

The OVH ARC Newsletter
"OLE VIRGINIA HAMS" AMATEUR RADIO CLUB, INC.
Post Office Box 1255, Manassas, Va. 20108
Repeaters - W4OVH - 146.970 & 224.660 & 442.200+
OVH Nodes - Port 1: 145.030 Mhz; Port 3: 223.540 MHz;
Port 2: 440.925Mhz 9600 Baud backbone / N3OH (SYSOP--BILL)
<http://www.w4ovh.net>

OLE VIRGINIA TIMES

October 2008

Next Meeting: October 20, 2008

PRESIDENT'S LETTER:

Greetings to all. I can't help but notice fall is quickly setting in; that means that antenna time is here again!

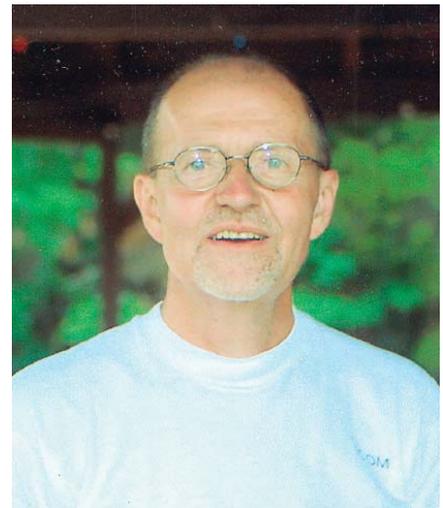
Over time, I noticed my loop antenna resonance has progressively moved lower in frequency. In one respect this is not a bad thing in that I was looking to lengthen the antenna to center its resonance on a lower frequency. But I wasn't looking for nature's assistance to do that and there is an obvious problem with using this "natural" method to gain additional length.

The added wire length is a direct result of stretching the copper wire over time. This may not be a problem normally, but with winter approaching we can expect ice formation and winds which will put additional mechanical "wear and tear" on the antenna system. Without getting into discussions of modulus of elasticity, material strength, deformation, fatigue, set and crystal structure failure characteristics of copper, one can, nevertheless, safely observe that varying mechanical forces over time can seriously weaken copper wire elements. Ice loading of wire, for example, may be close the tensile strength of the wires, supporting ropes or any other mechanical elements of an antenna system. To be sure you can keep operating through the winter months, now is the time for all of you take a proactive approach: review your antennas (any type) for mechanical as well as electrical fatigue before the weather prevent you from doing needed repairs.

On a sad note Steve Rock / N4SR passed away earlier this month. The Woodbridge Wireless web site has a brief tribute to him at <http://www.woodbridgewireless.org/default2.asp> You will remember Steve from the HRO outlet in Woodbridge.

The OVH Christmas party will be at my home QTH again this year on Saturday evening, December 13th 2008. Mark that down on your calendars now! I also look forward to seeing all of you at upcoming monthly OVH meeting on Monday, October 20th at 7:30 PM at the NOVEC Technical Center in Gainesville, Virginia.

73 George K4GVT



Ole Virginia Hams Amateur Radio Club, Inc.

Post Office Box 1255
Manassas, Virginia 20108

OFFICERS

President: George Tarnovsky	K4GVT	791-5956
Vice Pres: Wayne Kline	AG4ZZ	791-2100
Secretary: Wayne Phillips	N7QLK	393-8447
Treasurer: Joe Dobs	KI4OHR	369-2639

DIRECTORS

Don (Butch) Blasdell	W4HJL	369-2877
Art Whittum	W1CRO	791-4330
Charlie Dale	WA4YGI	361-3091

WEEKLY NETS

Thursdays - 8:00 PM	JOHN H	257-3566
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HAMFEST 2008

Chris	KI4POT	361-3257
Bruce	AB8CI	361-8873

FIELD DAY 2008

Joe	KI4OHR	369-2639
Butch	W4HJL	369-2877

CLUB ROSTER

Blaine	KB4RKL	369-2877
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EDUCATION

Mark	WA4KFZ	818-8033
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CLUB EMERGENCY COORDINATOR

David Meola	KI4AZX	393-6681
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ARES AREA EMERGENCY COORDINATOR

David Lane	KG4GIY	361-3042
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F.A.R. REPS.

