

SPURIOUS EMISSIONS

Hermiston Amateur Radio Club KC7KUG

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From The President:

As many of you know, Joe Melow resigned his position as president at the December club meeting before taking office. As runner-up in the election, I was appointed to fill the job. I would like to thank everyone for the vote of confidence expressed at the January meeting. Hopefully I can maintain that confidence throughout this year and we can all get together and enjoy this great hobby.

There are many facets to this hobby and I would like to explore some of these opportunities by having presentations or demos at some of our meetings. Guest speakers with "HAM" related topics as well as safety, health and welfare are always welcome. I am open to your suggestions! I want to hear your thoughts. If you have an idea or suggestion for a topic or would be interested in presenting your area of expertise at a meeting, please contact me or any of the club officers. I think the same should be said for "club activities". Again, if you have an idea or suggestion for a "new" or "improved" activity, please feel free to contact me or any of the club officers. And as always, you can make your suggestions at the next meeting.

This brings another subject to mind, "meeting attendance". We all know someone who was quite active in the past, but now, for whatever reason, we never see them at a meeting, breakfast, or event. What gives??? Why not pick up the phone and call them? Let them know we're still here and we would very much like to see them again. I would very much like to send everyone on the roster, past and present, an invite to the next picnic when the time comes. Remember the Dutch oven lasagna or the TS-520 spread out all over the picnic table?

ADVERTISEMENT: Remember, your 2003 dues are due, get with Phil.

Now for the "lighter side of the news": Whitley Smith has agreed to put on a demo/presentation on PSK31 after the meeting. See the blurb on PSK31 by Buck Rogers, later in this newsletter. Bring a diskette or two if you want a copy of the software.

Until next time, 73

Doug

Here's what Buck Rogers, K4ABT had to say about PSK31 (www.packetradio.com)

What is PSK31?

As the name implies, PSK (phase shift keying) modulates the phase of a carrier, and the number "31" references the actual bandwidth (31 Hz) occupied by the PSK31 signal.

The software that implements PSK31 with a Windows PC and soundcard is a program written and developed by Peter Martinez G3PLX. Two of the most significant features that make this the ideal mode for HF digital communications is the extremely narrow band width, and the fact that it is highly immune to noise and QRM.

Up front, phase modulation has more advantages than (Morse code), CW. CW uses amplitude (On/Off) keying. In a noisy or distorted propagation environment, the amplitude of a signal will shift and vary much more than the phase of a signal. When compared to CW, PSK31 is a much more resourceful, and robust operating mode. The baud rate used by PSK31 is 31.25 baud. This is fast enough to handle most operators' manual typing capabilities, a speed of about 50 words per minute. It is intended as a means of keyboard-to-keyboard communication between two or more operators using a very small amount of frequency spectrum.

By comparing the small bandwidth of PSK31 and measuring its gain against a CW filter of 500 Hz; $10 * \log(500/31)$ dB = 12 dB, quickly reveals that a CW transmitter must put out 15 to 18 times more power than a PSK31 transmitter, just to achieve the same signal to noise ratio at the receiving station. The end result is that a PSK31 station can operate with reduced power and smaller antenna installations. This is the reason the PSK31 operating mode has gained so much popularity in such a very short period.

We don't have to purchase a special terminal controller, no special radio, no heavy outlay of cash, and all you have to do is obtain a copy of the "FREE" PSK31 software from the author of PSK31, Peter Martinez G3PLX.. at; <http://aintel.bi.ehu.es/psk31.html> . The file WinPSK209.zip (630K) contains all the files needed to run the WinPSK program as well as online help. All the files should be placed in the same directory, for example: C:\Winpsk . No setup program is necessary.

Another PSK31 program (also FREE) is at: <http://users.mesatop.com/~ghansen/> . It is called HAMscope. This is a Multimode software used to drive your interface and transceiver for several digital modes, using the PC and the Creative Labs compatible sound cards.

There are a large number of PSK31 programs that support the PC, LINUX, and the MAC.

Meeting Schedule:

The February HARC breakfast is Sunday February 9th in the Hermiston Eagles Lodge at 0800 hrs local time.

