

Super Flea Edition

The Framingham Circuit

Newsletter of the Framingham Amateur Radio Association April 2000, Vol. 67, No. 4

President's Message

Welcome to FARA's Y2K Flea Market! This issue of the Circuit comes out early so we can distribute it at the flea market.

If you missed out on FARA's last order of t-shirts, we should have a fresh batch (with the "improved" logo) on sale at the flea market. There has been some interest expressed in "golf" shirts with embroidered logos, and the tentative cost would be about \$25 per shirt. Those interested should let me know.

W1RH and I are making an effort to turn the FARA HF station into a competitive contest station. We have upgraded the shack computers, and Bob is building a computer control interface for the TS-850. When this is done, we should be able to run CT and use the computer and spots from the FARA Packet Cluster to automatically tune and key the rig. Of course, manual tuning and logging will also be possible if you don't want all those bells and whistles.

FARA is also checking out no-tune solid state HF amps. We're looking specifically at the Ameritron 600 watt unit. Pete from HRO says he'll give us a great deal, and the amp should be easier to use than the old tube ones were. Stay "tuned" for details after the flea market.

The kit building group has received most of our components. We have checked and redrawn the schematic and corrected the parts list. There are still kits available, and we meet each Wednesday night at 7:30 in the shack. Come on down and build a regenerative HF receiver with us! No experience needed, and sometimes we even offer lessons in wattmeter repair (thanks, Nels!). Kit cost is \$10, excludes case, knobs, battery and speaker. Most of you have these in your junk box, or you can pick them up at the flea market!

Peter, KA1AXY

1/2" CATV Coax and PL-259 Connectors

By Peter, KA1AXY

FARA happens to have plenty of 1/2" unjacketed 75 ohm aluminum hardline available. We have been wondering how to cheaply connectorize it.

I have been doing some research, and the solution to the "cheap connectors" problem appears to be some \$1.79 com



Step 1 - Shows stripped coax and required parts - a 1/2" compression union and a PL-259

[Continued on page 4...](#)

In This Issue

[Page 2-](#)

Satellite DAB

Circuit Information

[Page 3-](#)

You Missed It?

QSL Card

[Page 4-](#)

1/2" CATV Coax and PL-259

Connectors (Continued)

[Page 5-](#)

Become a Member

FARA—The Early Years

Thursday, Apr 6 This Month's Meeting

FOOD Season is approaching. This month we will be having a biannual, after the flea market, pizza meeting. Just wait until Field Day in June!

Satellite DAB - Music, News and Sports from the Heavens!

By Bob, W1RH

Imagine jumping in your car in Boston, tuning the radio to your favorite station, which happens to play reggae music, and listening to that station all the way to San Diego? Can't do it, you say? Yes you can - with satellite delivered digital audio broadcasting (DAB). A few months ago, I discussed In Band-On Channel (IBOC) over-the-air DAB, which is just a year or two away. This time the topic is satellite delivered DAB. The difference between the two is that IBOC uses existing broadcast towers to transmit CD quality audio and satellite DAB relies on a network of earth orbiting satellites.

In 1997, the Federal Communications Commission granted licenses for satellite DAB to two companies, XM Satellite Radio and Sirius Satellite Radio (formerly known as CD Radio). Using two completely different types of satellite technology, these companies are promising 100 channels of crystal clear satellite reception beginning in 2001. The two satellite technologies are incompatible, so don't expect to be able to receive them both on one radio. The companies are working hard to develop alliances with various program suppliers and equipment manufacturers to get their somewhat speculative technologies off of the ground.

Despite the fact that the two systems are incompatible, automobile manufacturers have already jumped on the bandwagon. Ford has agreed to sell radios equipped to receive the Sirius system. GM will be selling cars, which can pick up the XM system. Radios should be available in some of this year's models.

Both companies are offering 100 channels of digital audio but all of these channels come for a price. \$9.95 per month is the cost currently quoted by Sirius and XM. Sirius Satellite Radio says that 50 of their channels will feature commercial free music and, with 50 channels, there are plans for that reggae channel I mentioned above! The other 50 channels will be filled with

news, sports and entertainment programming.