Ruth	KU4WH	331-1234
Mary Lu	KB4EFP	369-2877

FINANCE

Mary Lu	KB4EFP	369-2877
Joe	KI4OHR	369-2639
Ruth	KU4WH	331-1234

GENERATORS

Steve	N4OGR	361-0008
Keith	KM4AA	909-1512
Al	KB4BHB	368-4794

HISTORIAN

Theresa	KG4TVM	257-3566
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WEBMASTER — W4OVH.NET

Bill	N3OH	590-9562
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EMAIL REFLECTOR — w4ovh@googlegroups.com

David Lane	KG4GIY	361-3042
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JOTA

John H.	KG4NXT	257-3566
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LEGAL

Pete	KB4RME	369-2436
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MEMBERSHIP CHAIRMAN

Joe Dobs	KI4OHR	369-2639
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NEWSLETTER

Paul	W4ZB	754-0910
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NEWSLINE

John H.	KG4NXT	257-3566
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PACKET

Alan	KD4KBX	330-8844
Bill	N3OH	590-9562

PROGRAMS

TBA

PUBLICITY

Trisha Wells	KI4PCM	335-1096
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QUARTERMASTER

Steve	N4OGR	361-0008
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REPEATER CONTROLLERS

Art	W1CRO	791-4330
Butch	W4HJL	369-2877
Milt	N4SN	369-7265
Steve	N4OGR	361-0008
David	KG4GIY	361-3042
George	K4GVT	791-5956
Alan	KD4KBX	330-8844

W4OVH / W4PVA — TRUSTEE

Art	W1CRO	791-4330
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SCHOLARSHIP

Jim	W4JTP	392-0150
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SUNSHINE

Theresa	KG4TVM	257-3556
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TECHNICAL COMMITTEE

Art	W1CRO	791-4330
Alan	KD4KBX	330-8844
Bill	N3OH	590-9562
Butch	W4HJL	369-2877
George	K4GVT	791-5956
Karl	W4KRL	802-1527
David	KG4GIY	361-3042
Bob	K4HJF	335-1939

All telephone numbers listed above are for Area Code 703 unless otherwise noted.

The OVH Times newsletter is the official monthly publication of the Ole Virginia Hams Amateur Radio Club, Inc., a §501(c)(3) organization, dedicated to the promotion and enhancement of Amateur Radio. This edition of the OVH Times is Copyright © 2008 by the Ole Virginia Hams.

The OVH ARC meets at 7:30 p.m. local time every third Monday of the month at the NOVEC Tech Center, 5399 Wellington Branch Road, Gainesville, Virginia 20155. Members, prospective members and all other interested persons are invited to attend. Local information can also always be obtained through the OVH's FM repeaters on 146.97 & 224.660 Mhz. Up to date information about OVH activities and meetings is also available on the OVH web site at <http://www.w4ovh.net>.

Articles and quotations in the OVH Times newsletter may be reprinted if credit is given to the OVH ARC and any other noted source. Proposed materials for publication including pictures, articles, letters to the editor, classified ads, notes about specific errors, complaints or the like are solicited from all readers. Forward such items to the OVH Times Newsletter Editor: PAUL@W4ZB.COM as soon as available at any time, but the cutoff deadline for the OVH Times each month (usually the second Monday of the month) may preclude publication/correction until the following month.

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Last Rev: 10/10/2008

Sunshine Corner:

Birthdays in October – Doc / W1IMX, Judy / KC4WES, John / W4ICX, Scott / KB8NUM, Ruth / KU4WH, Keith / KM4AA, Bob / KC4TNC and Phil / AC4PL. Hope this is the start of a great year for all of you!

Special thanks to Sean / AI4ID for traveling from Leesburg to our September meeting to present his program to our club members on analyzing FM signals.

David / KG4GIY has several events coming up very quickly this month. If you can help out it would be greatly appreciated! On October 18: American Diabetes Walk; on October 18: the Volunteer Action Center Volunteer Expo and on October 26: Marine Corps Marathon. Additional helpers always welcomed (and needed).

Steve, N4OGR has sent around a flyer with information on the Third Annual Chili Cook-Off to be held at the Buckhall Fire Station 16 on Saturday October 25, 2008, 11:00 am - 2:00 pm. This event celebrates safe communities.

MARK YOU CALENDARS NOW!!! George K4GVT and his wife Ev have announced that they will host the OVH Holiday Party at their home again this year on Saturday, December 13th beginning at 6:00 pm! More information will follow. Thanks again to George & Ev thanks for hosting this!

