VHF Super Conference April 25 – 28

Monday, April 8 Last Day for Early Bird Rate!

Sponsored by SVHFS, NEWS Group and The Packrats
Hosted by the Grid Pirates Contest Group and Directive Systems and Engineering

If you've never been to a VHF-UHF-Microwave Conference --- This is the One to Go To!
Registation, Banquet, Bus Tours Early Bird Rates extended through Monday, April 8

Registration

Register online for the conference at http://vhfsuperconference.com/

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MEMBERSHIP in the N.E.W.S Group is $10 per year
Apply to John Crawford, N2OY. E-mail: n2oy.vhf@gmail.com

A membership application form can be found at the end of this newsletter or it can be downloaded from our web page: http://www.newsvhf.com

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Articles may be reprinted with proper credit given to the author and the NEWSLetter
Send articles by e-mail to George Collins, KC1V at news.kc1v@gmail.com
VHF Super Conference April 25 – 28

Holiday Inn Washington-Dulles International Airport

Sponsored by SVHFS, NEWS Group and The Packrats
Hosted by the Grid Pirates Contest Group and Directive Systems and Engineering

Registration

Online Registration is available at http://vhfsuperconference.com/

Early Bird Discounts
Extended Through Monday, April 8!

Early Bird Registration is $99, After April 8 it is $110 – *if available*

Includes: Lunch and All Day Beverages Friday and Saturday
Hospitality Room Thursday and Friday Evenings
Conference Proceeding CD

Early Bird Banquet: is $43; After April 8 it is $50 – *if available*

Early Bird Bus Trips Thursday and Friday Rates Available through April 8

For Hotel Reservations Call: 877-875-9823
Special Hotel Rates have expired
Check Hotel Web site to room rates.

Thursday and Friday Bus Trips

Thursday Early Bird Rate: $39 - $45 after April 8 (if available). Three-hour Guided Bus Tour of Washington, DC plus three hours on your own to visit the Smithsonian area museums and the Capitol. Bus leaves at 10 AM, returns about 6 PM.

Friday Early Bird Rate: $29 - $35 after April 8 (if available). Four hours on your own at the National Zoo. Bus leaves at 10 AM, returns about 4 PM.

Bus Trips are now on the Registration Web Page

There is Something for Everyone!

*** Microwaves ***
*** CW & SSB Weak Signal DX ***
*** Digital ***
*** 6 Meters and Up ***
*** Vendor ***
*** Contesting ***
*** Great Amateur Radio Fellowship ***

Schedule of Events

Thursday: DC Bus Trip, Evening Hospitality
Friday: Presentations all day, National Zoo Bus Trip, Evening Hospitality
Saturday: Presentations all day, Evening Banquet
Sunday: Morning Tailgate in Parking Lot
AF1T  Optical communications
K1JT  MSK144, FT8, and Beyond
K2EZ  Contest Automation 2020
K4QF  Impedance Matching 101
K5QE  Large Vertical Arrays for 6M Contesting
K8ZR  78 GHz Fun in the AZ Sun
K8ZR & W2RMA  The Future of VHF/UHF/Microwave Contesting
K6LIM  The Quagi Revisited
KC1HTT  Low Power, 144 MHz, EME Amateur Radio Station
KM4KMU  Observations on FM Contesting
KS4VA  3D Printing Microwave Antennas
N3RG  Another Look at Station Automation
N6NB  Fifteen Rovers Large and Small
Norman Grody  Homebuilt 4,12 and 20 GHz Microwave Radiometers
NW2M  Feeding and Phasing LFA Antennas
PA0HRK  EME: A Beginners Journey
VE2UG  From Hills to Home on 10 GHz
W1GHZ  Visualizing Microwaves
W4ZST  EME misadventures of K4SQC and W4ZST
W9JJ  2019 ARRL Contest Update
WA1MBA  Rain Scatter, SHF and EHF
WA3NUF  VHF Contesting In The Age Of Digital Disruption
WA3ZKR  A Refresher on Antenna Properties
WB4UVI  Grounding for Lightning Protection
W3IP  GPSDO LO
# 2019 Super VHF Conference
## Preliminary Schedule
### 4/1/2019