XM Satellite Radio is using two high power geostationary satellites to provide service throughout the continental US. Service will not be available in Alaska or Hawaii. A geostationary orbiting satellite always appears at the same position above the earth and relies on a very high orbit. All cable services and DBS services rely on geostationary satellites. The Sirius Satellite system uses three satellites in inclined elliptical orbits. These satellites will be aligned such that a satellite will always be available to service the continental US.

I know what you're thinking, this satellite radio service will be great as long as the roof of my car always has a clear view to the sky. But what if I'm in a large city and tall building block the view of the satellite? Well, both companies are already constructing a network of land based repeater transmitters that will relay the signals from the satellite. These transmitters will be strategically located on tall buildings and towers so they fill in the holes in the cities and under some overpasses and in some tunnels. Repeaters are also planned for mountainous areas.

I've discussed two exciting new radio broadcasting services that are just around the corner. There is another form of DAB used by our neighbors to the North. Should you drive into Canada, you will lose reception of both the IBOC and satellite channels at some point as you drive north. Canada's DAB system is not compatible with the US system. The Canadian system delivers the same crystal clear audio on the -L- Band microwave band, which is between 1,452 and 1,492 MHz. This is a land-based system similar to the systems used Europe and Australia. Whether you live in the States or in Canada, good old AM and FM radio should be around for awhile so you should be able to keep your car radio pumping out the music whether or not you are an American driving in Canada or vice-versa. All car radios equipped with a DAB system will also be equipped to receive the standard AM and FM broadcast bands.

Circuit Information

Membership Dues

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

Regular FARA \$15

Student / Retired \$10

Repeater (voluntary) \$10

READ THE CIRCUIT ONLINE... SAVES PAPER AND POSTAGE

Now available as an

Adobe Acrobat file

email fara@fara.org and we'll set you up!

Change of Address

If you would like to change the address on your Circuit label, please email fara@fara.org. Or, you can call the Club at 508-879-8097

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

You Missed it?



Lou Tramontozzi, KA1HH, talked about old AM radios at the March meeting while Nels, K1UR and Dave, K1HT look on.
(Photo by Peter, KA1AXY)

Mass QSO Party May 6th & 7th

By Steve, AA1IZ

There's a party and your invited. The Y2K edition of the Massachusetts QSO Party will take place on the weekend of May 6 and 7th. The basic concept in a contest is to work as many stations as possible, this gives you contact points. The special aspect of the MASS QSO Party is that you get multipliers for working each of the 14 Massachusetts counties, as well as the usual multipliers for working other states and countries. A full set of rules are on the FARA web site: www.qsl.net/fara/qsoparty/maqsorules.html

For the past several years FARA has been the administrating club for this event. We therefore have a special interest in the success of the weekend. W1FY will be on the air competing as well as many of our club members. This is a civilized contest for the beginner and a good challenge for the expert. The propagation has been terrific and the bands are hot. This will be a great weekend to be on the air.

Mark your calendar, check out your gear, read the rules, and join the fun. Let's make some real noise on the bands.

Update on FCC Rules

By Ed, W1NXC

April 15, 2000 is the magic date when the new FCC restructuring of the Rules takes effect. On or after that date the only Morse code requirement will be 5 wpm, for all license classes. The number of license classes will also be reduced to just three, Technician, General and Extra.

This change will be especially significant for advanced licensed holders who passed the Extra Class theory, element 4b, BEFORE April 15. They can be upgraded to Extra by attending a VE session and providing the proper credentials. This also applies to holders of Tech licenses who were licensed before March 21, 1987, since prior to that date all Technician exams included the General theory. In each instance a fee will be charged, a form 605 must be filled out and the proper documentation must be furnished.

A "paperwork only" session for Advanced and grandfathered Techs may be scheduled this spring so stay tuned.

