

ZERO BEAT

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SEMARA, W1AEC
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Editor
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Meeting Highlights

Here are the highlights from the May 6th, SEMARA business meeting:

After the pledge and roll call, the secretary's and treasurer's reports were read and accepted.

Bill, WA1FYF, of the buildings and grounds committee reported that a motorist had an accident and damaged part of the front lawn. An appraisal (and hopefully a check) will be forth coming from the insurance company. Bill also reported that he rented a truck, got some guys together, and picked up a shed which was donated to the club. It needs a little work and reassembly.

Additionally, Bill reported that he found someone who will cut the grass for some material compensation.

Peter, KA1WBE, of the technical committee reported that the repeater has returned from the repair shop, and failed again shortly after reinstallation. Pete also mentioned that we need someone to

climb the tower and check out the antennas and connectors.

Mike, N1ITQ, for the ways and means committee, reported that we have finally collected enough money from the candy bar sales to cover the cost of the initial purchase. All sales from here on out will create funds usable by the club.

Mike, N1ITQ, also reported that he found the back door open, and the file cabinet lock, club papers and candy bars were missing. Mike Enos, WM1S, noted that he discovered the VCR with his tape in it was missing.

Under new business, the matter of a complaint against a member, which was filed in February, was brought to the membership's attention. Although the complaint had been dropped, a recommendation from the board of directors was presented. The recommendation was to suspend the defendant due to the failure to appear before the board of directors to answer said charges. A motion to drop the whole matter was seconded and passed.

Also under new business, Dan, N1HCV, resigned, as did Art, KA1VGZ, Mike, N1ITQ, and Peter, KA1WBE. Each stated their reasons for resigning. Several members of standing committees also resigned. A motion to accept their resignations was seconded and passed.

Pete, KA1WOJ, presided over the rest of the meeting. A motion to re-imburse the Zerobeat for mailing expenses concerned with the proposed constitutional changes was passed.

Also, a motion to hold a special election next month was passed. A nominating committee was formed to find a slate of officers.

After some discussion, the meeting was adjourned.

Next Meeting

The next SEMARA business meeting is June 3, 1993, 7:30 pm. The club meets every Thursday, with business meetings on the first Thursday of the month.

Notice: Nominations for officers will be held at this meeting, see the article about the special election.

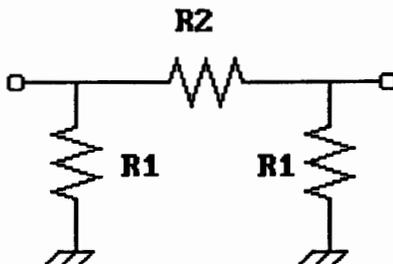
Special Nominations and Election

Due to the resignation of the President, Vice-President, Secretary, and one member of the board of directors, Pete, KA1WOJ, the treasurer, acting as President, asked for volunteers for a nominating committee. (One was not formed in 1992.) Volunteering were Mike Ponte, WA1BZJ, Karen Peckham, N1LIE, Bob Peckham, KA1YDG, Ed Blouin, KA1AW, and Patricia Carreiro, KA1YUH.

At a meeting of the committee on May 13, the following slate was proposed and will

Table of PI Attenuator Resistor Values

Attenuation (dB)	R1	R2
1	886.939	5.8845
2	444.936	11.8472
3	298.25	17.9671
4	225.391	24.3254
5	182.058	31.0064
6	153.486	38.0989
7	133.343	45.697
8	118.465	53.9014
9	107.094	62.821
10	98.1725	72.5743
15	73.0616	138.862
20	62.333	252.45
25	57.0777	452.027
30	54.3306	805.574



This table will be used in next month's project: A Compact Attenuator for Transmitter Hunting. Don't miss it! Subscribe today!

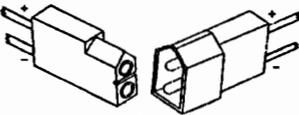
be presented at the next meeting: Pete Carreiro, KA1WOJ, for president; Mike Ponte, WA1BZJ, for vice-president; Mark Mahoney, N1IEP, for secretary; and Charles Pelletier, KD1DA, for board of directors.

