

44th ANNUAL EASTERN VHF/UHF/MW CONFERENCE

Fri./Sat./Sun. April 20-21-22, 2018

BAYMONT INN & SUITES, Manchester, CT

SPEAKERS

W2RMA -- Rover Master Control Box

W9JJ -- Update - 1st Annual 222 MHz and Up Distance Contest

N1JEZ & VE2UG -- Experiments on 122 GHz

VE2UG -- Finding Sites with HeyWhatsThat

W1GHZ -- New Cheap & Simple Transverters

WA2AAU -- Noise on our Shared Microwave Bands

WA1TE -- K1SIG/R Rover

N6NB -- Obstacle Gain: Reinventing the Wheel in 2018

W3SZ -- Station Automation Symposium

ALTERNATE FRIDAY PROGRAM

For those not interested in the Friday Symposium, there will be a Self-Guided Tour of New England Aviation Museum in Windsor Locks, CT. If there are enough folks interested, we might be able to arrange a discount and tour guide.

Please send email to Mark K1MAP: [map92map \(at\) gmail.com](mailto:map92map@gmail.com)

FRIDAY SYMPOSIUM, April 20, 1:30 to 5:30 PM

W3SZ -- Station Automation Symposium

Roger Rehr, W3SZ, will lead a symposium on Station Automation. In the final part of the symposium, participants will have the opportunity to do some simple programming of an Arduino board and take it home for further experimentation.

The Arduino MEGA boards will be available to participants at a cost of \$10 (look up current price online), but must be reserved in advance by March 31 so that we can get the quantity price.

Please send email to [w1ghz \(at\) arri.net](mailto:w1ghz@arri.net) to reserve an Arduino or to indicate participation.

If you already have an Arduino board, or just wish to be a spectator, then there is no cost.

Participants are asked to bring a Windows laptop if you have one, and to download some software in advance so that we don't overwhelm the hotel Wifi - Roger will guide you through installation.

DETAILS FROM W3SZ

On Friday April 20, 2018 from 1:30 PM to 5:30 PM there will be a Station Automation symposium, focused on the Arduino platform. There will be an emphasis on projects useful to those doing VHF/UHF/microwave work, but many of the projects could be used by any ham.

If you plan to attend the seminar please send an email to **Paul Wade at: [w1ghz\(at\)arrl.net](mailto:w1ghz(at)arrl.net) BY MARCH 31, 2018** letting him know of your plan to attend. Walk-ins will be welcome, but may miss out on some features of the symposium by virtue of not pre-registering.

The symposium will be organized somewhat like a programming boot camp, with the goal being that each attendee will be able to leave the symposium able to write his/her own Arduino code and create his/her own Arduino-based ham-radio-related projects.

Those who bring their Windows laptops to the symposium will be able to start using the Arduino IDE (Integrated Development Environment) during the symposium, assuming that we can get public WiFi access for the conference room.

It would be ideal for those bringing their laptops to pre-install the Arduino IDE from this URL:

<https://www.arduino.cc/en/Guide/Windows>

The symposium will consist of the following:

- First, a general introduction to microcontrollers (MCUs) and Single Board Computers (SBCs) and why their use may benefit the typical ham station.
- Next, a brief discussion on why the Arduino is the platform of choice, and what choices are available within the Arduino product line.
- Third, instructions for downloading and getting started with the Arduino IDE, for those who haven't done this before the symposium.
- Fourth, we will introduce the basics of the Arduino language, which is a subset of C++. [NOTE from W1GHZ: you can hack other peoples online code to do stuff without learning the language]
- Fifth, we will discuss some of the online resources available for Arduino users.

The remainder of the symposium will be a series of presentations of individual Arduino-based projects with details of the function and capability of each project and then a review of salient portions of the code for each project, where appropriate. Those who have brought their laptops

and who have the Arduino IDE loaded on the laptops can download the code and follow along on their laptops during the presentation. If they have brought an Arduino MEGA or compatible they can even run the code being discussed during the symposium.

Projects will likely include (but not be limited to):

Logging-Program-Based Arduino IF/Bandswitch (can use either an UNO or a MEGA)

SuperMEGA SO2Rduino - an expansion of Paul Young K1XM's SO2Rduino to fit the needs of VHF and up contesters (requires a Arduino MEGA 2560)

Arduino Ethernet Device Controller (requires a MEGA 2560)

Arduino-based Remote RF Power Monitor (requires a MEGA 2560)

In preparation for the seminar, those planning to attend can find the code, videos, and slides at:

<http://w3sz.x10.mx/StationAutomation87.html>

This symposium will not cover the non-Arduino subject matter on that webpage, and will expand on the Arduino subject matter on that page, but the page is a good start for getting up to speed on the topics to be discussed in the symposium.

Having the code snippets loaded on your laptop and available at the seminar will make it easier to understand the code as it is discussed. A pdf flie with all of the code to be discussed is at the URL below. Wait until shortly before the symposium to download this file so that you get the most recent code:

http://w3sz.x10.mx/StationAutomationSeminar_Code_Handout_W3SZ.pdf

Again, if you are planning on attending the symposium, please let **Paul Wade w1ghz (at) arrl.net** know by **March 31**.

73,
Roger Rehr
W3SZ