HAPPY HALLOWEEN!!!

Also, please check into the Thursday night net on 146.97 repeater at 8:00 p.m., it's always good to hear you on the air. Please send your news (email) to kg4tvm@hotmail.com or telephone: 703-257-3566.

73 Theresa KG4TVM

Minutes of the Ole Virginia Hams Amateur Radio Club Meeting September 15, 2008:

Wayne /AG4ZZ called meeting to order at 19:30 Eastern Time.

Following the Pledge of Allegiance, all present stated their names and call signs. There were 19 OVH members present, and guest speaker.

BUSINESS MEETING

The minutes of the August 2008 meeting were approved.

Treasury report: Balance is in good standing. Report approved.

COMMITTEE REPORTS

Membership: Joe /KI4OHR - New member nominee was read-in, Anthony Weaver / KJ4FZJ.

ARES: No report; next ARES training session is 09:00, Saturday, September 20, 2008 at the Prince William County EOC. Antennas are up on Potomac Hospital in Woodbridge at the south end of the County; Dave / KG4GIY will be announcing an antenna party for Prince William County Hospital in Manassas in the near future.

Repeater: Art / W1CRO – Working on tone control board. Experienced brief interference with a repeater in York, Pennsylvania, but the problem was resolved, working with the owner.

Scholarships: No report.

Continued on page 4

Training: John / KG4NXT advised that Mark / WA4KFZ is looking to start a Tech class in October, possibly at Fire Department Station 25.

Hamfest: Chris / KI4POT is looking into setting up operating stations to demonstrate the hobby.

Field Day: Joe / KI4OHR suggested that we plan to expand on “experimental” stations: e.g. solar power, hydrogen power, home-brew antennas, etc.

Sunshine: Theresa / KG4TVM – Announced those with birthdays this month — Gus / N4MLE, Al / KB4BHB, Gary / WG4ARC, Mark / WA4KFZ, Jim / W4HJH and Mary Lu / KB4EFP. Congratulations to all!

Webpage and Packet: Bill / N4SV (formerly N3OH) - Both working.

PROGRAM

Sean Sheedy / AI4ID – Presented a lecture and demonstration of isolating subcarriers and detecting sources of interference of radio transmissions, using software and a spectrum analyzer. His presentation was focused on a recent project requiring troubleshooting poor reception of real time traffic data for personal navigation devices. Sean explained the means of transmitting data to GPS units via FM Carrier, Cellular, and by Satellite. Additional details of Sean’s wireless engineering expertise can be found at his web site at <http://www.seansheedy.com>.

OLD BUSINESS

Special Event Station at Signal Hill for Second Battle of Manassas, on August 30, 2008 went very well with a good turnout. To all the volunteers supporting the operation, “thank you” for making it a success. Special recognition goes to Theresa / KG4TVM for the edibles.

NEW BUSINESS

None.

50/50 for \$15: Winner was Bob / N4SCK.

Mystery Box raffle for \$9: Winner was Chris / KI4POT.

Meeting adjourned at 20:38.

Reminders about some upcoming events / calendar dates:

HAMFESTS:

October 26, 2008. Mason-Dixon Hamfest, Carroll County Amateur Radio Club, Westminster, Maryland at the Carroll County Ag Center. More details at <http://www.qis.net/~k3pzn>.

TRAINING AND ARES EVENTS

Check the online Calendar by David / KG4GIY at <http://www.pwcares.org> for latest updates.

OPERATING CONTESTS:

November is a big month for HF Contesters. Check out <http://contesting.com> and the links from there to WA7BNM’s contest calendar website for full details about ALL operating contests!

OVH’s HOLIDAY / CHRISTMAS PARTY:

December 13, 2008 - Saturday beginning at 6:00 pm at QTH of George / K4GVT - the annual OVH Holiday Party. **MARK YOUR CALENDAR FOR THIS NOW!** More details will follow.

BPL Developments Update: the latest happenings in Manassas, Virginia

The following article is from the Manassas Journal Messenger - The City of Manassas is now considering taking over the system after Comtek's proposed sale to Smart Grid fell through. This is controversial — if Comtek lost money on it, why should the City take it over now just to waste more taxpayer money on it?

