



ZERO BEAT

Southeastern Massachusetts
Amateur Radio Association, Inc.
54 Donald Street, PO Box 80007
South Dartmouth, MA 02748



OUR 66th YEAR

Volume 34, Issue 7

❖ SEMARA ❖

July 1998

Editor's Corner

WHAT HAPPENED TO HOMEBREWING?

A few years (eons) ago when I first got my amateur radio license, most hams built their own equipment. Well, maybe not their receiver, but invariably they built their transmitter.

The ability to "roll ones own" so to speak was even reflected in the FCC exams of the day. Back then they didn't ask you questions about circuits - you had to draw them as part of the examination!

Times have changed. FCC exams are now multiple-choice, and the homebrewer is a rare individual. Nowadays most hams go the "Plug & Play" route.

To be sure, the state of the art in the electronics field is very complex. But that actually has made it easier to build the gadgets and goodies hams need around the shack. What took tubes, transformers, and time to build years ago can now be built with one or two integrated circuits in about an hour.

Making things even easier are the ready-made printed circuit boards available from several vendors. Boards are available for everything from field strength meters to SSB transceivers!

Ready to homebrew? Maybe we could get a club project going if enough members are interested. Got any ideas for a project? Let's talk it up at the next business meeting. Plug your iron in!



MEETING HIGHLIGHTS

The April business meeting was called to order at 7:05 PM by President Rick Cabral. Twenty-two members were present. Following the salute to the flag and roll call, the Secretary's and Treasurer's reports were read and accepted.

Committee reports followed:
Technical - Repeater upgrades in the planning stage. *Buildings and Grounds* - The club riding mower had new belts installed. The club now has a gasoline grass trimmer. *Scholarship* - More fund raising events to be scheduled, with the first scholarship award planned for next spring. *Tower Committee* - Waiting for the reply to a letter sent to Bell-Atlantic. *Code Class* - None. *Communications* - None.

Ratifications - Gerard Bergeron, N1OFD, and Joseph Frois, N1YAL, were both voted into full membership retroactive to the date first eligible.

Old business - New keys for boiler room and lockers should be ready by the next meeting.

New business - A motion was made to transfer the money in the antenna fund into the general treasury. The motion was defeated.

The meeting adjourned at 7:42 pm. Following the meeting, a combination 50/50 and mystery box raffle was held. There were three mystery boxes. The winner of the

BILL FIELD AND MARTY JORDAN WIN FOXHUNT!

The dynamic duo of Bill Field, WA1FYF, and Marty Jordan, KA1YFV, won the June 11th SEMARA foxhunt, and therefore will be the fox on next months hunt.

The fox was Bill Miller, K1IBR. There were nine hunters mostly in crews of two each. One crewman did the driving, the other handled the direction finding operations.



The official order in which the hunters found the fox follows:

- 1) Bill Field & Marty Jordan
- 2) Henry Blanchett, Bob Metivier, and a young ham to be - "Nick"
- 3) Tim Smith
- 4) Jerry Lemos & his son Seth
- 5) Andy Reuter & Bill Vincent

Following the hunt all participants met at Friendly's restaurant in South Dartmouth to recap the nights events. Bill Field was at no loss of words as he described how he and Marty won. He stressed the fact that they started 5 minutes late and still won! (Marty had to gas-up his truck.) Bill further claimed that he drew upon his three years of "for real" direction finding experi-



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EDITOR

William M. Miller Jr. K1IBR
 Phone: (508) 996-2969
 E-Mail: k1ibr@hh.net

ADVERTISING

Commercial ads the size of a business card will be accepted. Rates are \$5.00 for one insertion, \$20.00 for six insertions, and \$35.00 for twelve insertions.

Non-commercial ads up to forty words in length will be accepted. Rate is \$3.00 for one or \$12.00 for six insertions. Club members have one free non-commercial ad per month.

MEETING- continued from page one

money raffle was **Henry Blanchett, W1GYL**, who donated the \$16.00 to the club. Next the three mystery boxes were raffled off. The first was won by **Bill Miller, K1IBR** (an antenna rotor without control box); the second was won by **Marty Jordan, WA1YFV** (an antenna rotor control box which he gave to Bill Miller!); and the third by **Henry Deslaurier, WA1CQJ**, who donated his mystery box to the club for a future raffle. The mystery boxes were donated by **Sam Wagstaff, N1PGN**. Thanks Sam for the donations!

FAMOUS LAST WORDS

"I have traveled the length and breadth of this country and talked with the best people, and I can assure you that data processing is a fad that won't last out the year." The editor in charge of business books for Prentice Hall, speaking in 1957.



