seemed that radio propagation was about as poor as I could have feared. I had been hearing all week that solar activity had declined from very poor to almost non-existent! I tried to answer some calls and got the attention of a few operators but lost them before completing my contact. My short antenna was proving to be a challenge for these operating conditions. However, an even bigger issue seemed to be the large number of individual stations on the air competing for the same frequencies.

Elsewhere, larger antennas and higher altitude helped lone operators make Field Day contacts, but it was still a challenge for those used to much better propagation conditions. My local club did ultimately decide to operate at a public location with a very small group and only wire antennas. Other individuals operating from home or alone at a remote location gathered as many contacts as conditions would allow to contribute to the club score.

There were other challenges as well. Thunderstorms developed in many areas and Flood Watches were posted for heavy rain. Fortunately, in my area, a steady heavy rain ended Saturday morning and the sun came out to allow completion of the field setup. This was good for me because the forecast had called for the heavy rain to move through at just about starting time for the event, so the earlier timing of the rain was a happy surprise! However, thunderstorms formed again by late afternoon and evening. Just before sunset, a thunderstorm rolled in off the lake and presented a majestic view. The thunderstorms also prompted recognition of the fact that amateur radio operators can be instrumental in passing along emergency weather information and reports. The Amateur Radio Emergency Service (ARES) organization has local groups all around the country who are required to be trained as official weather spotters for the purpose of reporting severe weather conditions in their area and passing emergen-

cy radio traffic related to severe weather across local nets, and even to the National Weather Service and the National Hurricane Center. ARES group members are important participants in the ARRL annual Field Day each year.

As the night grows darker, the 24-hour long field event takes on an even more meaningful challenge. As with any real emergency, dealing with unexpected circumstances becomes more difficult in the darkness. The overnight aspect of the event gives us practice to operate in a much less than ideal environment. Fading battery levels, dim lanterns, adjusting to working in the dark, mosquitos, June bugs, and sometimes the ever-present rain keeps us on our toes. But at the same time, working outside in the quiet of only the night sounds made by frogs and insects, give us time to reflect on our abilities to conquer the challenges we are presented with and our fortitude to successfully carry out our plans to mitigate those challenges!



At the first light of morning, we start to see our accomplishment. We've pulled it off. Despite an active plague, lockdowns, quarantines, civil unrest, and enormous political division – we have managed to single-handedly operate a Field Day exercise from our own back yards that serves to unite ham radio operators across the nation in a friendly and productive exercise that will help us learn to serve the public. Sleepy and worn out, we are energized to push through for a few more hours as the radio gets busy again with the next shift of early risers participating in the contest. There is another chance to make that contact we missed yesterday or score some extra bonus points. Time to fill the coffee mug and keep going.

As the morning wore on into mid-day the bands that had been fairly quiet since the start of the contest opened up and caught on fire. Now that many more frequencies were open there were a lot more fish in the proverbial sea to catch, and everyone was working the available stations as fast as possible to make up for a slow night. There were times I couldn't even keep up with the pileup of calls answering my CQ! As my contacts finally began to add up to at least a less embarrassing total, I tried to move back and forth between phone and digital. However, it was clear that FT8 would be the quickest means to accumulate my contacts in the remaining few hours that were left. I thought about FT4 again and wondered if WSJT might have a fix for the decoding issue yet. Nope, there was nothing new on the site. I decided to try it again just in case the problem may have worked itself out, and lo and behold, it started working! Well...at least up to the point of the rig control failure. Maybe I was too tired to troubleshoot properly, but I couldn't get transmitting again. I panicked and worried about the lost time until I suddenly realized that there was only a few minutes left of the contest! Time's up. Pencils down. And time to reflect on my progress.

I think my biggest take-away from Field Day 2020 will be the fact that I learned so much more about the rules and logistics of the event. Working the event independently forces you to understand how to plan, setup, operate, and report the results of your efforts. This is only my second Field Day ever. As a participant last year, my role was to help raise antennas, make a few contacts on the GOTA station, and help with logging. I really had no concept of the rules or the points or how stations were classified and why. The rule changes precipitating from the pandemic required many of people who were primarily helpers or observers in past years to now seriously look at the rules and learn how the event works in order to participate. So hopefully by working independently this year, a lot of newer hams like myself may have gained the equivalent of a couple of extra year's worth of experience in understanding the importance and logistics of the ARRL Field Day operation.

Field Day 2020 was certainly different from any other we have experienced so far. However, it is the collective experience of many very different field days that makes us that much more confident and prepared for the time when our emergency radio services will be called upon to help the community in a time of need.

Link to video: <https://youtu.be/hl0wm06-F2g>



RXCWG CW ACHIEVEMENT CHALLENGE

NAME	CALL SIGN	POINTS
Reiner	N2PEZ	55
Luke	K2DIT	17
Forest	WA2MZG	27
Karl Heinz	K5KHK	353
Todd	N2TMS	2
John	AC2RL	406
John	N2JSA	1
Dave	WA2HOY	23
Nick	KD2RHU	11

Only 5 weeks remaining in the challenge.

Fire up that rig.
Dust off that key.
Sharpen that pencil.
Make some contacts!

FACE LIFT – PART 2

FOREST SHICK, WA2MZG

Last month we discussed the graphic display and a few of the many display commands for implementing your GUI, Graphical User Interface, design. As a reminder, most of the commands require a X and Y starting location and a W and H width and height. Some commands require a color.

To read the touchscreen, you do not need any of this information but to use the touch information, you will need to determine where on the screen the touch occurred.

TOUCHSCREEN

The display and touchscreen interfaces are based on a coordinate system. Unfortunately, their default origins, 0, 0 points, are not the same. In this example the display 0, 0 is in the upper left corner and the touch screen 0, 0 is in the lower right corner.



