

# The Framingham Circuit

Newsletter of the Framingham Amateur Radio Association October 1999, Vol. 66, No. 10

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## Thursday, Oct 7

### This Month's Meeting

What does ham, pizza and fish have in common? In this case, they're not all food! Come to this month's meeting and find out!

## Submitting Material to the Circuit

Material may be submitted for publication by sending it directly to the editor. This can be done by phone, by US Mail, or via the Internet (preferred). The deadline for each issue is the **Wednesday**, one week before the monthly meeting.

### by phone

Home:  
(508) 435-2055 (before 9:00PM please!)

College:  
(508) 910-5296

### by mail

Robert Hess, N1UVA  
1 Cold Spring Brook Road  
Hopkinton, MA 01748

### by internet

[n1uva@ultranet.com](mailto:n1uva@ultranet.com)

## President's Message

I hope everyone is getting settled into the school year routine again. As much as I try to avoid it, September, not January, is the beginning of my new year. Anyway, Bob, W1RH, has lined up some great speakers, and we're working on some more. This month's speakers will take us on a DXpedition, followed by the usual post flea market expedition to Italy. Speaking of the flea market, it's no reflection on the fantastic efforts of our volunteers, but I'm sure you have all heard that last weekend's flea market turnout was pretty dismal. We spent some time discussing this at the board meeting, and we came to the conclusion that there are several factors involved. One is that we're clearly in competition with MIT's monthly juggernaut. Another may be that some combination of location, timing and publicity is just not bringing the people in.

In order to rejuvenate the flea market, and as a result of Bev's desire for a break, we have decided to take two actions. First, we have created a flea market committee, consisting of Spencer Goldstein, N1JWB, Bob, W1RH, Ed Collins, KB1CQI and Bev, N1LOO. Spencer has offered to act as chairperson, and lend us the benefit of his experience, both running fleas and as a vendor. Second, we have asked the committee to explore alternative dates which will allow us to take advantage of our location, and perhaps take us out of competition with MIT. So, stay tuned, and watch for the news.

73,

Peter, KA1AXY

## High Definition . . . . . Radio?

By Bob, W1RH

High definition radio? Well, not exactly. All the buzz lately in the broadcasting world has been about high definition television which is a byproduct of digital television. The development of digital radio, however, has been quietly progressing and is about to come to your local radio station. Digital radio, also known as DAB - Digital Audio Broadcasting - will change the way you listen to radio and it's not to far off in the future. Two forms of DAB are currently under development. Satellite delivered DAB and IBOC DAB. IBOC stands for In-Band/On-Channel. This article is about IBOC DAB.

The IBOC digital audio concept was initially developed by a consortium of radio broadcast companies. Three different companies, Digital Radio Express, Lucent Digital Radio and the original proponent, USA Digital Radio, are vying for the prize - to have their system chosen by the National Radio Standards Committee and/or the FCC as *THE* IBOC DAB system. The idea is to convert the existing AM and FM analog services to digital and the way they are going about it is very cool. In a nutshell, within about two years, all AM and FM stations will be able to broadcast digital audio over their existing transmitter. For instance, an FM station currently broadcasting on 103.3 MHz, will also be able to transmit a digital signal on 103.3 MHz without compromising the existing analog service. Similarly, an AM station will be able to broadcast a digital signal without compromising the existing analog service, hence the term "In-Band/On-Channel." This is really quite remarkable technology considering the FCC has had to award every over-the-air television station an additional channel to broadcast digitally.

OK, so in a couple of years you will be hearing about a lot of local stations going digital. What do the listeners get out of it? Well, let's start with the AM band. You remember the AM band, don't you? Try to listen to an AM music station. The quality is terrible and,

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unless you are parked under the transmission tower chances are you are going to hear a lot of snap, crackle and pops and whistles. AM IBOC DAB changes all that. The digital AM station will have the quality of today's stereo FM station without the snaps, crackles, etc. I'm guessing you might even start listening to AM music stations, especially in areas like the Berkshires where AM penetrates the mountains and hills so much better than FM. An FM DAB station will have crystal clear, CD quality audio free of multipath distortion and intermodulation products. Multipath is the distortion you hear when you listen to an FM station while driving in the canyons of a big city. Intermodulation products are what you hear when you are listening to one FM station while driving near the transmitter of another. Another extra added bonus of IBOC DAB is the ability of an FM station to transmit data at a rate of about 48 Kbs and an AM station to transmit data at a rate of about 1.2 Kbs.

As I mentioned earlier, there are three companies currently developing IBOC DAB. All three are doing it nearly the same way by squeezing the digital signal within the FCC authorized bandwidth of today's AM and FM stations. The plan is to broadcast the analog and digital signals simultaneously until the majority of the radios out there are capable of receiving the digital signal. At that point, the entire bandwidth will be devoted to the digital signal and the analog signal will be shut down. The range of the digital signal will be limited until all of the bandwidth is devoted to the digital signal. The interim radios will probably fade from the digital signal to the analog signal as the listener gets farther and farther away from the transmitter.

What's all this good digital stuff going to cost? Initially, USA Digital Radio says the receivers will cost about 15% to 30% more than today's receivers. USA Digital Radio expects the cost to be \$70,000 or more to convert an FM station and probably less to convert an AM station.