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HUNT - continued from page one

ence when in the service.

Bob Metivier, and Henry Blanchett were the only crew with an electronic direction finding antenna. (Some hunters felt intimidated by such a display of sophisticated equipment.) Bob related that as they left the club to find the fox, a caravan of other hunters followed him. He felt like the Pied Piper of Hamelin! However, the "mice" soon dispersed and went their own way.

For the record, the hunt was limited to the city of New Bedford south of Union Street. The "fox" hid off Brock Avenue on a bluff overlooking a small mini-mall on West Rodney French Boulevard. Many hunters wasted precious time "cruising" around the mall!

The first hunter observed by the fox was Bob and Henry with their direction finding antenna. They actually came within fifty feet of the fox, but turned left and continued on their way. That wrong turn cost them first place. The directional antenna did get them into the vicinity of the fox, but their "endgame" performance was a bit lacking.

As the post hunt festivities at Friendly's drew to an end, Bill Field remarked that he and Marty hold the record for finding the fox the fastest, and they should get a trophy! Marty then offered some advice for next month's hunters, "Pack a lunch!" (Gee, I wonder what he meant by that?)

The next hunt is scheduled for Thursday, July 9th, at 7:00 p.m. Join in the fun, come find the fox!

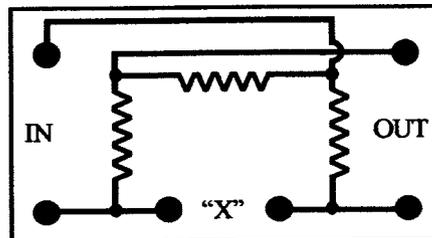
**NEXT SEMARA
 VE SESSION**

**July 11, 1998
 Saturday, 10:30 AM**

**LOCAL VE SESSIONS
 IN JUNE**

- 09 Providence, RI
 Judy Nelson
 401-231-9156
- 11 Falmouth, MA
 Joanne Reid
 508-548-1121
- 13 Brookline, MA
 Bob Wondolowski
 508-865-5822
- 22 Cambridge, MA
 Nick Alterndburned
 617-253-3776
- 22 Plymouth, MA
 Lou Vanderstreet
 781-837-6651

NAME THAT CIRCUIT



- 1. Wheatstone Bridge
- 2. Varley Loop
- 3. "R-X" UHF Mixer
- 4. Wien Bridge

CLUB NOTES

The Fourth of July is upon us. Break out the fireworks! Dam, I just remembered they're illegal in Massachusetts. Well, break out the flags and proudly wave them!



Did you know that Amateur Radio was honored with a stamp? That's right, back in 1964 the Post Office issued a red-lilac 5¢ Amateur Radio stamp. Today, a USED copy of the stamp sells for 5¢ or more! Stamp collectors know the stamp as Scott catalogue #1260.



A big "Thank You" goes out to Dick Hay, W1LE, who sent the club a Dilbert cartoon about amateur radio. It is posted on the bulletin board at the club. Check it out!

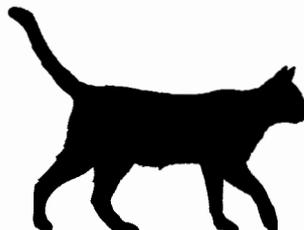
Thank You!

The club now has a gasoline powered grass trimmer thanks to the generosity of George Souza, N1MWB, who donated it and Bill Vincent, N1LTY, who tuned it up for service. A new trimmer drum was donated anonymously by another member to ready the unit for service. THANKS FELLOWS!

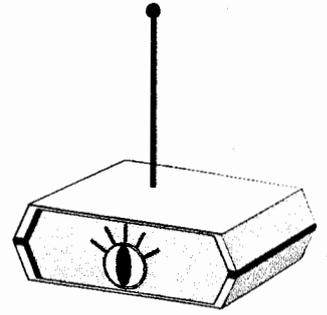


TRIVIA DEPARTMENT

Here is a piece of information that very few people are aware of - Cat urine glows under a blacklight! This fact is a great icebreaker at parties.



Several members are building direction finding loop antennas. Seems the foxhunt mania has caught on. On the last hunt only one directional antenna was in use. Look out! This month's hunt will see several DF loops and other neat "goodies"



On June 18th, a very interesting Tech-Talk on AMSAT operations was given by Ed Harrington, W1VF. Ed demonstrated how one can listen to satellites with just a scanner, and distributed a handout covering several of AMSAT's programs. Thanks, Ed, for the great presentation!



Reminder: When renewing your ARRL QST subscription please do it through the club. The club will benefit financially at no extra cost to you. Contact the club Treasurer for renewal details. Thanks!