QSL Card

Write-up by Bob, W1RH

While browsing through the Club's QSL collection, I found a W1EK QSL card and it was not the card of FARA member Joe Rich, W1EK. I asked Joe if he knew of Ray Brewer, the original licensee of W1EK, and was amazed that Joe knew quite a bit about Ray Brewer. Ray was originally licensed as 1EH. That's right, 1EH. In the early days of amateur radio, call signs were assigned by call areas with no country prefix. When prefixes were assigned, Ray tried for W1EK but the call was not available. No one knows when Ray was originally licensed but he also held the call W1LIO. Today's W1LIO is Arline Berry, Ray's daughter. Ray must have been active in the Newton Amateur Radio Club because his call is listed as the Club call in the 1963 Callbook. Ray's card indicates that he was Emergency Coordinator for Newton.

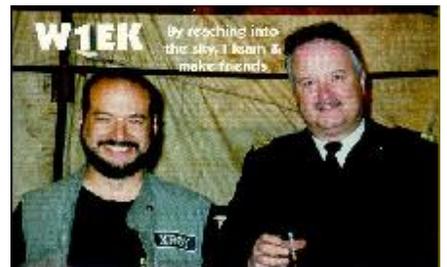
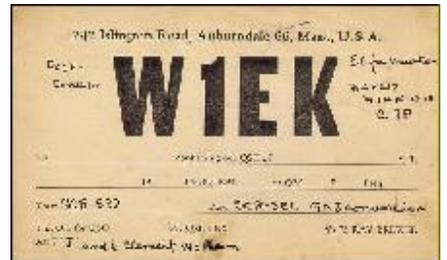
Joe says that when the vanity program debuted, Arline did not have her Extra

not know, at the time, that W1EK was one of Ray Brewer's former calls. He called Arline to apologize and offered to give up the call but Arline would not hear of it! The next time Arline saw Joe, she gave him her father's custom lapel pin with his call on it, W1EK. Joe treasures the pin to this day.

Ray died a hero. A car struck him when he came to the aid of another motorist who had flipped his car over.

Notice the transmitter/receiver listed on Ray's QSL. A SCR-522 was a popular military surplus radio that was easily converted to 2 meter AM.

A word about Joe's QSL. In September 1995, left to right: Joe Rich, then N1OCS, (and the second least experienced operator on the XR0Y team), now W1EK, and his friend Captain Ricardo Menzel (Chilean Navy) CE0YWS toasting personal milestones, during the Easter Island DX-pedition XR0Y.



The Circuit is in need of QSL cards!!!

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.

and took her father's call, WILIO. Joe
had WIEK as his third choice but did



...Continued from page 1

pression unions available at Home Depot.

What you want depends on what you need for a connector.

If you want to terminate in a PL-259, then a 1/2" to 1/2" compression union is what you need. You will also require a silver/teflon PL-259. Don't scrimp here. Radio Shack connectors are not acceptable!

Using the PL-259 body as a guide, measure one "body length" back from the cleanly cut end of the hardline, and, using a plumber's tubing cutter, cut through the aluminum outer jacket, and into the dielectric. I use a vise to grab the jacket and pull it off, but a pair of vice-grips or waterpump pliers should work well. Take the jacket and dielectric off, being careful not to nick the copper plated aluminum center conductor.

Now, using the body of the PL-259 again, measure another body length back from your first cut, and remove ONLY the aluminum jacket, leaving the dielectric intact. Disassemble the compression union. You should have two nuts, two ferrules and a center piece. The nut and ferrule may be a single assembly or they may be two separate parts.



Step 2 - Use the body of the PL-259 as a length gauge when stripping the coax

Slide the nut and ferrule of the compression union onto the aluminum hardline. Use NoAlOx and a 3M scotchbrite pad to clean and coat the end of the aluminum for about an inch back from the cut you just made. Slide the center barrel of the union onto the hardline until it stops and tighten the nut

clamp the union onto the hardline, leaving some dielectric and the center con



Step 3 - Push the nut and ferrule onto the coax shield Use NoAlOx and Scotchbrite to polish the shield 1 inch back from the end.

ductor extending out the other end. Now, examine the center conductor carefully. There will be a clear plastic coating over the copper plating, which can be removed by starting a cut with a knife and then peeling the coating back. The center conductor is copper plated aluminum, so be careful not to nick it. Take the other nut and ferrule, and loosely thread them onto the union. Take the PL-259, and slide it onto the center conductor, then screw it onto the



Step 4 - Push the union onto the hardline until the shield contacts the stop, then screw down the nut and ferrule you just installed.

dielectric, allowing the ferrule to slide over the rear of the connector body. This is where it gets tricky. You want to get as much of the PL-259 body into the compression fitting as possible, while

leaving enough room to undo the connector. This means you DO NOT want to screw the connector body all the way onto the dielectric. Leave enough room to unscrew the connector sleeve. When you're happy, tighten the second nut on the compression fitting. This should cause the ferrule to clamp down on the rear of the PL-259. You could solder the ferrule-to barrel joint if you're paranoid, I guess.

