The FraminghHAM Circuit

Editor: Martin Bayes W1/G4DZC March 1991

FARA March Meeting

The next FARA meeting will be held at 7.30 pm on Thursday March 7th, in the basement of the Danforth Museum, Framingham. Following the business meeting, Sharon Gartenburg KC1YR will give a presentation on Amateur Radio in the Soviet Union. See you there.

Presidents Column

This month's column is about experiments. Ever since I first took a science course in school, I've loved doing experiments. Some of the experiments got me into trouble, like the one where my next door neighbor and I ignited a pile of magnesium in the side yard of his house, just as his father returned home from work. Most of my experiments, though, have taught me something. It's always encouraging to find that what you learned in physics class holds up in the real world.

I have most of the parts for my next experiment leaning against the back of my house. There's an old television rotator I pulled off a neighbor's roof, a tripod that was in the bushes behind my brother-in-law's shed, a one inch dowel that used to be part of the kids' jungle gym and a 5 element 2 meter yagi that I made from old TV antenna parts. I'm going to try to measure the pattern of this antenna. This effort will probably draw some strange looks from my neighbors, because about the only place there's room to do this is in the side yard. The results arn't going to be very precise because I'm not planning on spending much money on this experiment. But, I've got a computer, a receiver with an S-meter and a step attenuator I built from a design in the ARRL Handbook. Next week I'm going to take my step attenuator down to the RF lab at work and calibrate it on their gigabuck measurement system. Then I'll know how much attenuation it inserts at different frequencies.

My plan is to excite the antenna with an HT and use a home-made dipole mounted on a two-by-four to feed my receiver. The programmable attenuator should allow me to vary the amount of signal reaching the receiver so that the S-meter reading stays constant. All I should have to do is plot the amount of attenuation against the antenna angle to find out what the pattern looks like. The interesting thing about this experiment is that the only information I'm interested in is the relative signal strength corresponding to the various antenna positions. The absolute signal strength isn't important. This means that my receiver's S-meter doesn't have to be calibrated (it should be reasonably linear over the center of its range, though). The only piece of equipment that has to be calibrated is the step attenuator. Within reason, it doesn't even have to have accurate steps, I just have to know what they are.

To get the best possible results, the antennas should be mounted more than two wavelengths above ground and the same distance away from anything conductive. I'll do the best I can, but I suspect it'll be more like 8 to 10 feet above the ground because I'm not going to go out and buy a 12 foot two by four just to do this experiment! I'm also

not planning on chopping down any trees. if I wanted to know what effect these compromises had on my measurements, I could repeat this experiment in a different location and compare the results. It would also be important to make drawings of my test setups so that I wouldn't forget where the trees were or how high I had mounted the antennas.

One other thing I could do would be to model the antenna on the computer and calculate a predicted pattern. This is in fact extremely easy to do, since the required software (MININEC) is available free of charge on BBS systems (actually, it was developed by the government, so it's not really free, it's just that you've already paid for it). MININEC is also available from people who advertise in QST, but it's the same program with some added frills.

The final step in any experiment is to write a report. We all remember how much we enjoyed writing lab reports, don't we? It's good for the soul, though. It's also good for the hobby, because every time you publish(even if it's only in the Framingham Circuit), you let others know what you learned. Everybody benefits from your experiment (if you follow the rules and do a neat job). Experiments are fun and they don't have to be expensive or elaborate. If you do them carefully, you can learn a lot, sometimes things you didn't know you were going to learn!

Pete KA1AXY

ATTENTION

Club members with two meter capability!!! There will be a communications excercise on Saturday March 16th, starting at 9am, to accomplish two objectives.
1. A training excercise for conducting emergency communications
2. A determination of the club station's coverage pattern on a 2 meter simplex frequency.

If you would like to participate, see Marc Stern WA1R, at the next club meeting or contact Marc, Lew K1AZE or Bob N1BRM on the 'FY repeater.
We need as many participants as possible !!!

Flea Markets

16 March (Saturday) : Hudson NH (Sponsored by Interstate Repeater Soc)
Times 9:00am - 3:00pm
Admission $2
Location Lions Club Hudson NH
Talk-in
146.25/85 224.46 449.625
Info KA1MKH (603) 895 9033

17 March (Sunday) : East Braintree MA (Sponsored by South Shore ARC)
Times 10:30am - 3:00pm
Admission $1
Location Viking Club 410 Quincy Ave (Rt 53) East Braintree
Info Hal Jones WB1ABM 48 Saning Road N Weymouth 02191 MA

14 April (Sunday) : FARA Spring Flea Market
Times Doors open 9:00am
Location Framingham North High School
Info Call Lew K1AZE at 879 7456

Annual FARA Dinner

Friday March 22nd 1991

at The "Bella Costa Restorante"
147 Cochituate Road (Rt 30) Framingham

6:30 pm Cocktails
7:30 pm Dinner

Choice of :

Chicken Divan Chicken stuffed with ham, swiss and provolone cheeses, broccoli, potato and vegetable

Veal Parmagiana with ziti

Broiled Scrod with potato and vegetable

Complete with salad, coffee or tea, bread and butter, ice cream with hot fudge

COST : Only $15.00 per person (includes tax and tip)

Limited seating for the first 50 people with check and reservation

Send your check now to : Burt Shaffer N1DDO 73 Russell Rd Framingham MA 01701

Make your check payable to FARA

CLUB INFORMATION 1990-91

President	Pete Simpson	KA1AXY	429 7069	Before 9 pm
Vice President	Marc Stern	WA1R	879 2087	"
Secretary	Henry Lee III	KB1PE	881 7662	"
Treasurer	Bob Gettys	N1BRM	620 1836	"
Director	Lew Nyman	K1AZE	879 7456	"
Training Officer	Ed Weiss	W1NXC	881 2301	Before 6 pm
Director of Testing	Dick Marshall	WA1KUG	877 0563	Before 9 pm
Activities Coordinator	Marjie Stern	KA1HIA	879 2087	"
Publicity Officer	Sharon Machlis Gartenburg	KC1YR	877 6692	"
Emergency Coordinator	Marc Stern	WA1R	879 2087	"
Scholarship Cte Chairman	Dick Cosma	N1HSE	879 1381	"
Newsletter Editor	Martin Bayes	W1/G4DZC	435 1278	"

Meetings are held on the 1st Thursday of each month, in the basement of the Danforth Museum, in downtown Framingham. Club Repeater 147.15/147.75 MHz.