While the display coordinates are 0, 0 to 320, 240 (Landscape mode), the touchscreen coordinates are 0, 0 to 4095, 4095. When you tap the touchscreen, you cannot reach the limits of the touch screen, meaning you will never find 0, 0 or 4095, 4095 on the touch screen.

The calibration data, which is used in many of the example programs for the touch screen is:

```
#define TS_MINX 150
#define TS_MINY 130
#define TS_MAXX 3800
#define TS_MAXY 4000
```

Roughly, this sets the limits of the touchscreen coordinates to 150, 130 and 3800, 4000. This data helps map the touch screen coordinates to the display coordinates.

To perform any meaningful functions, the 2 coordinate systems must be normalized. The display coordinates are easy to manipulate when you are drawing boxes or lines or placing text. The touch screen will be normalized to the display coordinates.

The first task is to set both coordinates systems so that their 0, 0 point is the same corner of the screen. In the examples I will use, I will set both 0 points to the upper left corner.

```
// Align coordinate systems
tft.setRotation(1);
ts.setRotation(3);
```

These set rotation commands set both coordinates to have 0, 0 located in the upper left corner. The lower right corner becomes 320, 240 for the display. Using a **map** function, the touch screen coordinates can be normalized or mapped

to the display system. (p.x and p.y are values returned from the touch screen controller.) A description of the **map** function can be found on the Arduino web site under Resources / References.

```
// Change to display coordinates
p.x = map(p.x, TS_MINX, TS_MAXX, 0, 320);
p.y = map(p.y, TS_MINY, TS_MAXY, 0, 240);
```

These 2 statements normalize the touchscreen coordinates to:
150, 130 = 0, 0
3800, 4000 = 320, 240

Next, a brief look at the touchscreen software functions.

```
#define XPT_CS 6
XPT2046_Touchscreen ts = XPT2046_Touchscreen(XPT_CS) Creates a touch
screen object, ts and defines the microcontroller pin to use as a chip select,
XPT_CS, pin 6.
```

ts.begin() Initialize the touch screen software.

ts.setRotation(R) Sets the rotation or which corner of the display is 0, 0. R can be a value from 0 to 3.

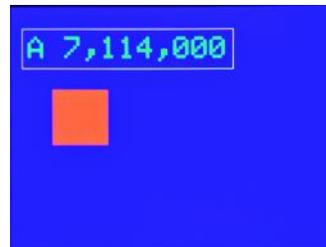
ts.touched() Returns a 0 - not touched and 1 touched, testing if the screen has been touched. If the screen has been touched, use **getPoint()**.

ts.getPoint() Returns the X, Y and Z value of the point touched. Z is the pressure of the touch.

There are a few other commands – but this is all you need to get started.

In the July RAG there was the listing for the simple project shown here.

Let's add a second button and a response to pressing each button. We will make the RED square a button and the letter "A" the second button. Pressing the RED button will toggle it to GREEN and back. Pressing the "A" will toggle it to "B" and back.



Here is an updated listing of the program. Text in blue are the additions to the program.

```
#include <SPI.h>
#include <Wire.h>
#include <ILI9341_t3.h>
#include <XPT2046_Touchscreen.h>

// This is calibration data for the raw touch data to the screen coordi-
nates
#define TS_MINX 150
#define TS_MINY 130
```

```
#define TS_MAXX 3800
#define TS_MAXY 4000

#define XPT_CS 6
XPT2046_Touchscreen ts = XPT2046_Touchscreen(XPT_CS);

#define TFT_CS 10
#define TFT_DC 9
ILI9341_t3 tft = ILI9341_t3(TFT_CS, TFT_DC);

#define REDBTN_X 40
#define REDBTN_Y 80
#define REDBTN_W 55
#define REDBTN_H 55

#define LTRBTN_X 16
#define LTRBTN_Y 28
// with a character size of 3 and a 5x8 pixel character plus
// a blank between characters - width( 5+1) is 6 * 3 = 18
// height is 8 * 3 = 24
#define LTRBTN_W 18
#define LTRBTN_H 24

bool btnColor = 0; // 0 = red, 1 = green
bool btnLetter = 0; // 0 = A, 1 = B
bool finger = 0;

void setup()
{
  tft.begin(); // start the display
  ts.begin(); // start the touchscreen
  tft.setRotation(1);
  ts.setRotation(3);
  tft.fillScreen(ILI9341_BLUE); // Blue background
  tft.drawRect(10, 20, 210, 40, ILI9341_WHITE);
  tft.drawRect(9, 19, 212, 42, ILI9341_WHITE);
  tft.fillRect(REDBTN_X, REDBTN_Y, REDBTN_W, REDBTN_H, ILI9341_RED);
  tft.setTextColor(ILI9341_CYAN);
  tft.setTextSize(3);
  tft.setCursor(LTRBTN_X, LTRBTN_Y);
  tft.println("A 7,114,000");
}

void loop()
{
  if((ts.touched() == 1) && ( finger == 0))
  {
    TS_Point p = ts.getPoint();
    finger = 1;
    // Retrieve a touch
    if(p.z >400)
    {
      // Change to display coordinates
      p.x = map(p.x, TS_MINX, TS_MAXX, 0, 320);
      p.y = map(p.y, TS_MINY, TS_MAXY, 0, 240);
      // check for RED button
      if (((p.x > REDBTN_X) && (p.x < (REDBTN_X + REDBTN_W))) && ((p.y >
REDBTN_Y) && (p.y < (REDBTN_Y + REDBTN_H))))
      {
        if(btnColor == 0)
        {
          btnColor = 1;
          tft.fillRect(REDBTN_X, REDBTN_Y, REDBTN_W, REDBTN_H,
ILI9341_GREEN);
        }
        else
        {
          btnColor = 0;
        }
      }
    }
  }
}
```

```

        tft.fillRect(REDBTN_X, REDBTN_Y, REDBTN_W, REDBTN_H,
ILI9341_RED);
    }
    else if (((p.x > LTRBTN_X) && (p.x < (LTRBTN_X + LTRBTN_W))) &&
((p.y > LTRBTN_Y) && (p.y < (LTRBTN_Y + LTRBTN_H))))
    {
        tft.setCursor(16, 28);
        tft.fillRect(16, 28, 16, 24, ILI9341_BLUE);
        if(btnLetter == 0)
        {
            btnLetter = 1;
            tft.print("B");
        }
        else
        {
            btnLetter = 0;
            tft.print("A");
        }
    }
}
else if((ts.touched() == 0) && (finger == 1))
{ // release of button
finger = 0;
}
}
}