In Band, On Channel digital audio broadcasting IS going to happen in your lifetime and it WILL come to a station near you. Stay tuned!

#### Kit Building

By Peter, KA1AXY

This fall, I'd like to try something different. We'll be building the **NASN Desert Ratt 3 Regen Receiver**, and we'll be building it from scratch! Parts cost should be in the \$10 - \$20 range. We'll build on bare PCB material, and all parts necessary for a working receiver will be supplied. I'm still working out the details, but if you're interested in building a shortwave regenerative receiver (6.6 - 15 MHz) from R's, C's, Q's and some wire, let me know!

**Don't Miss an Issue!  
(Y2K dues are now payable)  
You won't get the January  
Circuit unless we receive  
your 2000 dues before  
December 15th.**

FraminghamARA-L@qth.net

The FARA email reflector is working well. It provides us with an easy way to reach all our members who have email. You have to sign up for it to reach you, though. See the instructions on the FARA web page, and remember that, once you sign up, anything you send must come from the address you signed up with. If you change email addresses, you won't be able to post until you repeat the signup process from your new address.

**READ THE CIRCUIT ONLINE...  
SAVES PAPER AND POSTAGE**  
Now available as an Adobe Acrobat file  
email [fara@fara.org](mailto:fara@fara.org) and we'll set  
you up!

#### QSL Card

Submitted by Bob, W1RH



This month's card comes from Bob, W1RH. Bob worked 9M8PV in 1988 as WB6EUQ.

The Federation of Malaysia is separated by a vast amount of water. The country consists of West Malaysia and East Malaysia. West Malaysia borders Thailand and Singapore (Singapore used to be one of the states in the Federation but separated from Malaysia in 1965). East Malaysia borders Brunei and Indonesia. East Malaysia and West Malaysia, for DXCC purposes, are considered separate DXCC entities due to the huge separation by water. 9M8 and 9M6 are the prefixes for East Malaysia. 9M8 is the prefix for the southern part of East Malaysia, the state of Sarawak. 9M6 is the prefix for the Northern part of East Malaysia, the state of Sabah. Bob's card comes from the state of Sarawak. This month's meeting presentation focuses on the state of Sabah.

#### More on the Meeting...

Paul, K1XM and Charlotte, KQ1F have traveled all over the world combining their hobbies of Ham radio and under water photography. This month's meeting will consist of a professionally done slide presentation featuring their trip to 9M6 - the state of Sabah in East Malaysia. The subject matter is light and the pictures are beautiful. Following Paul and Charlotte's 30 minute presentation and a very brief business meeting is our usual October Pizza night. This is one you don't want to miss! Join us on Thursday.

*If you would like to share your favorite QSL card, which could be your own, with the club, please send it my way! A caption or story would be appreciated also.*

**FARA Picnic - September 5**  
Pictures taken by Sharon, KC1YR

More pictures can be found on the club web site.



**Submitting to the Circuit**  
by Robert, N1UVA  
Newsletter Editor

Many club members ask how to best submit material to the Circuit. Well, here are some guidelines which should help you, and make my life as Editor easier. You can also see this on the FARA website and it will be reprinted in the newsletter as space permits.

Electronic mail is the preferred format to submit with. However, if you do not have access to e-mail, your submission may be sent slow-mail neatly typed or written. You may also submit short bits via telephone. The contact information for these submission formats are as follows, and appear on the cover of every newsletter.

The Deadline for Submitting to the Circuit is the Wednesday, one week before the monthly meeting

**E-mail:**

[n1uva@ultranet.com](mailto:n1uva@ultranet.com)

**Postal Service:**

Robert Hess, N1UVA

1 Cold Spring Brook  
Road

Hopkinton, MA 01748

**Telephone:**

508-435-2055

School: 508-910-5296

A general guide for electronic submission, which is the preferred and most common way to write for the Circuit follows:

- If your submission is longer than 2 paragraphs it is preferred that it be sent as an attached word processing file, (Word). This is the best way to retain your paragraph formatting and make my job easier.
- Don't use multiple text columns. I reformat the text anyway and your efforts will be lost.
- The first line should be the title of the article. Titles should not be set entirely in uppercase. Capitalize only the first letter of each word. For example: "Southern Club News".
- The next line should be the author followed by a comma and the callsign. If you would like your e-mail address included in the newsletter's heading, place it on the next line.
- The Circuit will also run your for sale items. Please include all information pertinent to your merchandise.
- If you would like to include pictures please attach them in your e-mail message. I cannot guarantee that your pictures will be included in the printed Circuit but they will be available on that month's Web version.
- QSL cards should be sent as an attachment to an e-mail message. In the message text include a short caption or story about why you feel the card should be in The Circuit.

Please remember that these are only guidelines, I am happy to print anything you may have for The Circuit.

**Membership Dues**

Annual membership dues are as follows: (Make checks payable to FARA)

Regular FARA \$10

Student / Retired \$5

Repeater (voluntary) \$10

**FARA Horizons**

Oct 7: Monthly Meeting

Oct 25: Board Meeting