The regular monthly meeting will be Monday evening February 10th at 1930 hrs local time in the Hermiston Fire Department station #3 on Westland Rd.

HARC NET:

Hermiston Amateur Radio Club nets are on Monday evenings at 1930 hrs local time on the 147.020(+) and 147.160 repeaters. For greater coverage in Umatilla and Morrow Counties, these two repeaters are linked together before the net. Hope to hear you on one of the nets.

Regulations...Why Should I Care How They Change?

By Stephen Kellat, KC8BFI January 28, 2003

Regulations are what govern us in Amateur Radio in the United States. Found in Part 97 of Title 47 of a huge serial document, The Code of Federal Regulations, these are the principal operating rules set down by the Federal Communications Commission. (Other rules, such as allocations of frequencies in Part 2 of Title 47, occur elsewhere.) Taken into account along with heritage, custom, other relevant laws and practice, these are what dictate how we act on air and how we operate.

Regulations in the Amateur Radio Service are not some static weight but a dynamic, changing reflection of the Amateur Radio community. Regulations change to adapt to new situations or to allow new situations to begin. For example, if we are to get a new band, a matter at the FCC called a *rulemaking proceeding* has to occur. The ARRL routinely advocates for us in such proceedings.

Although it may seem like a technical process, it isn't. The FCC's Office of the Secretary has a good [fact sheet](#) on its Web site that details the process. Hams file comments in proceedings for the most part. Comments can be as simple as a letter that you send to the Commission expressing your views on the matter under consideration with a copy included (this would be an informal comments filing). If four copies are filed along with your original, then that is a formal filing. The fact sheet links to how to bind up your printed views and make sure they get submitted to the FCC properly.

If you don't want to fight with a cranky printer to print up your remarks and don't want to travel to visit your local post office, there is another avenue. The FCC has established an [Electronic Comment Filing System](#) to accept filings electronically. Don't let the name fool you--the Electronic Comment Filing System is a powerful tool that accepts more types of filings than simply comments in proceedings. (Hams typically stick with the Comments, Reply Comments and Petition for Reconsideration classifications for their filings in the system.) If you can type up your comments in any of the word processing formats discussed on the Electronic Comment Filing System site, you can upload your remarks electronically and save some money on postage. The Electronic Comment Filing System also allows you to read comments filed and other documents in a proceeding to get a sense as to what is going on.

Are you powerless to express your views on a proposed change in our regulations? Not at all. Many tools are there for you to individually express your views on a proposed change. An avenue of expression just as important is to talk to your leadership in the League and let them know how you stand. Through each division's director, decisions are made at Board of Directors meetings as to how the League as a body stands on issues. Making sure that your leaders know how you stand before they come to the directors' table is also a big way to make sure you get heard. All in all, the opportunity to be heard is even easier today than it used to be.

[The ARRL's FCC Rule Book](#) has a great deal more information on the filing procedure. Other information is available on the [ARRL Regulatory Information](#) Web site.

Update: On January 15, 2003, the FCC announced a new, easier way to file comments electronically. *ECFS Express* is accessible from the [FCC home page](#). Users just click on the "File Comments" logo on the left side of the page about a third of the way down under the words "Filing Public Comments." Anyone who wants to comment just has to click on

a topic, fill in their personal information, write their comments and hit "SEND."

"ECFS Express will highlight the proceedings most likely to generate consumer interest," the FCC said. "The topics will change periodically as new issues emerge."

For more information, see the [ARRLWeb article](#) announcing the new system.

Stephen Kellat, KC8BFI, a Technician class operator from Ashtabula, Ohio, is studying toward his Bachelor of Arts in History at Rochester College in Rochester Hills, Michigan. He plans to pursue studies in librarianship after he earns his degree. Stephen can be reached at kc8bfi@arrl.net.

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How to Impress a Non-Ham with Your Handheld Radio

By Mike Dinelli, N9BOR January 23, 2003

Remember when a handheld and an autopatch would drop the jaw of an unsuspecting non-ham? You punched in a few DTMF tones, heard a dial tone and proceeded to call your spouse after a long day at the office. That, of course, was in the pre-cell phone/Internet era. Today it's called "wireless," a popular buzzword for the in-crowd, but we still like to call it radio.