George / K4GVT complains he is misquoted by omission in the Journal Messenger article. We believe him, of course — see <http://k4gvt.com/bpl/> George says he actually said he has “no problem with [the City] using BPL for automated metering as long as it doesn't interfere with licensed [radio] services.”

Manassas Journal Messenger

By KIPP HANLEY

October 14, 2008

City takeover of BPL has some concerned

Broadband over power line technology is still alive in the city of Manassas thanks to a recent city council vote.

But the scope of its future should be limited, according to some council members.

On Sept. 22, the council voted 4-2 to assume control of the technology formerly provided by a company called ComTek. The assumption of this control means that the city will have to use a small percentage of its electric department reserve fund to pay for the service for the next six months.

The city will, in turn, charge a nominal amount for the service.

ComTek was supposed to sell the technology — used to provide basic Internet capabilities to residents and businesses — to Smart Grid LLC. However, the deal fell through this year.

Instead of axing the program right away, the council decided to keep the service for the roughly 675 customers until April, when it will be on the budget cutting room floor for fiscal 2010.

One reason to keep the technology is that the infrastructure already in place would be suited to take on the Advanced Metering Infrastructure system that's been proposed by the city's utilities department.

A \$5 million project, the AMI system would allow residents to monitor their utility usage in real time. Utilities Director Mike Moon said the city is also looking at other infrastructure options for AMI, including wireless.

But for the purpose of accessing the Internet, broadband over power line does not look too promising. BPL is competitively priced when compared to what companies like Verizon and Comcast charge for their Internet service, said Moon.

But it does not have the bandwidth to support major downloading or video streaming, something that is

becoming increasingly popular these days with the younger generations of users, said Vice Mayor Andrew Harrover.

Harrover said his affirmative vote to continue the service had to do with common courtesy for those who use the service, and for the future of the AMI system.

But Harrover said he has a fundamental problem with the city providing this service for Internet purposes.

“The philosophical question is should the city be in Internet business and the answer is no,” Harrover said.

Councilman Jonathan Way, who voted with Mark Wolfe against assuming control of the service, agreed with Harrover.

“If we really feel compelled to compete, we should do so with modern, fast and reliable technology,” Way said. “The current operator of the BPL system cannot make a go of it and wants out. There should be a lesson hiding somewhere in that fact.”

Dave Sumner and George Tarnovsky, two area advocates for shortwave radio, fought BPL a few years ago because the new technology was interfering with their radio frequencies.

That technology has improved so that there is less interference.

Tarnovsky said he has no problem with using BPL for automated metering.

However, Sumner argues that BPL isn't more competitively priced than other Internet providers and Tarnovsky said BPL technology is nowhere close to what other companies provide.

“Using BPL for phones and Internet is pushing it to the limit,” Tarnovsky said. “It's like using a bicycle to drive into D.C. for work.”

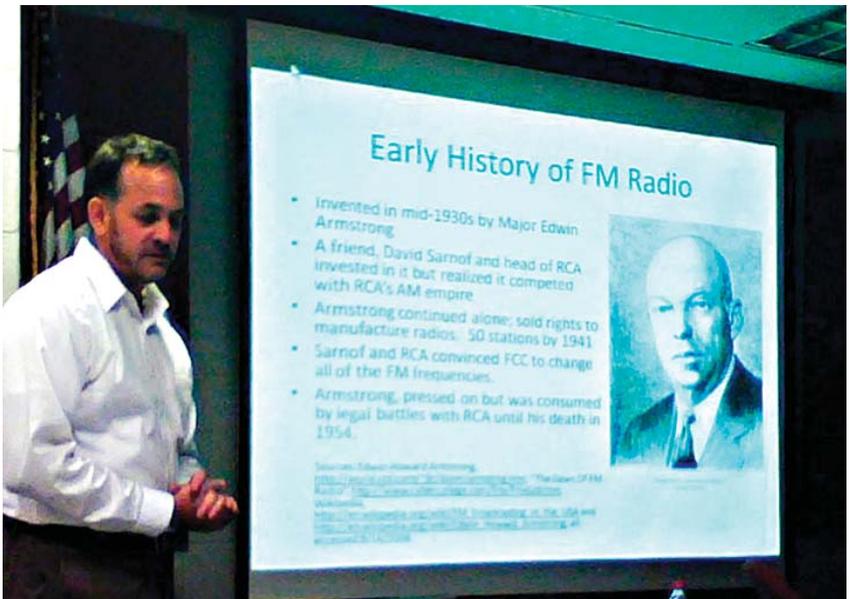
Staff writer Kipp Hanley can be reached at 703-369-5738.