There should be a small bit of center conductor poking out the PL-259 center pin. Solder it as you normally would, then trim it. Remember that the center conductor is only copper-plated, so it would be a good idea to allow the solder to wick back between the pin and center conductor for maximum joint strength.

If you want a female connector, you can use a 1/2" to 5/8" compression union with a SO-239 barrel connector. The difference is that the center conductor of the hardline requires a small piece of brass tubing to increase its diameter enough to engage the center contact of the barrel connector.



Step 5 - Add the second nut/ferrule (don't tighten yet), then use a Tee connector to screw the PL-259 onto the dielectric, leaving just enough room to loosen the PL-259 clamp nut. You'll need to trim the hardline center conductor a bit, so do a trial fit first, before tightening the second nut/ferrule. Solder the center conductor.

This Article Originally Appeared on the FARA Email List

To sign up, send a message to majordomo@qth.net with contents "subscribe FraminghamARA-L". (Without the quotes, of course). The subject can be left blank, the server

FARA - The Early Years

Transcribed by Karen Hess

The Framingham Amateur Radio Association, formerly called the Community Radio Association, is fortunate to have the notes dating back to the Club's first meeting. Karen Hess, W1RH's XYL, has transcribed the handwritten notes, verbatim, and they will appear in this and future issues of the Circuit. They make for fascinating reading!

Feb. 10, 1933

The 2nd regular meeting of the C.A.R.A. was called to order by Pres. LaBarr at 8:30 p.m. at the Framingham Civic League.

The report of the Secty. was read and accepted

The report of the Treas. was read and accepted. (\$3.50 on hand)

Mr. F. D. McCormack, Secty. of the Framingham Civic League was introduced and gave a short talk on the activities of his organization. He expressed the hope that the C.A.R.A. would affiliate.

A short discussion followed. Motion by Mr. Tedford to affiliate with the Civic League and pay rent, amount to be determined later. Seconded. So voted.

Motion by Mr. Hauckett for adjournment. Seconded. So voted.

After the business meeting an interesting talk on elementary receiver circuits in short wave reception was given by Mr. F. L. Tedford. The talk was followed by an open discussion and questions.

Resp. Submitted

C. R. Crosby

Become a Member

Framingham Amateur Radio Association
POB 3005 Framingham, MA 01705-3005

Membership Form

Name: _____ Call: _____

ARRL member? Y / N New / Renew

Family members at same address wishing to join FARA:

Can we
Publish?

•

Street Address: _____

Town: _____ ZIP: _____

ø Phone: _____

ø Email: _____

Web or printed newsletter? Web / Print

Regular membership (Jan - Dec) \$15 _ _

Student/Senior \$10 _ _

Repeater Membership \$10 _ _

Total Dues Payable _ _

Received _ Entered _

FARA Horizons

Apr 6: Club Meeting
Apr 15: New FCC Licensing Rules take effect
Apr 24: Board Meeting
May 6-7: Mass QSO Party
May 12-14: License in a Weekend

This month's Circuit sponsored by:

WORLDWIDE DISTRIBUTION



Peter Cantara
Assistant Manager
K1TM

224 N. Broadway, Salem, MA 01970
(603) 899-3750, 1-800-444-0047
Fax: (603) 899-1243
www: w1tm@az1radio.com

WILMINGTON, CA • A LAMAR, CA • BURLINGAME, CA • BRIDGEVILLE, CO
NEWCASTLE, DE • SAN JOSE, CA • PLYMOUTH, AZ • PORTLAND, OR
SALMON, WA • SAN DIEGO, CA • SUMMITVILLE, GA • WOODBRIDGE, VA