These nominations will be posted and then nominations will be accepted from the floor, at the regular business meeting on June 3. Because of the need for the expedient resolution of this matter, the nominating committee will ask the membership to waive the rules, and allow the election to be held immediately following the close of nominations from the floor.

Connector Standard

Remember that 2 pin Molex 1545 series connector we mentioned last month?

Well there it is pictured to the right. The



female pins go into the male housing, and are used for the power source connections. The male pins go in the female housing and connect to the rigs. You might want to make a few Y-cables to have ready when you need them.

The connector is the RS part number 274-222 (\$1 a pair). They are sold at the MIT Flea for \$5 for 10 pairs.

Member Profile

This month, we profile Pete Carreiro, KA1WOJ, the club's treasurer.



Pete is currently in his second year as treasurer. He and his wife both hold technician class licenses, and enjoy their radio hobby together, using Alinco hand

helds. On occasion they use their Ringo Ranger (up on the roof) and the Ramsey Amplifier.

When asked what his favorite band was, he replied "R.E.M.", but then decided, that since we are talking about radio, maybe "2 meters" was a better answer.

Pete and Patricia have two children, Brad and Angela, who are both also interested in radio. Pete has been working in the

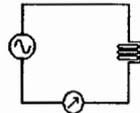
maintenance department at UMass Dartmouth for over 10 years.

When asked about his thoughts for the future of the club, he said he'd like to promote unity amongst the members, and work towards a more productive association.

Inductance Quiz

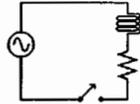
Last month we featured an Inductance Quiz. How did you do? Here are the answers, the way it was explained to me:

1. True or false: When the supply voltage has dropped to zero, current will continue to flow.



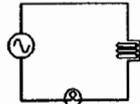
Answer: True. Since the current lags the voltage by 90° in an inductive circuit, current will continue to flow after the voltage has dropped to zero.

2. True or false: Upon opening the switch, a higher voltage will be developed for a higher resistance.



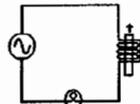
Answer: True. The coil will tend to maintain the same current flow in the circuit. When the switch is opened, a higher series resistance will cause a higher e.m.f. to be developed.

3. True or false: The lamp will glow more brightly by increasing the supply frequency.



Answer: False. The greater the rate of current change, the greater the opposition to the change, due to the back e.m.f. induced in the coil as the current through it changes. With a higher frequency, the inductance of the coil will be greater, and the voltage delivered to the lamp will be smaller.

4. True or false: As the iron core is moved out of the coil, the lamp will glow more brightly.



Repeater Directory

145.150 -	WA1DGW, Fall River
145.490 -	KA1WBF, Fairhaven
146.700 -	WA1RBT, Cranston
146.655 -	WA1GPO, Falmouth
147.000 +	W1AEC, South Dartmouth
147.135 +	Taunton
147.180 +	Bridgewater
147.315 +	Wareham
442.200 +	Fall River
443.450 +	Westport
444.350 +	W1ACT, Fall River

Know of any local repeater frequencies not listed here? Send them in to the editor!

Packet Directory

144.990	NS1N
145.010	Fara Digi
145.010	KA1THM
145.570	WA1OAJ
145.530	KQ1K

Answer: True. Removing the core will decrease the coil's inductance, increasing the voltage for the lamp.

Antenna Tree or Tree Antenna

Trees are often blamed by many repeating typewriters as having effects on the primary and secondary patterns. This is hard to conceive as they are after all non-metallic, non-resonant, in the wrong plane in most cases, and of questionable polarization (woodazontal). Yet they get blamed for all sorts of things by many typewriters and the people behind them. They do absorb some energy, and heavily wooded areas have been found to attenuate RF energy.

There are two trees that have been found to have a secondary effect on antennas and a primary effect if close enough. They are the Iron Wood and Silver Maple trees. WOODEN you know it?! They act as a big massive reflector of mixed woodazontal polarization and when near antennas radiating high power, they have actually burned down. So they can be a hazard.

It has also been found that they can be loaded as a broadband top-loaded tree vertical just by connecting the shield of coax to the root (radial system) and the center lead to the bark sleeve which is capacitively coupled to the tree. It is called a "Bark-O-Match."

