

Friday, May 15, 2015

Dayton Hamvention - Forum Schedule - Friday, 15 May - Version 1.3 (As of 23 April)
For more information, visit <http://hamvention.org>

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9:15 - 11:15

Room 1

TAPR

Moderator: **Scotty Cowling, WA2DFI**, past TAPR Director and past TAPR Vice President

Speakers: **Steve Bible, N7HPR**, TAPR President

Steve Ford, WB8IMY, QST Editor, **Write for QST/QEX**

Bill Curtice, WA8APB, and Bob Dixon, W8ERD, Hamnet Mesh: Consider the Possibilities! High speed, digital, microwave mesh networks offer hams an exciting array of new communications possibilities supporting experimentation, remote sensing and control, and emergency communications. Mesh is the ultimate "experimenter's sandbox", serving as an ideal host for a wide variety of "maker" projects and applications. This presentation will introduce mesh, describing what it is, how it works, and how it's deployed. We will then address a variety of mesh applications, to include those hosted by Raspberry Pi and similar processors.

Bryan Fields, W9CR, High Speed IP Radio A presentation on High-Speed IP radio with an emphasis on building regional highly available networks. Utilizing the same techniques which enable the Internet, Amateur Radio networks may be built; connecting projects to the Internet or other sites. These networks form a resilient backup to cable, DSL and phone commercial internet connections.

Chris Testa, KD2BMH, Whitebox Project: New Charlie Prototype Come check out the third prototype of the Whitebox handheld SDR project. This is a software-defined transceiver that will be FCC-legal and can communicate using essentially any mode and protocol up to 1 MHz wide on frequencies between 50 and 1000 MHz. It pairs with your smartphone, and runs all Open Source Software on an embedded uClinux system.

Mike Ossmann, Spectrum Monitoring with Software Defined Radio Many of the current crop of SDR platforms support a very wide range of operating frequencies covering more than a GHz of bandwidth, but most users of those platforms find themselves looking at waterfall displays showing a few MHz at most. Let's look at how we can use SDR to monitor activity over several GHz of spectrum and visualize the results over both short and long periods of time.

9:15 - 10:45

Room 2

Homeland Security Training

Moderator: **John Peterson**

The Department of Homeland Security's (DHS) Office of Emergency Communications (OEC) forum is geared toward auxiliary emergency communicators who volunteer to provide backup emergency radio communications support to public safety and emergency response agencies. Typically they are amateur radio communicators from groups such as MARS, ARES, RACES, SATERN and other amateur radio groups.

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Volunteer emergency communications operators/groups have been providing back-up emergency communications to the public safety community for nearly a century. They are routinely used by event planners and emergency managers at all levels of government. Today nearly all the States/territories have incorporated some level of participation by amateur radio auxiliary communication operators into their communications interoperability plans.

Come talk with the DHS Communications Unit (COMU) subject matter experts and learn about this nationally recognized, NIMS/ICS compliant, AUXCOMM workshop and what the future holds for COMU training. This forum will include:

1. **John Peterson**, OEC's team lead for the development of the AUXCOMM course and the AUXCOMM Field Operations Guide
2. **George Molner**, Statewide Interoperability Coordinator (SWIC) for the State of Nevada and how he uses trained amateur radio operators in their emergency communications planning.
3. **Randy Kerr**, an experienced COML and an instructor for OEC's AUXCOMM and COML courses.
4. Information on OEC's Interoperable Communications Technical Assistance Program
5. How amateurs are incorporated into the National Emergency Communications Plan (NECP)
6. Information on how you can become qualified to teach OECs AUXCOMM course

9:15 - 10:15

Room 3

SATERN's Disaster Response Role

Speakers: **Lt. Colonel Carol Busroe**, National Liaison for EDS Emergency Disaster Services National Director for White House Relations
Bill Fiest, WB8BZH, Southern Territory SATERN Coordinator
Bill Shillingto, W9ZCL, Central Territory SATERN Coordinator

9:15 - 11:15

Room 5

QRP Challenge

Moderator: **Ken Evans, W4DU**, is the current president of the QRP Amateur Radio, International (QRP ARCI).