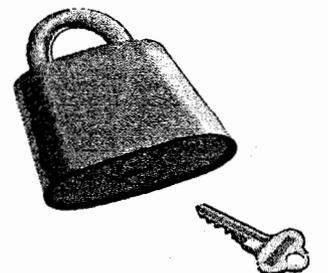


The annual luncheon get-together with Joe Fortin, K4KTZ, was held at Danny's Tavern in New Bedford on June 17th. The luncheon is held every year when Joe comes up from Florida to visit his family. Sixteen hungry men sat down for clamboils and other great entrees. The fun and camaraderie will long be remembered.



IMPORTANT NOTICE

The new locks and keys for the boiler room, file cabinet, and storage lockers at the clubhouse will be issued at the July business meeting. All officers, chairmen, and other qualified members will be issued appropriate keys.

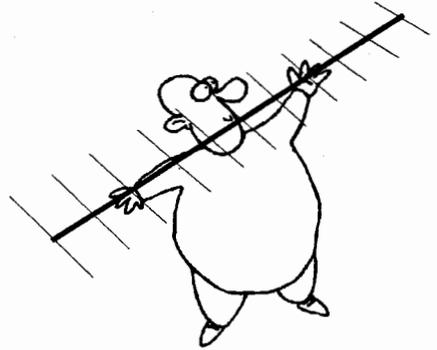


FOXHUNTING SECRETS REVEALED!



Successful foxhunting is a combination of good radio equipment, first-rate direction finding technique, and luck. Of the three, only the first two are under your control. (Unless you carry a rabbit's foot - lucky for you, unlucky for the rabbit!)

The receiver used for foxhunting ideally has a reliable S-meter. This allows you to determine if you're moving towards or away from the fox. As an alternate, you could use an attenuator in the antenna line and keep adjusting it so the fox is just above the noise level. You can quickly determine if you're moving towards or away from the fox using this setup. (DO NOT TRANSMIT INTO AN ATTENUATOR. RF can quickly destroy an attenuator. It's a good idea to disable the transmit function by removing the mike from the set.)



Some type of directional antenna is handy, particularly at the start of the hunt when you have no idea which direction leads to the fox. Yagis work well but are a bit cumbersome on frequencies below 440. Loop antennas are small, work well, and are quite popular. Loops should be rotated for a null in the signal. The null on a loop antenna is very sharp and gives you an accurate directional reading. More sophisticated is the so-called "Doppler" antenna arrangement. This system uses two dipoles that are alternately switched to the receiver, usually at a 1 kHz rate. When the antenna is "on target" no 1 kHz tone is heard from the receiver. If the antenna is the slightest bit "off target" you hear the tone. The antennas are electronically switched using pin diodes or similar devices. The "Cadillac" systems are the commercial direction finding arrays using four or more pickup antennas similar to the Lojack™ system.

So, you've got a good receiver and loop antenna, and can get in the general area of the fox, but then the signal overwhelms your equipment. What to do! A real sensitive (amplified) field strength meter may help if the fox is more than a QRP transmitter. Also, several circuits exist for building 'RF Sniffers'. They output an audio tone which increases in frequency as you get closer to the fox. If you think you are close to the fox and want to verify it, here is an old trick to try. Ask the fox to give you ten seconds of dead carrier. When he does, blow your car's horn. Your accomplice should have a set of headphones on. If he hears the horn in the headphones you know you are close! Of course, if the fox is an unattended automated unit this trick won't work. It's really a mobile hunt trick.



The fox also has been known to employ "dirty tricks." Back in the days of the 10 meter mobile hunts, one enterprising chap parked in the woods by a railroad track and coupled the transmitter to the tracks! Several hunters wasted considerable time checking every hiding spot near a railroad station two miles distant. The signal was booming at the station, yet faded if they moved away. Parking under and aiming a beam up at a water tank also confuses hunters. Varying your output power also "leads 'em astray." Nowadays most "rules of the hunt" forbid varying the output power, but it has been done in the past!



Undoubtedly, the best part of the foxhunt occurs after it is over. Most groups meet in a diner or coffee shop to review the hunt. Usually a crying towel is needed for all the hunters that claim they had equipment problems. Never a word about the "people problem." (Poor operating procedure) It's always an equipment problem! Fact is, luck plays a considerable part in any foxhunt. A left turn instead of a right and you miss the fox. But in the final analysis who cares. It's the FUN of the hunt that counts!