```

BUTTONS

We drew a red rectangle with the following command:
`tft.fillRect(REDBTN_X, REDBTN_Y, REDBTN_W, REDBTN_H, ILI9341_RED);`
 The location is X = 40 and Y = 80.
 The button is 55 wide and 55 high and colored red.

We defined constants (REDBTN_X, REDBTN_W, etc.) to make adjusting and reusing the values easier. They are all located at the beginning of the program.

To determine if the button has been pressed, we read the touch screen:
`if((ts.touched() == 1) && (finger == 0))`

Then retrieve the point data
`TS_Point p = ts.getPoint();`

We use the Z value to determine if there really was a touch.
`if(p.z > 400)`

Then normalize the X and Y touch values to match the display.
`p.x = map(p.x, TS_MINX, TS_MAXX, 0, 320);`
`p.y = map(p.y, TS_MINY, TS_MAXY, 0, 240);`

Now we have touch data that is normalized to the same coordinate system as the display data.

We placed a button at 40, 80 and the button was 55 wide x 55 high. We must look in that area for the touch data.

```

if (((p.x > REDBTN_X) && (p.x < (REDBTN_X + REDBTN_W))) && ((p.y >
REDBTN_Y) && (p.y < (REDBTN_Y + REDBTN_H))))

```

This translates to, IF the X value is between 40 and 95 and the Y value is between 80 and 135 – then we have pressed the red button.

We use the same technique to turn the letter A into a button, but its location is a bit harder to define.

We placed the cursor at:
`tft.setCursor(LTRBTN_X, LTRBTN_Y); (16, 28)`

NOTE: The cursor is placed at the upper left corner of the character.

We know that a character is a 5x8 pixel matrix with 1 blank pixel column between characters. We also have defined the character size as 3.
`tft.setTextSize(3);`

This makes the character 3 x (5 + 1) = 18 pixels wide and 8 x 3 = 24 pixels high.

This places the letter button at 16, 28 and it is 18 wide and 24 high.

```

if (((p.x > LTRBTN_X) && (p.x < (LTRBTN_X +
LTRBTN_W))) && ((p.y > LTRBTN_Y) && (p.y <
(LTRBTN_Y + LTRBTN_H))))

```

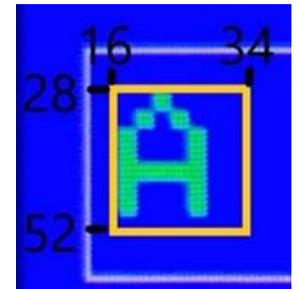
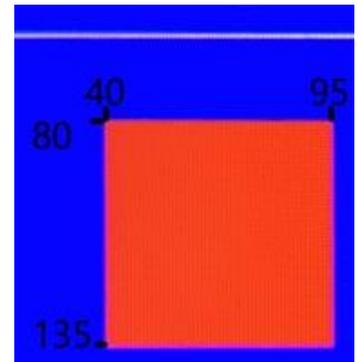
This translates to, IF the X value is between 16 and 34 and the Y value is between 28 and 52 – then we have pressed the letter button.

For each button you add to your GUI, you will need to test each touch area to see if it is the desired button. Of course, if you touch an area that has not been defined as a button, you will get touch data, but you would ignore that data.

NOTE: The calibration data given for the touch screen is only approximate. I tested 2 different touchscreens with calibration data of: 170, 270, 3730 & 3840 and 190, 270, 3730 & 3840.

If you would like the code for these projects, send an email to:
fshick3@gmail.com

Here are 2 more programs demonstrating the GUI capability of the display and touchscreen.



RBN OR THE REVERSE BEACON NETWORK - WHAT IS IT GOOD FOR?

KARL HEINZ KREMER – K5KHK

There is some pretty advanced stuff out there to get an idea about how well your system transmits - just look at the digital signal processing routines in the WSPR software. But what if you are using an ancient technology like CW? Is there an easy way to get an idea about how far your signal travels? Wouldn't it be great if we had the same tools at our fingertips as users of the WSPR system?

And sure enough, there is: It's the "Reverse Beacon Network" (or RBN for short).

You are probably familiar with the International Beacon Project (<https://www.ncdxf.org/beacon/>), which maintains a number of stations in different regions of the world that all transmit on the same frequency on a certain band, based on a published schedule. The bands covered are 20, 17, 15, 12 and 10 meters. You can for example find out that the 20m band is open to Hong Kong if you hear VR2B on 14.000MHz. The beacon transmits, and you receive its signal with your antenna and receiver. The Reverse Beacon Network works the other way around: You transmit CW with your transmitter and antenna, and somebody else out there receives and decodes your signal – and more importantly, sends that information back to you via the internet.

The transmitting part is easy: You send CQ and chances are you will get picked up. But what if you don't want to invite somebody to come back to your call because you are just testing your radio or your antenna? The RBN receivers will not just listen for CQ calls, they also recognize "TEST" calls. This is not the "CQ TEST" you hear during a contest, it's a true test without the associated CQ to just see if you can trigger an RBN receiver. You can do this by sending "TEST DE <your call>".