Some people see the excitement of ham radio as a thing of the past. How do we convey our love of radio to curious kids and technically savvy adults? We certainly can't compete with cell phones, and perhaps we don't want to, anyway. Amateur Radio should remain a technical pursuit. We must demonstrate some knowledge before we are even allowed to call our first CQ. After we obtain our tickets, the learning should not stop. For the curious, ham radio is an ideal vehicle for lifelong learning in multiple disciplines.

Take your old 2-meter handheld, punch in a few tones and talk to a ham in Glasgow, Scotland. Instead of talking to the same group every night on the local repeater, you could have Jimmy Khoo,

9W2HJ, from Malaysia stop by to say hello. Perhaps Kappy, W9CJ, is on his way to dinner in Florida and decides he wants to check in with his buddies in Chicago on the MAC repeater. Is this possible? Yes, and it's really quite simple and inexpensive.

There are several systems available, but one that is growing in popularity is called EchoLink--free software that allows Amateur Radio operators to communicate with each other over the Internet, using voice-over-IP (VoIP) technology. The program allows worldwide connections to be made between stations, from computer to station, or from computer to computer.



The EchoLink screen shows you who's on at any given time.

You don't even need a radio to talk to other hams on the air--you can do it with your computer and an Internet connection. I downloaded EchoLink from their Web site (1.8 MB), installed it on my hard drive and filled out the registration form. In about an hour, my registration was confirmed. It was manually processed to ensure my Amateur Radio license status. I start EchoLink and it displays a list of participants. Some are shown as repeaters, some are simplex links and others are just individual hams like me.

I scan through the list, see a repeater in New York and double-click on it. In about two seconds I hear *Go ahead N9BOR, this is WB2xxx*. Now what do I do? I should have read the instructions! Again I hear my call sign coming from my computer speakers. *N9BOR, are you there? This is WB2xxx*. A quick look at the Echolink screen and a mad rush to grab my \$2.99 computer microphone and I'm in business. I say, *WB2xxx this is N9BOR, Mike in Chicago and I don't know what I'm doing. Can you hear me?* Al, a mobile in New York says, *Nice to meet you, Mike. You sound great!* Soon I'm in a roundtable with another mobile station and a ham on a handheld in front of his house (in New York). The audio is crystal clear and I can't detect any delay or lost packets using my dial-up Internet account. I don't need an outdoor antenna or have to spend any money, yet I'm in Chicago and I'm talking to three hams in New York. Cool! This could even impress my 14-year old son.

To create a linked repeater, you need a simple interface, a boatanchor computer and an Internet connection. You can purchase an [interface kit](#) for less than \$50. Connections are made for audio in, audio out and push-to-talk. That's all the hardware you need to create an Internet linked repeater. Options are available to enhance operation (control receiver and compressor/limiter, for example).

So why aren't more repeaters taking advantage of this technology? Maybe we want to keep ham radio a secret. Or perhaps it's because of the gray area that links radio with the Internet. There is some debate by purists as whether it is really ham radio when you use wired (Internet) technologies to facilitate a QSO.

Imagine walking your dog and talking to a ham in England on your handheld. A neighbor walks up and says, *What are you doing?* You say, *I'm talking to my friend, Nigel in Manchester, England. He says it's bloody cold, but he's on his way to a rugby game anyway.* This is how you impress a non-ham with your handheld.

Mike Dinelli, N9BOR, of Skokie, Illinois has been a ham since 1980. He is currently serving as Secretary of [Metro Amateur Radio Club \(MAC\)](#). His interests include boatanchors, contesting, DXing and CW ragchewing. You can reach Mike via e-mail at n9bor@qsl.net or through his [Web site](#). The author would like to thank Philip Lazar, K9PL, for his assistance in editing this article.

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\$ALE OR TRADE?

If you have a want or \$omething to \$ell or trade \$end it to me to post in the newsletter. We have had \$everal \$uccessful items come and go on here.

Hope to see you at the breakfast or meeting.

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