Presentation at the September 15, 2008 Meeting

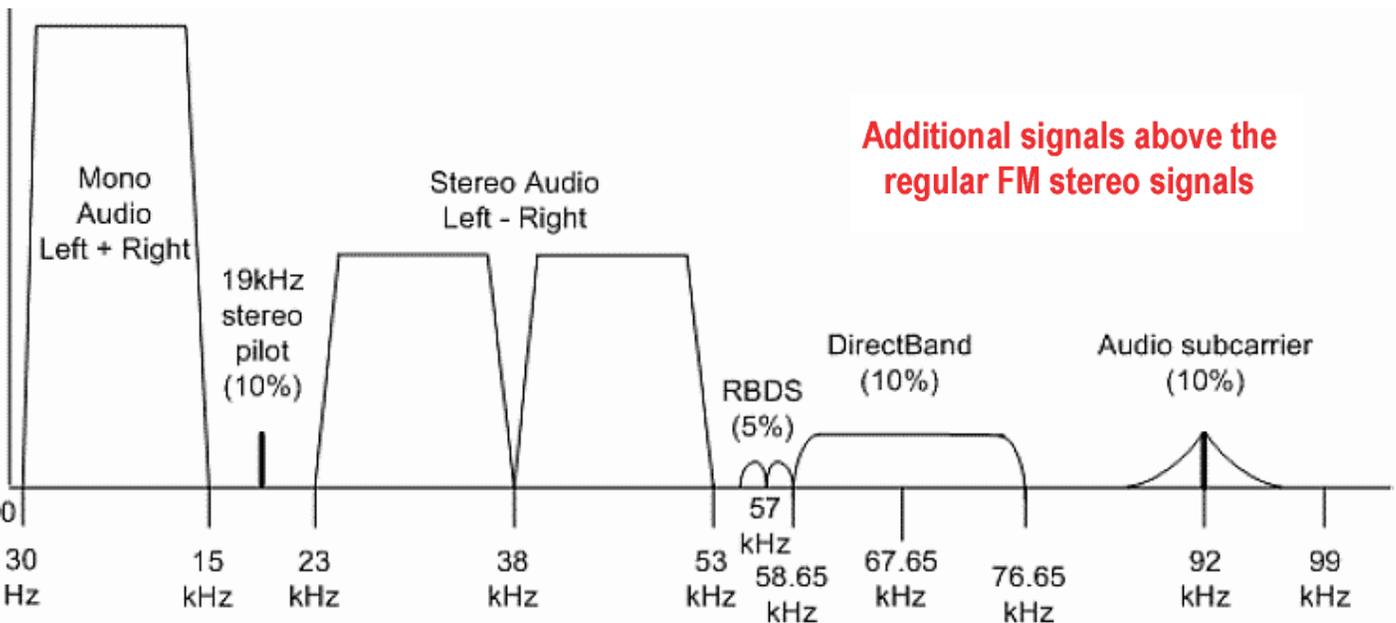
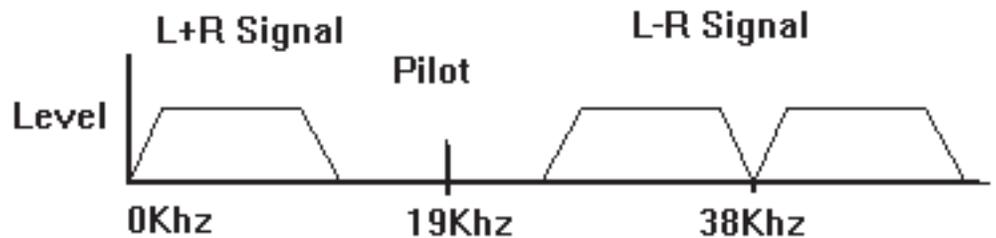
OVH members were fortunate to have Sean Sheedy / AI4ID again as a return speaker at the September 2008 regular meeting.

The topic this time - which included a hardware and software demonstration - related to commercial broadcast FM radio, and more particularly, to how one could easily observe and analyze the various subcarriers and multiplexed signals now routinely carried on broadcast FM signals.