When you do this a few times on a band that is open, while trying to maintain a constant speed (e.g. don't send "CQ DE" fast and then slow down for the call), it's very likely that one of the RBN "skimmers" will pick up your signal.

A "skimmer" is a receiver that's part of the RBN network that analyzes CW signals in its relatively wide passband. This is usually done with wideband SDR receivers that can monitor e.g. a 48kHz or 96kHz wide segment of a band. The software that is usually used for this is the "CW Skimmer" (<http://www.dxatlas.com/cwskimmer/>), which runs on Windows, and reports the received signals to the RBN system.

Now that we know how to get noticed by RBN, how do we find out who heard us, where they are and how strong the received signal was? The RBN does offer a web interface to look up spots.

When you first arrive at <http://www.reversebeacon.net> you will find some infor-

mation and a "Donate" button – there is a lot of data that needs to be moved in and out of this web page, that costs money. There is no actual spotting information on that page, you will get one step closer to see your activity by clicking on the link to the "main page". Once you know what you are doing, you can skip the first page and go to that page directly: <http://www.reversebeacon.net/main.php>

As a default, this will display the latest skimmer reports – and refresh automatically every few seconds. To see your spots, you will have to create a filter. To do that, click on the "search spot by callsign" link:

The screenshot shows the "REVERSE BEACON NETWORK" website. At the top, there are navigation links: welcome, main, dx spots, nodes, FT8, downloads, about, contact us. Below this, there's a section "show/hide my last filters" with a dropdown menu set to "no filter selected, showing all spots" and a "rows to show:" dropdown set to 15. A red arrow points to a link "search spot by callsign". Below this is a table of skimmer reports with columns: de, dx, freq, cq/dx, snr, speed, time. The table lists various stations and their reports. To the right of the table, there are "options: show/hide" and "news" sections. The news section includes "RBN blog: stay tuned!" and "we have 156 skimmers online". Below that, there's a "skimmers online:" section listing various stations and their last spot times.

de	dx	freq	cq/dx	snr	speed	time
WE9V	W2BY	14049.4	CW CQ	25 dB	16 wpm	1309z 13 Jul
DK0TE	GW0ADC	28011.1	CW CQ	8 dB	15 wpm	1309z 13 Jul
HA1VHF	IP62MBT	50402.3	CW DX	18 dB	10 wpm	1309z 13 Jul
SM7IUN	GW0ADC	28011.0	CW CQ	38 dB	15 wpm	1309z 13 Jul
SE5E	PD1GB	28038.5	CW CQ	16 dB	15 wpm	1309z 13 Jul
SM6FMB	GW0ADC	28011.2	CW CQ	24 dB	15 wpm	1309z 13 Jul
DF4XX	GW0ADC	28011.0	CW CQ	29 dB	15 wpm	1309z 13 Jul
OK2EW	GW0ADC	28010.8	CW CQ	36 dB	15 wpm	1309z 13 Jul
KM3T	N2RR	10107.0	CW CQ	11 dB	26 wpm	1309z 13 Jul
PA5WT	PA0GRU	50085.0	CW CQ	16 dB	25 wpm	1309z 13 Jul
N0OI	N2RR	10107.0	CW CQ	7 dB	26 wpm	1309z 13 Jul
WB6BEE	N2RR	10107.0	CW CQ	5 dB	26 wpm	1309z 13 Jul
SM0IHR	PD1GB	28038.5	CW CQ	14 dB	15 wpm	1309z 13 Jul
SM0IHR	DK8OL	28013.6	CW CQ	14 dB	21 wpm	1309z 13 Jul
DM6EE	LABAD	28017.8	CW CQ	25 dB	17 wpm	1309z 13 Jul

And now, you can finally ask for your own skimmer results. Enter your call sign and select "DX" – yes, in this case you are the DX, and the "DE" call is the reporting station.

The screenshot shows the "REVERSE BEACON NETWORK" website with a search form. At the top, there are navigation links: welcome, main, dx spots, nodes, FT8, downloads, about, contact us. Below this, there's a section "show/hide my last filters" with a dropdown menu set to "no filter selected, showing all spots" and a "rows to show:" dropdown set to 15. Below this is a link "search spot by callsign". Below that is a search form with a "search callsign:" input field, a "wildcard * allowed" label, and two radio buttons: "DX" (selected) and "DE". There is also a "search" button. Below the search form is a table with columns: de, dx, freq, cq/dx, snr, speed, time.

Once you have defined a search, you will get the latest skimmer results matching the call sign you've specified:

show/hide my last filters

showing spots for DX call: K5KHK

search spot by callsign

rows to show: 15

de	dx	freq	cq/dx	snr	speed	time
W1NT	K5KHK	3551.0	CW CQ	4 dB	12 wpm	1728z 06 Jul
KM3T-2	K5KHK	3551.0	CW CQ	4 dB	12 wpm	1728z 06 Jul
KM3T	K5KHK	3551.0	CW CQ	4 dB	13 wpm	1728z 06 Jul
K1TTT	K5KHK	3551.0	CW CQ	5 dB	12 wpm	1728z 06 Jul
W1NT-2	K5KHK	3551.0	CW CQ	7 dB	14 wpm	1728z 06 Jul
W8WWV	K5KHK	3551.0	CW CQ	17 dB	13 wpm	1728z 06 Jul
W8WTS	K5KHK	3551.0	CW CQ	9 dB	13 wpm	1725z 06 Jul
KM3T	K5KHK	3551.0	CW CQ	6 dB	11 wpm	1716z 06 Jul
KM3T-2	K5KHK	3551.0	CW CQ	6 dB	11 wpm	1715z 06 Jul
W8WWV	K5KHK	3551.0	CW CQ	13 dB	12 wpm	1715z 06 Jul
K1TTT	K5KHK	3551.0	CW CQ	11 dB	11 wpm	1715z 06 Jul
W8WTS	K5KHK	3551.0	CW CQ	8 dB	11 wpm	1715z 06 Jul
W1NT	K5KHK	3551.0	CW CQ	3 dB	10 wpm	1715z 06 Jul
W1NT-2	K5KHK	3551.0	CW CQ	7 dB	11 wpm	1715z 06 Jul
K9LC	K5KHK	10121.0	CW CQ	11 dB	12 wpm	1643z 06 Jul