TECHNICAL TIPS

A common problem that all hams face is getting the coaxial cables from your antennas into the house. My solution was to install a 2-inch PVC pipe from outside into my cellar. After running all the cables through it, I sealed it with "duct seal" (inside and outside), a putty-like sealer used by electricians. Unlike regular putty, "duct seal" doesn't harden into something resembling concrete. It can easily be removed to add another cable. To tell which cable is which, mark them with bands of colored tape. Radio Shack sells a package of five colored tapes for about \$2.50 (#64-2340). If you have more than five cables, use two bands of different colors. Be sure to make a "decoding list" so you can identify your cables!

1998 FLEAMARKET CALENDAR

July 18 - Willsley, MA
 July 19 - MIT
 August 8 - Gardner, MA
 August 16 - MIT
 August 23 - Enfield, CT
 August 28, 29, 30 - Boxboro, MA
 September 13 - SEMARA
 September 19 - Foxonville, RI
 September 20 - MIT
 September 27 - Framingham, MA
 October 2, 3 - Rochester, NH
 October 11 - Wallingford, CT
 October 18 - MIT
 November 21 - Newton, MA
 (inches)

NET DIRECTORY

—Sunday—
 8am 28.375 SEMARA NET
 9:30am 50.225 Yankee SSB
 3pm 28.470 UFO
 7pm 147.000+ Swap Net
 — 4th Sunday —
 9pm 449.575 EM-ARRL
 — Daily —
 5:30pm 3.915 EM/RI NTS ssb
 7&10pm 3.658 EM/RI NTS cw
 6:45pm 147.315+ NTS/Trivia
 7pm 146.550 SEMARA NET
 8pm 145.230- EM-NTS
 — Monday to Friday —
 8am 14.262 UFO
 8pm 145.490- Weather
 — Saturday & Sunday —
 8am 7.237 UFO
 — Thursday —
 7pm 14.264 UFO
 8pm 147.180+ Trivia
 — Saturday —
 7:30pm 3.978 UFO
 1800G 14.300 Coast Guard

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—ARES NET—

1st & 15th of the month
 at 7:30 pm
 147.000+ on the 1st
 145.490- on the 15th

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Secretary Henry Blanchett, W1GYL
Treasurer John Carreiro, W1ZYV

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 Norman Riley, W1ATI
 Frank Fonseca, WB1ASD
 Martin F. Jordan, KA1YFV

SEMARA EVENT CALENDAR

JULY 1998

2 - Business Meeting, 7:00 pm
 9 - 2 Meter Foxhunt @ clubhouse, 7:00 pm
 11 - VE Session, 10:30 am
 16 - Tech-Talk, 7:00 pm "APRS Explained"
 by Rob, KD1CY & Tony, N1XRS
 20 - SEMCARES meeting, 7:30 pm
 27 - Board of Director's meeting, 7:00 pm

AUGUST 1998

1 - VE Session, 10:30 am
 6 - Business Meeting, 7:00 pm
 13 - 2 Meter Foxhunt @ clubhouse, 7:00 pm
 20 - Tech-Talk, 7:00 pm - "Tesla Coils!"
 by Bill Miller, K1IBR



Coffee Hour at the clubhouse every Sunday at 9:00 am - Drop by and ragchew!

LOCAL REPEATER DIRECTORY

Frequency	CTCSS	Call	Location	Frequency	CTCSS	Call	Location
144				440			
145.150 -		WAIDGW	Fall River	441.400 +	192.8	WGIU	Assonet
145.490 -		KA1WBF	Fairhaven	442.200 +		N1NRL	Fall River
146.445 +1Mhz	91.5	KB1BWN	Dartmouth	442.350 +	141.3	N1QWW	New Bedford
146.655 -	88.5	WA1GPO	Falmouth	442.600 +	100.0	K1LIQ	Tiverton, RI
146.685 -		N1OEG	Plymouth	443.450 +	88.5	K1MYL	Westport
146.700 -		K1CR	Cranston, RI	443.600 +		NSIN	Norwell
147.000 +		W1AEC	Dartmouth	443.800 +	88.5	N1RFH	Dartmouth
147.045 +		WA1AIC	Yarmouth	443.850 +	131.8	W1ARM	Chatham
147.135 +	67.0	NDIN	Taunton	444.250 +	141.3	WA1GPO	Falmouth
147.180 +	77.0	N1FDX	Bridgewater	444.550 +		N1FDX	Bridgewater
147.315 +	156.7	N1BBT	Wareham	447.075 -		N1DZD	Kingston
220							
224.340 -		N1SGK	Dennis	NAME THAT CIRCUIT ANSWER: 1. Wheatstone Bridge			

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FIRST CLASS

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