The Packet Racket

Larry Houbre 4/93

CONNECT ZEROBEAT.WIAEC.SEMARA.MA
SB ALL

As promised two months ago, this installment will review sending a message. There are basically three types of messages you can send, a "private" message, meant for a specific individual who is a ham, a "bulletin" message, which has a wider audience, and a "traffic" message, part of the National Traffic System, and destined for a particular, possible non-ham, individual.

To send a private message, you of course must know the call sign of the addressee. For example, to send a message to WAFYF, you would simply enter:
SP WAFYF

The system would then ask you for a "subject" line, which is a VERY short summary of the message contents' subject. You then enter the message text, and end off with "/EX", which tells the system you are done entering the message.

A message you've entered will be available for "reading" by the addressee the next time he connects to the system you sent it on. The system may also "forward" that message to the addressee's "home bbs" if one is known.

If YOU know the addressee's "home bbs", you can help the system out by telling it where to send the message. For example, sending a message to WAFYF, whose "home bbs" could be AA1FS, you would start off with
SP WAFYF @ AA1FS

and then continue with the rest of the message as discussed.

Next time, we'll go over how to enter "traffic" messages into the NTS via packet radio.

/EX
DISCONNECT

Here's is one way to hide an antenna from your neighbor. If a pine tree were crossed with an IRON WOOD or SILVER MAPLE tree to make it conductive it would be of "LOG" Periodic type, but of circular polarization due to its true cone shape. Matching is no problem as the shield of the coax is connected to the root as with the Iron Wood, and the center lead is connected to the bark, or you can just bend down a limb or branch for a BRANCH-O-MATCH.

By selecting the proper match any impedance desired can be obtained all the way up to 600 ohms. The BARK-O-MATCH is somewhat limited to values

around 50 ohms due to the ratio of diameters of the bark sleeve and the tree. A whole forest of "LOG" Periodic pine trees could be phased together to produce high gain for communication with the moon, Mars or what have you.

Now, what SAP thought of this?

Construction Project

Beginning with the preliminaries this month, and finishing off with the construction next month, we're building a Compact Attenuator for Transmitting Hunting.

The plans and information for this project came from Kevin, WB1MUP, John, WN9T, and Mike, N1EVH. (Yup! Those guys that came down to the club and did a series of classes on "Direction Finding and Transmitter Hunting". They FINALLY sent in this information!)

According to the materials, manufacturers take great care to give modern receivers good sensitivity, with signals on the order of a few tenths of a microvolt able to open the squelch. Hunting weak signals with such sensitivity is great, but as the signal gets stronger, new problems appear.

Some of the characteristics of a good S-Meter also tend to make it worthless on strong signals. A meter suitable for T-hunting should have good sensitivity and a relatively small dynamic range. So as soon as a signal gets 20dB or so above the noise, a good meter is near or above full scale. Without something to reduce the signal level, it's not possible to move closer without bearings becoming difficult or impossible to read accurately.

There are two solutions to the problem. Decrease the sensitivity of the radio, or decrease the signal strength with an attenuator. (Any idea which one we're going to do?)

With the chart (shown elsewhere in this issue, we can build a "step-attenuator", to go anywhere from 1dB to 100dB of attenuation. Because of the leakage between stages, an attenuator of about 90dB is about the maximum that will work.

Next issue, we build!

Mystery Photo

Can you guess who's photo this is? He's a former repeater owner, and is considered by many to be the "guardian" of the night.



Calendar

Jun 3, 7:30p, Business meeting
 Jun 6, Flea Market, Newington, CT
 Jun 20, MIT Flea Market
 Jun 19 & 20, MS Bike Tour
 Jun 26 & 27, Field Day

Jul 1, 7:30p, Business meeting
 Jul 18, MIT Flea Market
 Jul 24, ARRL NE Div. Convention, NH

Aug 5, 7:30p, Business Meeting
 Aug 14-15, ARRL National Convention
 Aug 15, MIT Flea Market

Sep 2, 7:30p, Business Meeting
 Sep 12, Ham Fest/Exams, Dartmouth
 Sep 19, MIT Flea Market
 Sep 26, Ham Fest/Exams, Framingham

Oct 7, 7:30p, Business Meeting
 Oct 15-16, Hoss Traders, Rochester, NH
 Oct 17, MIT Flea Market
 Oct 30, National Exam Day

Nov 4, 7:30p, Business Meeting
 Nov 13, Ham Fest, Plymouth

Dec 2, 7:30p, Business Meeting

Last month's mystery photo was a young Arthur Valois, W1UID.