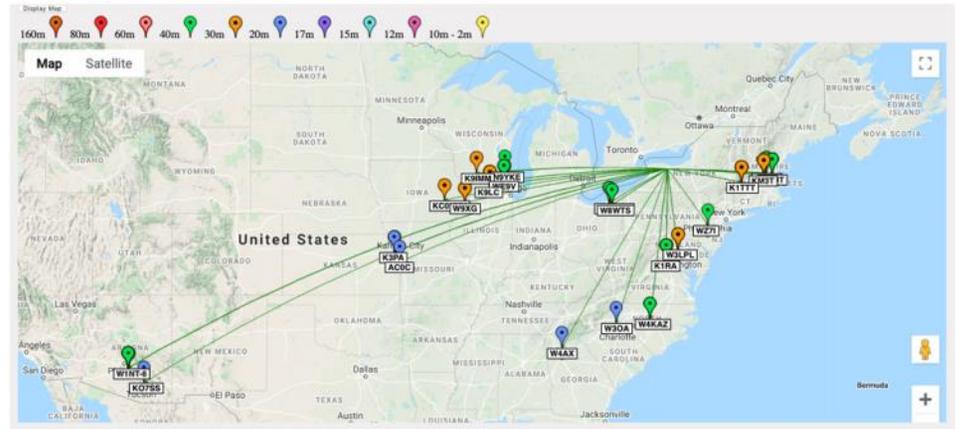
The table lists the skimmer call sign, so that you can look up where it's located (the "de" column), your call sign ("dx"), the frequency, the mode, the speed and the time. In addition to these self-explanatory columns, there is also a "SNR" column that lists a value in dB.

This is the signal to noise ratio ("SNR") reported by the skimmer station. You may be familiar with similar signal reports from modes like FT8. Once that number goes above 10 dB, there is a good chance that a QSO can happen, the stronger the signal is, the easier it will be to copy.

When you click on a skimmer call sign in the table, you will get more information about that station (for example it's QTH), but it gets cumbersome to do that for a lot of reports. An easier way is to display this information is on a map. The RBN used to offer that feature, but with licensing and fee changes imposed by Google for its map service, they had to stop that. You can however get a map from QSOmap.org (<https://qsomap.org/revbeacon.php>) by copying the table data and pasting it into an input area on the mapping site:

The RBN is a good tool to find out how well your signal gets out, and if there is a chance for QSOs from the areas where skimmers are located.

You can however also use the RBN to find potential QSOs. Let's say you are a member of the Straight Key Century Club (SKCC), and you want to get a few



more SKCC QSOs so that you can advance your standing in the club. The number one resource for finding potential SKCC QSOs is the SKCC sked page that is linked to from the main SKCC page (<https://www.skccgroup.com>). The problem with this is that somebody must advertise on the page that they are on the air. Wouldn't it be great if we could find all SKCC members calling CQ automatically? That's what the SKCC Skimmer application is for: It listens to the RBN and then flags all SKCC members and pushes that information out to its users. You can find out more about the SKCC Skimmer here: <https://www.k7mjg.com>

Keep in mind that just because somebody is a member of the SKCC, they may not be using a mechanical key every time they call CQ.

The SKCC Skimmer works for SKCC, but what if you are looking for Fists or NAQCC members? The "CQ Group RBN Spotter" at <http://rbn.telegraphy.de> will do that for you, it also covers a number of other CW groups.

The Reverse Beacon Network is a powerful tool for CW operators, give it a try and see what it can do for you.

THE “B2” SUITCASE SPY RADIO: THE BRITISH SOE AGENTS’ LIFELINE IN WWII FRANCE

BILL HOPKINS, AA2YV

The August 5th presentation at RARA’s virtual online monthly meeting on August 5th, Bill Hopkins (AA2YV) will showcase the British spy radio known as the “B2,” and tell some of the stories of the operatives, many of them young women, who served in Nazi-occupied France, from 1942 to 1944.



The highly secret organization that sent them, mainly into France and Yugoslavia, was known by its innocuous name as the Special Operations Executive (SOE). At the time, no one had any clue of its existence; some agents did not even know what/who they worked for. It was a brainchild of Winston Churchill, to “set Europe ablaze” while Britain was fighting a defensive war.

This presentation is part of the Antique Wireless Museum’s education outreach. It is the product of a double article written in 2018 by Bill and Joel Kosoff (W3ZT) for the Antique Wireless Association’s quarterly *Journal*. Joel wrote the technical part of the articles, explaining the circuitry of the B2. In the process of writing, Bill visited actual sites in the French Alps, where some highly dramatic SOE and French Resistance actions took place.

The forty-some pound B2 in a suitcase accompanied its wireless operator (WT), beginning from his/her moonlit landings by Lysander aircraft onto farmer’s fields or by parachute through a hole cut in a Hudson fuselage. The danger of WT discovery by the enemy was ever present.

Families of RARA members may also find this presentation highly interesting and certainly informative. Those interested in further reading can visit Bill’s and Joel’s extensive Bibliography that lists memoirs of actual agents and the titles of other books that recount special aspects of the SOE.