Speaker: **Craig Behrens, NM4T**, the "Huntsville (Rocket City) QRP Guy" and Founder of The QRP SkunkWerks: A new generation of creative QRPers are actively redefining amateur radio. It makes no difference if you are an occasional low-power radio enthusiast or a die-hard QRP fanatic—it's the 21st century and the rules have changed. This forum is not about your father's version of QRP! Join us as we examine how powerful and (now) affordable technologies are being leveraged to create radio capabilities and extreme radio sport activities that have never been available to us before.

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| 10:30 - 12:00 | Room 3 | Instructors' Forum
Moderator: Carole Perry, WB2MGP
The Instructors' Forum is designed to inform and share ideas with teachers, instructors and leaders of youth groups that incorporate Ham Radio in their programs with young adults.
Speakers: EMike McCardel, KC8YLD , VP for Educational Relations AMSAT-NA: AMSAT Educational Outreach and New ARISS Proposal Guidelines An overview of educational outreach opportunities and activities available through AMSAT and its educational partners, including the ARRL and ARISS.
Stan Reubenstein, WA6RNU , president emeritus of Radio Club of America and on the RCA Youth Activities Committee, International Efforts to Promote Youth in Ham Radio A discussion of the efforts in recruitment in different countries and motivations to keep young hams involved and engaged in radio.
Ed Engleman, KG8CX , co-founder of Y.A.C.H.T. (Young Amateurs Communications Ham Team) program, Promoting Ham Radio to Youth in a Boys and Girls Club Setting and Creating and Maintaining Activity and Interest through an Echolink Youth Group and Net.
All presenters will provide handouts for the audience members. |
| 10:30 - 11:30 | Room 5 | IOS & Android Rig Control
Speaker: Nick Garner, N3WG , from Pignology, LLC will be giving an overview of a project to build a low-cost, smartphone/table controlled, antenna analyzer. The project uses Bluetooth Low Energy (BTLE) to send control signals to a Direct Digital Synthesizer (DDS). When the DDS is running, the microcontroller reads and calculates the SWR through a high-precision Wheatstone bridge. Nick will discuss where this idea came from, the folks that helped make it happen, and his intended use of it, portable radio ops with wire antennas. |
| 11:00 - 12:00 | Room 2 | The Evolution of Radio Through the Ages
Speaker: Frank J. Beafore, WS8B
Based on the first chapter of <u>Antennas</u> by John D. Kraus (K8JK/SK), this forum will take the audience from basic scientific discoveries from 600 BC to the present. Along the way, many personalities and their respective contributions to the science of radio communication will be discussed. Some demonstrations will be presented and as in any forum, audience participation will be strongly encouraged. |
| 11:30 - 12:30 | Room 1 | APRS
Speakers: Bob Bruninga, WB4APR, APRS Operating notes
Byon Garrabrant, N6BG, Byonics Update
Allen Lord, AF6OF, Microtrack Update |

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Jason Rausch, KE4NYV, RPC Electronics Update
Don Arnold, W6GPS, AVMAP G6 update
Andrew Pavlin, KA2DDO, author of YAAC
Bryan Hoyer, K7UDR, NW Digital Radio