Commercial FM stereo broadcasting for two channels [Left side and Right side signals] began in the early 1960's using an innovative scheme: the baseband signal comprises the sum of the L and R channel signals, a pilot carrier is transmitted at 19 KHz and double sideband, suppressed carrier signal is transmitted at 38 KHz consisting of the difference between the L and the R channel signals. See below. Early FM



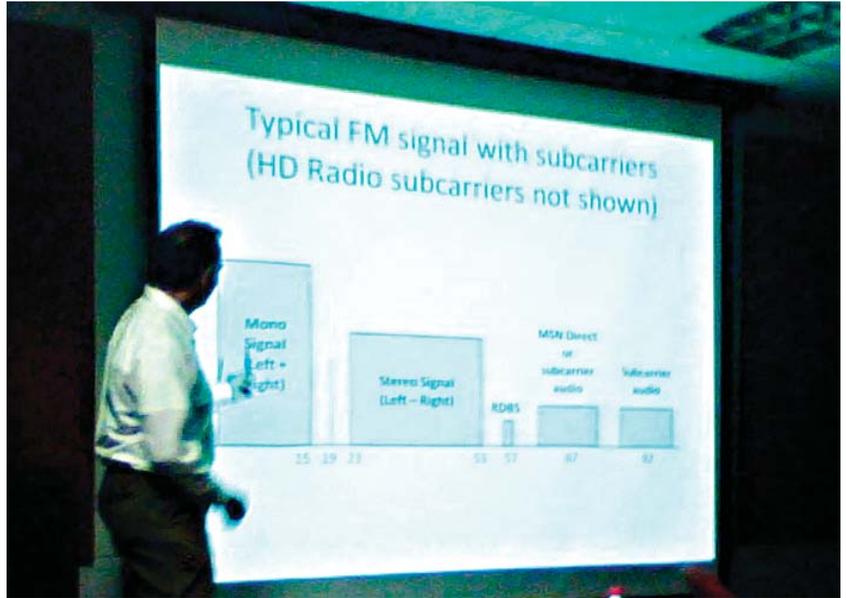
stereo receivers (and up through the 1990's) used analog signal processing to extract the L and R channel signals. Modern receivers use digital signal processing. The basic signal design for this was so successful that it is still in use today. However, today FM stereo broadcasters often multiplex many other signals into the available FM station channel bandwidth. See below. The additional signals above the L-R stereo audio typically include digital data broadcasts. See



http://en.wikipedia.org/wiki/FM_stereo and <http://transmitters.tripod.com/stereo.htm> for more details about how FM stereo broadcasting works. Finally, some FM broadcasters today are using other innovative techniques to broadcast multiple FM signals within a single FM frequency channel. For example, WAMU [wamu.org] at America University in Washington, D.C. now broadcasts three separate FM signals simultaneously on WAMU's single 88.5 MHz FM channel (frequency). The signal design and techniques used to accomplish that are not discussed here.

Continued to the following page

The most interesting part of the presentation was Sean's explanation of his hardware and software setup used for his actual demonstration of observing and analyzing multiplexed broadcast FM signals. For his FM radio receiver, Sean removed the FM stereo radio receiver from his wife's "old" car, replacing it with a newer FM receiver. He then located a signal point within that receiver right after its first FM demodulator where he could access the entire baseband demodulated FM signal. He connected that signal from within the FM receiver and used it as the input to a wideband [192 KHz] external audio converter with IQ outputs [see, <http://www.emu.com> for a supplier of such devices]. He then connected the IQ outputs from the audio converter to his laptop



computer via a USB cable. See image to the left. The laptop processed the IQ audio signals using MØKGK's software for a Software Defined Radio. Go to MØKGK's website [<http://www.m0kgk.co.uk/sdr/>] for more information and a free download of that software.

With this setup, Sean demonstrated via the overhead video projector connected to his laptop's display screen that he could tune around the FM broadcast band and receive FM signals. For each FM station received, MØKGK's software graphically displayed the received power spectrum at baseband; that software also allowed Sean to focus attention in on particular sub-signals in the baseband and to attempt to demodulation them using different types of demodulators. Interesting stuff!

In his business life, Sean operates a high tech consulting firm. See <http://www.seansheedy.com> for more details about Sean's background and the projects and work he has been involved with.

Thanks to Sean / AI4ID for a great presentation! Thanks to Art/W1CRO for the photos.