Find it at:

<https://antiquewireless.org/homepage/spy-radio-operators/>

VE TEAM

RARA (Laurel VE affiliation) is not offering testing until at least September.

For remote testing please see hamstudy.org and search on the page for "remote" or "online".

LARC (Lancaster Amateur Radio Club) is also offering testing.

Please continue to check either the RARA webpage or Laurel VE page at <https://www.laurelvec.com/index.php?team=RARA> for the latest information.

ALL TESTING SESSIONS CANCELLED

New licensees names are in BOLD

Don Kiser - AC2EV
RARA Board member
VE Team Leader
585-613-1035

CW ELMERS

Name	Call	Area	Email
Ned Asam	W2NED	Pittsford	w2ned@frontiernet.net
Tim Brown	WB2PAY	Ogden	tjbrown@rochester.rr.com
Pete Fournia	W2SKY	Penfield	pfournia@gmail.com
Bill Hopkins	AA2YV	Brighton	whopkin4@naz.edu
Bob Karz	K2OID	Webster	rkarz@rochester.rr.com
Joe Rowe	AG2Y	Webster	ag2y@rochester.rr.com
Harry Williams	KF2TV	Webster	harryw7872@gmail.com

RADIO ELMERS

Name	Call	Area	Email
Tim Brown	WB2PAY	Ogden	tjbrown@rochester.rr.com
Dave Carlson	N2OA	Batavia	kdcarloso@gmail.com
Lawrence Hill	N2AJX	Henrietta	lawrence.hill@rit.edu
Bill Kasperkoski	WB2SXY	Pittsford	wb2sxy@gmail.com
Don Kiser	AC2EV	N Greece	dkiser100@gmail.com
Karl Heinz Kremer	K5KHK	Chili	k5khk@khk.net
Tim Magee	WB2KAO	Greece	585-704-5747
Peter Schuch	WB2UAQ	Perinton	pschuch@rochester.rr.com
Forest Shick	WA2MZG	Webster	fshick3@gmail.com
Dave Timmons	W2DST	N Greece	dstimmons@gmail.com
Dan Waterstraat	W2DEW	Henrietta	higreen@rochester.rr.com

RARA CALENDAR

TIM BARRETT, K9VB, MEMBERSHIP SECRETARY

August 2020						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
						1 Batavia FT8 Contest (Indonesia) 10-10 Summer Contest, SSB European HF Championship RTTYOPS Weekend Sprint ARRL 222 MHz and Up NA QSO Party CW
2 Batavia FT8 Contest (Indonesia) 10-10 Summer Contest, SSB ARRL 222 MHz and Up NA QSO Party CW SARL HF Contest	3 AWA Net 145.110 MHz, 7pm WW Sideband Activity Contest ARS Spartan Sprint	4 Phone Fray RTTYOPS Weeksprint	5 RaRa Monthly Mtg ONLINE 7pm ROC City Net 3.810 MHz, 8pm CWOps Mini-CWT Test VHF/UHF FT8 Activity Contest	6 ARES Net 146.610 MHz, 7pm NRAU 10M Activity Contest SKCC Sprint, Europe QRP Foxhunt RTTY Ops Weeksprint	7 NCC Sprint	8 WAE DX Contest, CW QRP ARCI European Sprint SKCC Weekend Sprintathon Maryland/DC QSO Party RTTY Ops Weekend Sprint
9 WAE DX Contest, CW SKCC Weekend Sprintathon Maryland/DC QSO Party 4 States QRP Sprint	10 AWA Net 145.110 MHz, 7pm WW Sideband Activity Contest	11 Phone Fray RTTYOPS Weeksprint NAQCC CW Sprint	12 ROC City Net 3.810 MHz, 8pm CWOps Mini-CWT Test VHF/UHF FT8 Activity Contest	13 ARES Net 146.610 MHz, 7pm RTTY Ops Weeksprint	14 NCC Sprint	15 SARTG WW RTTY Contest ARRL 10GHz and Up Contest Russian District Award Contest Keyman's Club of Japan Contest Feld Hell Sprint NA QSO Party SSB CVA DX Contest, CW
16 SARTG WW RTTY Contest ARRL 10GHz and Up Contest Russian District Award Contest Keyman's Club of Japan Contest NA QSO Party SSB CVA DX Contest, CW ARRL Rookie Roundup, RTTY	17 AWA Net 145.110 MHz, 7pm WW Sideband Activity Contest	18 Phone Fray RTTYOPS Weeksprint NCCC Sprint	19 ROC City Net 3.810 MHz, 8pm CWOps Mini-CWT Test	20 ARES Net 146.610 MHz, 7pm RTTY Ops Weeksprint	21 NCC Sprint	22 ILLW Lighthouse Event Canceled HA, OH QSO Parties CVA DX Contest, SSB RTTY Ops Weekend Sprint 50 MHz Fall Sprint
23 ILLW Lighthouse Event Canceled HA, OH QSO Parties CVA DX Contest, SSB 50 MHz Fall Sprint	24 AWA Net 145.110 MHz, 7pm WW Sideband Activity Contest	25 Phone Fray RTTYOPS Weeksprint NCCC Sprint	26 ROC City Net 3.810 MHz, 8pm CWOps Mini-CWT Test	27 ARES Net 146.610 MHz, 7pm RTTY Ops Weeksprint	28	29 Feld Hell Sprint ALARA Contest WW Digi DX Contest YO DX HF Contest W/VE Islands, KA QSO Parties Kentucky State Parks On The Air
30 Feld Hell Sprint ALARA Contest WW Digi DX Contest YO DX HF Contest W/VE Islands, KA QSO Parties	31 AWA Net 145.110 MHz, 7pm QCX Challenge					

NEWS FROM AREA CLUBS

MONROE COUNTY ARES / RACES NEWS

Monroe County Amateur Radio Emergency Service (ARES)® is an amateur radio public service organization based in Monroe County, New York, and is open to all licensed amateur radio operators. Monroe County Radio Amateur Civil Emergency Service (RACES) is a program of the Monroe County Office of Emergency Management. We participate in training and emergency exercises so that we can serve other agencies during times of communication failure.