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| 11:45 - 12:45 | Room 5 | Kit Building Techniques For Success
Building kits can be a lot easier, once you know the best ways to make your kit building experience easier with the right tools. Join us to learn what is new in the kit world and learn tips to make building kits more successful and enjoyable!
Moderator/Speaker: Joe Eisenberg, KONEB , Kit Building Editor, CQ Magazine, Kit Building Tips For Both Beginners and Experts
Speakers: Wayne Burdick, N6KR , Elecraft , What is new and tips for builders
Rex Harper, W1REX , QRP ME, Easy Kits for QRP Fun |
| 12:15 - 2:15 | Room 2 | Balloon Sat
Moderators: Bill Brown, WB8ELK , & Doug Loughmille, W5BL
Speakers: Bill Brown, WB8ELK , Miniature Trackers and Long Duration Flights
Gene Swiech, WB9COY , Arizona Near Space Research Ballooning
Brian Tanner , Spaceport Indiana STEM Activities
Keith Kaiser, WA0TJT , Jurassic Pigs and Other Adventures in High Altitude Ballooning, Part 2 |
| 12:15 - 1:45 | Room 3 | Hams in Space
Speakers: Randy Schulze, KDOHKD , and Eddy Paul, KY0F
You don't need 100W of transmit power nor expensive antenna arrays to work the FM amateur satellites! Many hams already have the necessary equipment to "work the birds." The Hams in Space Presentation will walk you through ALL the steps needed to successfully work ham satellites. An emphasis of "Keep it Simple" and "Have Fun" is stressed throughout. |
| 12:45 - 2:15 | Room 1 | D-Star
Speakers: Ray Novak, NJ6N , ICOM , John Davis, WB4QDX , Robin Cutshaw, AA4RC , Jim Moen, K6JM , Guus Van Dooren, PE1PLM
D-STAR continues to grow and change. The speakers this year are experts in the many facets of D-STAR and will be updating attendees with the latest news, radios, and gadgets. New products are always the highlight at the forum. |
| 1:00 - 2:15 | Room 5 | Techniques of Best Operators
Speakers: Mitch Stern, W1SJ , and Tony Pazzola, W2BEJ |

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Why is it such a struggle to work the DXpeditions? Why is working new stations such a struggle? Why is it every time I get into a QSO, it ends up getting swallowed up in a sea of QRM? Now that you've bought up all the great stuff from the Flea Market and got home and set it all up, now what do you do after you turn it on? How do you go about making contacts with others? Why does everyone else work the DX but you can't? It's probably because they attended THIS FORUM in the past! A good station certainly helps, but knowing WHAT to do when you get on the air is even more important. Our forum today will certainly help. We'll start off with some of the basics of good repeater operating, move on to the more serious matter of public service and emergency operation, dabble with DX and finally learn how to use contests to become better operators. You won't be same operator by the end the day and will be a force to be reckoned with on the bands! You will be treated to lots of data, on-the-air war stories, super suggestions and then you'll get to participate in the dreaded Hamvention® QSO Party. Don't miss it!

2:00 - 3:30

Room 3

Foxhunt / ARDF

Moderator: **Dick Arnett, WB4SUV**

Speakers: **Bob Frey, WA6EZV and Brian Deyoung, K4BRI**

Topics include demonstration, and discussions on a variety of equipment used for VHF mobile, on foot and ARDF style transmitter hunts. Demonstrations also on equipment used to locate intentional Interference.

2:30 - 5:00

Room 1

Antenna Forum

Moderator: **Tim Duffy, K3LR**

Speakers: **Angel Vazquez, WP3R, A Behind the Scenes Tour - The World's Largest Antenna at Arecibo** Angel will describe the operation of the world's largest radio telescope. He will highlight its mission and how amateur radio has a tremendous link to this high technology antenna system.

Joel R. Hallas, W1ZR, A Look at Antenna Analyzers Joel will give a review of popular Antenna Analyzers highlighting their functions and explaining their features. He will review the operation of the units including things you should be aware of when selecting your next analyzer.

Dr. Tamitha Skov, The Science of Predicting Space Weather and How it Affects Propagation Dr. Skov will present an overview of her work to understand the Sun's impact on the ionosphere. She will review the tools and research she is involved in as well as discussing her weekly Space Weather updates on spaceweather.tv

Greg Ordy, W8WWV, Quadcopter Drone Assisted Real World Antenna Pattern Measurements Greg will show how he is using a Quadcopter to

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measure antenna patterns. He will show his work in this area so far with a signal generator and present some ideas for more work in this area in the future.