New Surroundings

Bob, N1HCW, has finally moved into his new shack, after months of discussing it on the air, and "dreaming" about that day. He's busy now playing "homeowner" as well as "radio operator", but he still finds time to delve into zymurgy. Now that the tower is up (and level) he'll be back in the "swing" of things soon.

SEMARA OFFICERS

President

?

Vice-President

?

Secretary

?

Treasurer

Pete Carreiro, KA1WOJ, 993-6262

Board Members

Dr. Norm Riley, W1ATI

Marc Jodoin, KA1WBF

?

Trustees

Dr. Norm Riley, W1ATI, Chairman

Bill Field, WA1FYF

Morris Fogaren, WB1GJO

Joe Midurski, W1EKW

Edward Blouin, KA1AW

Activities Committee

?, Chairman

Buildings & Grounds Committee

Bill Field, WA1FYF, Chairman

Technical Committee

?, Chairman

Ways & Means Committee

?, Chairman

VE EXAMS

May:

28 Holyoke, MA Jim, 413-245-3228
 29 New Bedford, MA Dave, 508-991-4291
 29 Slatersville, RI Bob, 401-333-2129
 30 Fort Devens, MA Tom, 508-425-6672

June:

2 Acton, MA Towne, 508-263-3712
 5 Norwalk, CT Ray, 203-847-2541
 5 Newport, NH Conrad, 603-543-1389
 5 Middletown, RI Jim, 401-683-2252
 5 Fort Devens, MA Tom, 508-425-6672
 5 Rochester, NH Bill, 603-742-0130
 6 Newington, CT Susan, 203-379-5708
 7 Cambridge, MA Bob, 617-593-1955
 8 Newington, CT Ed, 203-342-4300
 9 Billerica, MA Bruce, 508-851-2886
 9 Dorchester, MA Edward, 508-851-2886
 10 Providence RI Judy, 401-231-9156
 12 Brewster, MA Henry, 508-255-2818
 12 Braintree, MA Philip, 617-329-6446
 12 Falmouth, MA Geoffrey, 508-548-0969
 12 Bangor, ME Roger, 508-848-3846
 13 Gloucester, MA Al, 508-922-3307
 14 Westfield, MA Jeanette, 413-786-1463
 18 Plymouth, MA Bob, 508-747-6022
 19 Melrose, MA Scott, 617-322-7654
 19 Nashua, NH Jim, 603-673-7395
 20 Athol, MA John, 508-249-5905
 21 Concord, NH Rob, 603-224-3899
 23 Cambridge, MA Nick, 617-253-3776
 25 Holyoke, MA Jim, 413-245-3228

July:

5 Cambridge, MA Bob, 617-593-1955
 8 Providence RI Judy, 401-231-9156
 10 Falmouth, MA Geoffrey, 508-548-0969
 10 Braintree, MA Philip, 617-329-6446
 11 Cranston RI Jane, 401-725-8752
 17 Melrose, MA Scott, 617-322-7654
 21 Cambridge, MA Nick, 617-253-3776
 23 Holyoke, MA Jim, 413-245-3228

ATV Repeater

There is an ATV repeater, located on Warner Hill in Derry, New Hampshire, with the input on 439.25 MHz, and the output on 426.25 MHz. Its antennas are at about 650 feet above sea level, and the output is 60 watts, using quarter wave ground planes. Larger gain antennas are in the planning stage.

The machine is sponsored by Mark, N1KNC, Joe, KA1QBO, Ron, WB4HFN, and Rich, NN1D. The 146.745- repeater is used as a coordination frequency for the convenience of ATV enthusiasts.

SEMARA, Inc.
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