RFI / Electrical Noise And Interference Elimination (and BPL)

A recent visit by your editor to the ARRL's Technical Information Service (TIS) web page directed to RFI and Electrical Noise / Interference elimination revealed a number of important updates.

More hyperlinks have been added to more useful and informative QST articles on RFI subjects, including one from March 1924. This may be happening because the ARRL has opened up to its members online searchable and downloadable access to all QST articles (in PDF format) back to QST's beginning in 1915.

The ARRL also now provides a PDF file download (3.3 MB - 126 pages total) of the Power-Line Noise Mitigation Handbook for Naval and Other Receiving Sites, 6th Edition, May 2007. This publication by the Naval Postgraduate School in Monterey California contains a wealth of practical, how-to-do-it hands-on as well as solid technical information. It also contains very pointed warnings (at numbered page 38) about the interference potential of BPL systems. Highly recommended reading and it's free.

More Images from the August 30, 2008 Special Event Station Operation

About 130 pictures taken by Ken / WB4ZOH at the OVH's Special Event Station operation on August 30, 2008 are now posted at <http://www.k4gvt.com/special%20event%20208-30-2008/> for your online viewing. This is a lot more pictures than could be included in last month's OVH Newsletter. If you were there, you are almost certainly in one of those pictures now posted online.

Add-on Programming Environments in Web Browsers

Internet Explorer has long supported ActiveX add-ons, but, unfortunately, the seemingly endless stream security vulnerabilities inherent in ActiveX's basic design (with new vulnerabilities constantly being discovered) make Internet Explorer hazardous to use online for casual web browsing. Setup option in Internet Explorer 7 make it possible to disable ActiveX, but only at the cost of also disabling Javascript, without which, many web sites (which require a Javascript capable browser) simply are unusable. This appears to be an example of another Microsoft "do it our way or else" approach to design which has decreased the popularity of Internet Explorer for web browsing by sophisticated users.

The open source Firefox browser [freely downloadable at getfirefox.com] has become the alternative of first choice for casual web browsing. Firefox also supports a very active open source user community who write Add-Ons enhancements which are usable with Firefox. Many hundreds (perhaps thousands) of Firefox Add-Ons for various purposes are available for free at <http://addons.mozilla.org/en-US/firefox/>. Many of these are extremely useful but you have to try out potentially useful ones for yourself to find out if it is really useful for you; they are easy to add [using the Tools - Add-on management features of Firefox] to try out and just as easy to delete if you don't find particular ones to be as useful as expected.

The Opera web browser [free download at opera.com] is probably the second alternative choice for casual web browsing. Opera claims to be rigorously compliant with formally adopted standards but sometimes does not support de-facto standards as well as Firefox. Opera too supports a very active open source user community who write Add-Ons enhancements for it which are known as "Widgets" which are easily managed too using the Widgets features in Opera. Opera Widgets function quite differently than Firefox Add-ons which function within the Firefox browser window; Widgets function as separate desktop mini-applications outside of the Opera browser window. The Opera Widget system has been designed to allow easy customization to perform specific desktop (including Internet related) tasks. Well worth checking out if you're not already familiar with Opera Widgets.

HF Radio Propagation -- How Long And What Do We Know About It?

If you're interested in HF Radio Propagation, I commend your attention to two early QST articles titled: "Short-Wave Radio Transmission and Its Practical Uses" Part I and Part II in the July and August issues of QST in 1927. These two articles were written by Chester W. Rice, a senior engineer at the G.E.'s Radio Laboratories in Schenectady, N.Y. and also a prominent, recognized authority on this subject at the time within the then IRE (Institute of Radio Engineers). [ARRL members can download free PDFs for these.]

These articles from 81 years ago show at the same time both how much was understood descriptively about HF propagation and how solid was the understanding of the basic physics of radio [electromagnetic wave] propagation, but also how incompletely understood were the actual physical mechanisms of HF radio propagation due to lack of accurate information about the Earth, its atmosphere, the Sun and their interactions. Part I notes that two prominent physicists had separately concluded in 1902 that a charged layer must exist above the earth to explain "long distance" radio propagation as it was then [in 1902] observed. To keep this in perspective on a timeline, one must remember that Charles Lindberg's famous flight from New York to Paris in a single engine airplane with no radios on board also occurred in 1927.

"Smart" readers who (think they) understand HF Radio Propagation: How many errors can you identify in the first three pages of the Part I article and what are they? Source of the best answer(s) next month.