2:30 - 3:45

Room 2

Ham Radio and the Law: Getting Antennas Up and Keeping Them Up

Moderator: **Fred Hopengarten, Esq., K1VR**, Author of "Antenna Zoning for the Radio Amateur"

Speakers: **Jim O'Connell, Esq., W9WU**, ARRL Volunteer Counsel; **Dan Henderson, N1ND**, ARRL Regulatory Information Manager; and **Kevin Kaufhold, Esq., W9GKA**, ARRL Volunteer Counsel

ARRL invites you to this discussion by Amateur Radio attorneys on legal issues of interest to hams: avoiding restrictive covenants, presenting your case for a tower permit, and the latest court rulings on PRB-1 and towers. You'll also enjoy an update on ARRL's proposed legislation, The Amateur Radio Parity Act of 2015 — H.R.1301, introduced in the US House of Representatives to protect hams living under Homeowner Association authorities. This forum is sponsored by ARRL, the national association for Amateur Radio®.

2:30 - 3:30

Room 5

YL Forum

Moderator: **KC8PKY Linda Metz, President YLRL**

Join members of the Young Ladies' Radio League to find out about this historic club and women in Amateur Radio. Every woman ham is a "Young Lady" no matter what her age. Topics will include: reports on new nets and awards, the YLRL 75th Anniversary convention held last August and last May's International YL Meet in Reykjavik, Iceland, where to find YLs at local events; how to get the YL magazine; and much more. Bring your questions to the YL Forum and find out more about women in Amateur Radio, meet officers in the YLRL and hear from Young Ladies of all ages! OMs are also welcome to earn awards and are appreciated for their support.

3:45 - 5:00

Room 3

Advances in Software Defined Radio

Moderator: **Stephen Hicks, N5AC**

Speakers: **Scotty Cowling, WA2DFI, The Ins and Outs of Internet**

Connected Radios How would you like to listen to the bands on a triband Yagi at 110 feet, even though you live in an antenna-restricted HOA? It is easier than ever to listen to Internet-connected radios or connect your SDR to the Internet to share with others. Along with your SDR, a moderately performing Linux system and an average broadband connection is all that you need to put your SDR on-line. The requirements are even less if you just want to operate a remote rig. We will cover various client and server software programs that are available, along with the hardware you will need.

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David Hershberger, W9GR, Continuous Envelope Single Sideband (CESSB) David will discuss the overshoot inherent in all SSB modulators, the impact this has on power output for amateur transceivers and various methods previously tried to mitigate the inevitable reduction in output power. David will then describe a new novel method called Continuous Envelope Single Sideband (CESSB) including a block diagram and simulations showing the benefits.

Stephen Hicks, N5AC, VP Engineering, FlexRadio Systems, Advances in SDR The Software Defined Radio market continues to produce new advances that benefit SDR operators. This talk will discuss some of these advances including remote operation and Ethernet station integration, the benefits being enjoyed by owners of SDRs and possible future innovations likely to emerge in the amateur market. The three speakers will form a panel at the end of the presentations and will address questions from the audience as a group.

3:45 - 5:00

Room 5

Introduction to Digital Mobile Radio (DMR) and the Amateur Radio DMR Networks

Presenter: **Dr. John S. Burningham, W2XAB**

This presentation will provide the basics of the DMR terminology, technology and user equipment available along with a description of the network infrastructure used on the Amateur Radio Mototrbo™ Networks.

4:00 - 5:00

Room 2

County Hunting

Moderator: **Dr. Timothy Eklin, W8JJ**, holds USA-CA #1203 and is currently attempting to work all US counties using CW and is closing in on the MARAC BINGO award. He also enjoys operating mobile to activate needed counties on multiple bands and modes. Tim will serve as host and moderator for again this year's forum.

Speakers: **Bob Voss, N4CD**, will discuss going mobile the "county hunter way". Bob is an experienced county hunter having transmitted from all 3077 counties. He will discuss how to get those "last counties" for others working on the various awards including running mobile from Alaska and Hawaii.

Tim Eklin, W8JJ, will present a slide show detailing his most recent mobile ham radio installation. The presentation will cover bonding, 12 VDC wiring, RF chokes, and innovative radio and antenna mounting solutions for mobile operations. He will conclude with a product review of the Scorpion SA-680 (10-80 meter) antenna for county hunting.