<table>
<thead>
<tr>
<th>Time</th>
<th>Speaker</th>
<th>Title</th>
<th>Room 1</th>
<th>Room 2</th>
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<tr>
<td><strong>Thursday 25 April</strong></td>
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<tr>
<td>1700-2300</td>
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<td>Tour Hospitality</td>
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<tr>
<td>1930</td>
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<td>Show and Tell</td>
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<td><strong>Friday 26 April</strong></td>
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<tr>
<td>830</td>
<td>Antenna Testing</td>
<td>Welcome</td>
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<tr>
<td>1000</td>
<td>BREAK</td>
<td>WB4UIV</td>
<td>K4QF</td>
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<tr>
<td>1030</td>
<td></td>
<td>KA2LIM</td>
<td>W4ZST</td>
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<tr>
<td>1200</td>
<td>LUNCH</td>
<td></td>
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<tr>
<td>1330</td>
<td>WA1MBA</td>
<td>K82R (78GHz)</td>
<td>KC1HTT</td>
<td>PA6HRK</td>
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<tr>
<td>1500</td>
<td>BREAK</td>
<td>W1GHZ</td>
<td>WA3ZKR</td>
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<tr>
<td>1530</td>
<td></td>
<td>N3RG</td>
<td>NW2M</td>
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<tr>
<td>1730</td>
<td>Dinner - on your own</td>
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<tr>
<td>1900</td>
<td>Swap Session</td>
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<tr>
<td>2030</td>
<td>Hospitality</td>
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<tr>
<td>1300-1700</td>
<td>WA1VUG</td>
<td>Test Equipment courtesy of Rohde &amp; Schwarz</td>
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<td><strong>Saturday 27 April</strong></td>
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<tr>
<td>815</td>
<td>Welcome</td>
<td>KM4KMU</td>
<td>W3IP</td>
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<tr>
<td>830</td>
<td></td>
<td>WA3NUF</td>
<td>VE2UG</td>
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<tr>
<td>1000</td>
<td>BREAK</td>
<td>WSJ4</td>
<td>AF1T</td>
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<tr>
<td>1030</td>
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<td>K8ZR &amp; W2RMA</td>
<td>KS4VA</td>
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<tr>
<td>1200</td>
<td>LUNCH</td>
<td>N6NB</td>
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<td>1330</td>
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<td></td>
<td>Norman Grody</td>
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<tr>
<td>1530</td>
<td>BREAK</td>
<td>CLEAR ROOMS by 4PM</td>
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<tr>
<td>1600</td>
<td>WA2AAU</td>
<td>Filter Tuning Workshop in Test Room</td>
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<tr>
<td>1730</td>
<td>Cash Bar</td>
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<tr>
<td>1800</td>
<td>Banquet</td>
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<tr>
<td>1900</td>
<td>Prize Drawing</td>
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<td>2030</td>
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<tr>
<td>1000-1700</td>
<td>WA1VUG</td>
<td>Test Equipment courtesy of Rohde &amp; Schwarz</td>
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<td><strong>Sunday 28 April</strong></td>
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<tr>
<td>800</td>
<td>Flea Market</td>
<td><em><strong>NO EARLYBIRDS</strong></em></td>
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News Meeting March 23, 2019 Notes:

The meeting started 1:30 pm

The Minutes of the last meeting where accepted as printed in the last newsletter

The treasure report was delivered via remote control Text to Dick WA2AAU:

- Balance $3540.08 in the bank
- 97 members apx 31 need to renew

Old business: None was brought up

New business:

- Mickey mentioned about a possible tour of Washington, DC during the Super conference.
- Dick and Bob brought boxes of Surface mount parts of various values Free for the taking.
- K2AEP, Pete said that there might be possible aurora the night of 3-23-19.
- A discussion of digital modes used on Microwave bands; FT8 - JT4 or something of that fashion and picking a frequency where they could be used.
- A discussion of Using SKYPE or other video conferencing systems for presenters to call in to the meetings.

Business meeting adjourned 2:02 pm

After the break Don FKF showed the group his 3D printed beam-antenna element holders of various designs for 432 and up.

Dick Wa2AAU gave a presentation of what he has been working on:

- Trying to track down increasing noise floor on the 902 and 5760 bands
- What he had to do to fix a 222 Xverter - reengineering a 194 mhz LO and fixing relays on the bias supply. Overall upgrading the unit to a good, working system again.
- Next was a talk of Stub filters for Rovers or home use.

Short break:

That last thing presented was Dick’s work with some TWTs for the microwave bands and how they can hold up for years if fed and cared for properly.

The meeting ended at 3:24 pm.

Submitted by;
Eric Mazur, Vice President NEWS Group 3-23-2019

Club Area at NEAR-Fest XXV

Hello Winter-weary club members! Flea market and conference season is upon us and it's time to make a plan for NEAR-Fest XXV - Friday and Saturday, May 3-4. Last May, Lanette & I roped off a selling area for club members who signed up, and a few extras had to squeeze in. Please email your intentions to join us in Deerfield, as I need to reserve the required number of spaces by "tax day". Thanks and don't forget to sign up for the Super VHF Conference.