The Monroe County Amateur Radio Emergency Service, Inc. holds its meetings on the fourth Thursday of each month except in July, August, November and December. Anyone interested, members and non-members, are welcome to attend.

On even numbered months the meetings are held at the Monroe County EOC, 1190 Scottsville Rd. (Media Room, 2nd floor, north end). On odd numbered months we meet at the Red Cross, 825 John St.. W Henrietta. at 6:00 PM. Please check our website for any schedule changes.

If the doors are locked, call WB2EOC on the 146.61 MHz (-) 110.9 Hz PL repeater.

Monroe County ARES/RACES meets on the air every Thursday of the month at 7:00 PM, on the N2MPE 146.61 MHz (-) 110.9 Hz PL and 444.45 (+) 110.9 Hz PL repeaters. Our club callsign is WB2EOC.

There is no net on nights when we hold our regular meeting, generally on the 4th Thursday of the month.

WEB: www.monroecountymcomm.org

Facebook : Monroe County Amateur Radio Emergency Service, Inc.

Twitter @MCARESNY

Severe Weather Alerts: Winter may bring severe weather in the form of heavy snow storms, strong winds, and flooding. If you experience severe weather, especially when accompanied by damage to property in your area, listen to your local ARES/RACES repeaters for information. While official ARES/RACES activation could be a possibility, it is more important that we open a spontaneous net simply to share information about weather conditions in your immediate area. Don't wait for someone else to do it. Pick up the microphone and start a net. Have each check-in station give you a situational awareness report and emergency power report. If you don't have a copy of the directed net protocol, you can find one at the WEB address listed above. (Activities/ARES Net/ Net Script/

Downloads). We encourage all amateur radio operators to take a free Skywarn TM class offered by the National Weather Service. The schedule of classes can be found at <https://www.weather.gov/buf/skywarn>

Monroe County ARES
Ralph Dutcher, Net Control - KD2BDZ@arrl.net

ROCHESTER DX ASSOCIATION, RDXA

There will be no General Meeting in August (as is customary).

For additional information on upcoming meetings and events, please, Check rdxa.com for details



ROCHESTER RADIO REPEATER ASSOCIATION

The Rochester Radio Repeater Association, RRRA invites you to attend its meetings. Meetings are held on the 3rd Friday of the month in the Pittsford Town Hall Basement starting at 7:30 PM.

There will be no meetings held during July and August, we will be on summer hiatus till September 18, 2020 when our regularly scheduled meetings will resume.

Stay tuned to our web site, www.k2rra.org We may still announce Amateur License testing in place of the August 2020 meeting.

The elected RRRA officers for 2019 - 2020 are, Bob Shewell, N2HJD, President, Bob ODeil, N2BZX, Vice President, ED Wilkonski, KC2WM Secretary, and Bob Smith, NS2B-Treasurer / Membership Chairman. RRRA also accepts donations to the club. If you are not currently a member and want to support RRRA, you can join at our monthly meeting or on our web site. www.k2rra.org

XRX AMATEUR RADIO CLUB

The XRX Amateur Radio Club meets the 2nd Thursday of each month. The meetings are 6PM at the Webster Recreation Center. Look for details on our website <http://xarc.us>

Due to our current health crisis please check your organizations web site for the status of meetings and events.

ROCHESTER VHF GROUP

You are invited to join us on-line & on-the-air! We're here to help you to use the license that you worked so hard to get.



Check out what we do by visiting our website at <http://RVHFG.org> to start.

Join our e-mail group by sending a message to RVHFG+subscribe@groups.io.

Join our weekly on-the-air nets on SSB:
2 meter band - Monday 9 PM 144.260 USB
6 meter band - Thursday 9 PM 50.200 USB

No VHF SSB radio (yet) to join the nets?
Log-in to Echolink [ka2ene-L #23426](https://www.echolink.com/ka2ene-L)

We can help to answer the question, "What radio should I buy?" Here's a list of HF+++ radios, those with the HF bands and at least three VHF bands, giving you access to all sorts of VHF fun. Research each one to see which serves you best. Ask questions on our email list. We're here to help!

Yaesu FT-100D	Yaesu FT-817	Yaesu FT-818
Yaesu FT-847	Yaesu FT-857	Yaesu FT-897
Icom IC-706MKIIG	Icom IC-7000	Icom IC-7100
Icom IC-9100	Kenwood TS-2000	

Some are older models and some are newer models, but all provide access to the 6 meter, 2 meter, and 70 centimeter bands using both traditional FM and the exciting narrow-band SSB mode that supports unexpectedly long-distance (100's of km's routinely and 1,000's of km occasionally) VHF communication. These are good all-around radios no matter what club you end up affiliating with later. We hope its us.

AMATEUR RADIO ASSOCIATION OF THE SOUTHERN TIER, ARAST

ARAST meets the third Thursday of every month at the Town and Country Fire Department on Gardner Rd in Horseheads New York. Chemung County ARES (CCARES) meets the first Tuesday of the month except February on Harris Hill, next to the National Soaring Museum. See <http://www.ccares.info> for details. CCARES serves the entire area in Chemung, Schuyler and Steuben counties and all are welcome.

Our new website is up and running, although future enhancements are still planned. Check it out at <http://www.arast.info>.

Both CCARES and ARAST monthly meetings will be held online until further notice. Check out the Upcoming Events on [arast.info](http://www.arast.info) for particulars.

Our 2020 Hamfest, one of the largest in Upstate New York, will be held this year on September 26, 2020 at the Chemung County Fairgrounds in Horseheads, New York. Details and tickets are now available online at http://www.arast.info/arast_website/public/hamfest.php.

We regret that the 2020 Guthrie Wineglass Marathon in the Corning area will not be taking place as a "live" event. Hopefully, in 2021, things will be back to normal, and we will again be looking for extra communicators.

Don't forget to check out our repeaters when you visit the area. N3AQ 147.36(+) and the W2ZJ 146.70(-) are the principal 2-meter repeaters. The latter can also be accessed via Echolink node 672027 with the call sign KA2BED-R. A full list of repeaters that can be heard in the Twin Tiers area surrounding Chemung County can be found at http://www.arast.info/arast_website/public/repeaters.php.

COMMUNITY AMATEUR RADIO CLUB, CARC

If you are interested in being a part of this forward thinking and active club, visit us at a meeting or join us on one of our weekly nets. We meet at the Hoag Library (134 S. Main St. Albion, NY) on the first Saturday of each month at 7PM. Each meeting has a brief training/refresher period with upcoming topics including: net protocol, repeater set-up/maintenance, and digital signaling. The club holds a net every Sunday evening at 8pm (winter) and 9PM (summer) - 0100 UTC Monday - on 147.585 simplex, and we host the Thursday Night Social Net, Thursday at 8:30PM on 147.285+. We'd love to hear you check-in!

Due to our current health crisis please check your organizations web site for the status of meetings and events.

DIGITAL COMMUNICATIONS ASSOCIATION OF PERINTON, DCAP

DCAP members continue to experiment with leading edge digital communication modes. We were formed in 1994 to foster the development of local and regional packet radio networks using AX25 and TCP/IP. Today we have members using the club sponsored DSTAR repeater (KB2VZS on 444.8MHz), several personal and publicly accessible DSTAR hotspots, Yaesu System Fusion systems on non-club repeaters and DMR systems through repeaters and personal hotspots. DCAP members meet for breakfast at 7AM nearly every Saturday morning at Rikki's Family Restaurant in the village of Fairport and everyone is welcome to join us. Talk in is on the KB2VZS analog repeater on 146.715MHz with a PL tone of 110.9Hz.

DRUMLINS AMATEUR RADIO CLUB

The Drumlins Amateur Radio Club meets every third Wednesday of the month at 7:30 PM at the Wayne County EMO/Sheriff's Office 7376 State Hwy 31 #1000, Lyons, NY 14489. Doors open at 7 pm, meeting starts at 7:30 pm. Announcements will be made on the 146.685 repeater. The Drumlins ARC website address is <http://drumlinsarc.us/>

KEUKA LAKE AMATEUR RADIO ASSOCIATION, KLARA

The purpose of our association is to:

- promote interest in Amateur Radio communication and advancement of the radio art.
- conduct programs, training, and exercises that enhance the skills of the members, and educate the community.
- develop ties with other services and establish relationships with community organizations.
- provide emergency communication services.
- promote enjoyable Amateur Radio related events.

The association was incorporated in 1991 and has been a vibrant part of the community ever since. We have a very active VE testing program. We also participate in numerous public events (the Wineglass Marathon and the Wine Country Classic Boat Regatta are two of the largest).

We operate a system of three repeaters (which are linked), providing a large area footprint for two meter FM amateur use. Please see our website for details. (klara.us)

Our meetings are held on the second Wednesday of each month at the Civil Defense and Fire Training Center on Route 54 in Bath, NY.

ORLEANS COUNTY AMATEUR RADIO CLUB

The Orleans County ARC meets every 2nd Monday of the month at the Orleans County Emergency Operations Center, 14064 West County House Road, Albi-

on, NY 14411. Doors open at 6:00PM, meeting starts at 7:30PM. Anyone with an interest in amateur radio is welcome. Program topics vary from month to month.

The club has an open two meter net every Tuesday night at 9:00PM local time on the club repeater, WA2DQL/R (145.27 -600KHz offset, 141.3 tone). Everyone is welcome to check in.

See the club website <http://ocarc.us> or contact club Secretary Ron Craig, N5BNO for more information.

SQUAW ISLAND AMATEUR RADIO CLUB, SIARC

The Squaw Island Amateur Radio Club (SIARC) meets every second Wednesday of the month at 7:30PM at the Ontario County Safety Training Facility, 2914 County Road 48, Town of Hopewell. We have License Exam Testing every other month which begins at 6:30PM. There will NOT be testing in August. The meeting for Wednesday, August 12th has yet to be determined if it will be by

Due to our current health crisis please check your organizations web site for the status of meetings and events.

THE AMATEUR'S CODE

Originally written by Paul M. Segal, W9EEA (1928)

THE RADIO AMATEUR IS:

- | | |
|--------------------|--|
| CONSIDERATE | Never knowingly operating in such a way as to lessen the pleasure of others. |
| LOYAL | Offering loyalty, encouragement and support to other amateurs, local club, and the American Radio Relay League, through which Amateur Radio in the United States is represented nationally and internationally. |
| PROGRESSIVE | With knowledge abreast of science, a well built and efficient station and operation beyond reproach. |
| FRIENDLY | With slow and patient operation when requested, friendly advice and counsel to the beginner, kindly assistance, co-operation and consideration for the interests of others. These are the hallmarks of the amateur spirit. |
| BALANCED | Radio is an avocation, never interfering with duties owed to family, job, school or community. |
| PATRIOTIC | With station and skill always ready for service to country and community. |

RARA MARKETPLACE

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SEPTEMBER RAG DEADLINE AUGUST 15, 2020

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THE RARA RAG

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