73's Don W1FKF  Donw1fkf-news@yahoo.com
Modernizing a Microwave Modules 432-MHz Transverter

Paul Wade W1GHZ ©2019
www.w1ghz.org

Microwave Modules transverters were state of the art back in the 1980s, and got many hams on the air. Any that are still working may not be up to today’s standards, but if they are still making contacts, that is terrific. This article is about the ones that have died.

Some years back, Steve Powlishen, K1FO, (SK) had a couple of 432-MHz Microwave Modules transverters on his table at a flea market, marked “as is.” If Steve couldn’t get them working, they were probably hopeless. He offered them to me for less than the cost of a die-cast box, so I figured it was a good deal.

Last year, my 432-MHz transceiver died again. I had been planning to build a transverter so I could use an SDR – operating with only a knob feels like working in the dark. It was time to get to work. You can see the details on your Super VHF Conference CD – 432 Transverter for SDR.

Designing a transverter – PC board, assembly, test, and debug – is about 90% of the job. Then comes the other 90%; packaging it up into a working unit. The PC board looked like about the right size to fit in one of the Microwave Modules boxes, so I thought I’d give that a try.

The first step was to open up a Microwave Modules transverter to see what was usable. See Figure 1.

Figure 1 – Inside Microwave Modules 432-MHz SSB Transverter
Then I removed the parts I wasn’t planning to use, see Figure 2. The rest of the parts went in a bag marked “Spare parts for Microwave Modules 432 transverter” and sold to some lucky(?) ham at a flea market.

Figure 2 - Microwave Modules 432-MHz SSB Transverter usable parts

As usual, deciding on the box before fitting everything in might have been a mistake. It took a bit of cramming to fit the transverter PCB, Figure 3, DigiLO synthesizer\(^2\), a 7 watt Mitsubishi amplifier module (RA07H4047M), Figure 4, and a sequencer. Figure 5 shows the inside before adding the synthesizer, and Figure 6 includes the synthesizer in an Altoids tin, floating above the PC board. At final assembly, after all is working, the synthesizer is bolted to the lid.

Figure 3 – W1GHZ 432-MHz Transverter
I considered using a 25-watt Mitsubishi amplifier module, but that would be harder to fit and would require a heat sink. The 7-watt amp runs cool attached to the box without a heat sink, and is more than enough to drive a 400-watt eBay amplifier².
The DigiLO synthesizer has pretty good phase noise and can be locked to 10 MHz. The receiver noise figure is under 1 dB. And the sequencer\(^3\), my Smart Fool-resistant Sequencer Mark 4, has enough smarts in an Arduino to operate the whole 432-MHz system. I think it is an upgrade.

**Notes:**

1. [www.Q5signal.com](http://www.Q5signal.com)
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ARRL The national association for AMATEUR RADIO®
AMSAT
Arrow Antenna
Bird Technologies® You’re heard, loud and clear.
Belden Sending All the Right Signals
Coilcraft
Champion Radio Products
Dubus
Davis RF Division of Orion Wire Co. Inc.
Directive Systems
Digi-Key Electronics
DX Engineering
Down East Micro-Wave
Live Oak, Florida
Amateur Radio Equipment for 50MHz and Above
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Phone (home) ________________________ Optional (work) ________________________

Email _____________________________________________________________________

ARRL member:  Y  N

Electronic Newsletter Delivery:  Y  N

Operational Bands (circle)  50 MHz  144 MHz  222 MHz  432 MHz  903 MHz  1.2 GHz  
2.3 GHz  3.4 GHz  5.6 GHz  10 GHz  24 GHz  47 GHz
76 GHz  Light  Other (list)

The North East Weak Signal [N.E.W.S.] Group is being established to form a camaraderie among fellow VHF-UHF-SHF enthusiasts and support a convenient means to exchange technical information. We currently have six meetings per year, held at a centrally located facility and provide a “NEWSLETTER” that is distributed two weeks prior to each meeting. Any contributions to this publication are appreciated and can be sent to: George Collins, KC1V by e-mail to news.kc1v@gmail.com. Dues are $10/year. Remember, this group is formed by VHF’ers for VHF’ers.

Mail to:

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North East Weak Signal Group

c/o N2OY John Crawford, PO Box 1112, Latham, NY 12110

Check your membership
Expiration date on your mailing label!