



# ZERO BEAT

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



Since 1932

Volume 47 Issue 12

SEMARA-W1AEC

December 2011

# Election 2012

**Nominations** for 2012 Officers, Board of Directors, and Trustee are now official. A nominating committee was not established in advance. It was decided at the October business meeting to have in-house nominations during the November business meeting.

**SEMARA Election Day** is *Thursday, December 1, 2011*. Voting will begin after the 7:00 PM business meeting. Nominations are accepted until the election is held.



Here are your nominees (As of Friday, November 25, 2011 at 11:30 AM):

**President:**

Marcel L. Dumont, W1MLD

**Vice-President:**

Joseph E. Krisnosky, Jr., N1IXC

**Secretary:**

Marc M. Dumont, KB1ODE

**Treasurer:**

Michael J. McDonald, KB1NB

**Board of Directors (3):**

Andrew J. Reuter, WA1FNM

Bradford E. Paiva, W1BEP

David G. Dean, K1JGV

Eric J. Pierce, N1WCO

John Walsh, WA1LSH

**Trustee (1) [5 Year Term; 2016 Chairman]:**

Richard J. Halliwell, K1AHA

Robert D. Macedo, KD1CY

**ZERO BEAT**

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2011 SEMARA OFFICERS

President  
 Marcel Dumont—W1MLD  
 Vice President  
 Bob Kelley—K1KVV  
 Secretary  
 Marc Dumont—KB1ODE  
 Treasurer  
 Mike McDonald—KB1NB

Directors:

Joe Krisnowsky—N1IXC  
 Brad Paiva—W1BEP  
 John Walsh—W1LSH

Trustees: (year term is up)

Tim Smith—N1TI (2011) chair  
 Henry Blanchett—W1GYL (2012)  
 John Walsh—W1LSH (2013)  
 Louis Mester—W1CH (2014)  
 Joe Krisnowsky—N1IXC (2015)

STANDING COMMITTEES

Building and Grounds  
 Dave Dean—K1JGV  
 Marty Jordan—KA1YFV

Scholarship

Sonny Eddleston—K1USW – chair  
 Chuck Moszczenski—KB1FRL  
 Alan Dulong—WB1FQP  
 Joe Krisnowsky—N1IXC

Technical/Repeater/Website

Dave Goldstein—W1DJG: Technical  
 Rick Cabral—W1RJ: Repeater  
 Rick Cabral—W1RJ: Website  
 Ben Jackson—N1WBV: facebook

SPECIAL COMMITTEES

Activities  
 VACANT

ARES/SKYWARN/RACES  
 Rob Macedo—KD1CY

QSL Manager  
 John Nery—WA1ESO

Radio Events  
 Bob Kelley—K1KVV  
 Tech Talk  
 Brad Paiva—W1BEP



*It seems to me ... de Bob - K1KVV, Editor*

**that** we have a lot to be thankful for ... friends and happiness. Not all of us can say we are healthy; but all of us can say we are living life to the fullest, in spite of our limitations. December marks the annual month of transistion for SEMARA. This is our opportunity to declare ourselves for the new year. Run for one of the offices; volunteer to belong to a committee—make a resolution to become active in the life of the club: **“Health and prosperity for SEMARA in 2012!”**

**SKYWARN Recognition Day (SRD) 2011** is Friday Evening, December 2<sup>nd</sup> at 7 PM through Saturday, December 3<sup>rd</sup> at 7 PM. See the **WX1BOX** home page for all the details:

<http://www.wx1box.org/node/1556>.

A brief write-up can be found on page 5 of this issue.

There are three special radio events this month (others on page 8):

- ⇒ **NA High-Speed Meteor Scatter Contest** [www.ykc.com/wa5ufh](http://www.ykc.com/wa5ufh)  
 Dec 11, 0000Z - Dec 15, 0200Z 50-222
- ⇒ **Lighthouse Christmas Lights QSO Party** [arlhs.com](http://arlhs.com)  
 Dec 17, 0001Z - Jan 2, 2359Z 1.8-28 50,144
- ⇒ **ARRL Straight-Key Night** [www.arrl.org/straight-key-night](http://www.arrl.org/straight-key-night)  
**Jan 1, 0000Z - Jan 1, 2400Z** 3.5-28 50+

Let me know if you work any of these so I can report in next year’s issue!

Any comments on Fred’s (N1TF) article on *Limiters* (on page 6)?

**POINT TO PONDER**

Don’t take life too seriously,  
 laugh and smile at it once in a while.

~from a Chinese fortune cookie

**HAMMIN’ AROUND**

Question\* G5A01

What is impedance?

- A. The electric charge stored by a capacitor
- B. The inverse of resistance
- C. The opposition to the flow of current in an AC circuit
- D. The force of repulsion between two similar electric fields

\* 2015 Element 3 General Class Question Pool (good thru 2015-06-30) Answer on page 8.

# Club Notes

**December** is the month when things are a 'changin' at SEMARA. We are electing new offices, and making other changes. So, make a resolution... and keep it!



Look at our website for the latest postings: <http://semara.org>.

**Tech Talks.** This space reserved for announcements about the Tech Talk. **Brad, W1BEP**, is now in charge. Let him know what topics will get you out.



### Next VE Session - December 3.

**Tony-NN1D** offered a Tech class in October to more than two dozen (27) interested folks. 17 took the Tech exam and all passed! Wow, fine business Tony.

Look for these new Hams on the SEMARA 2-m repeater and bid them welcome. Their callsigns will start with **KB1Wxx**.



Now all we need is to help folks upgrade to General and Extra,

Should we start a sign-up sheet for those interested? What's your availability? How's Thursday evening or Saturday morning/afternoon work? Let us know when you would like to take the step towards more operating priveleges.



### NEXT SEMARA VE SESSION

December 3, 2011

Clubhouse @ 10:30 AM

Contact: Larry Houbre-AA1FS

<[exams\[at\]semara\[dot\]org](mailto:exams[at]semara[dot]org)>

508-991-6055



### Club Numbers

#### GPS Coordinates:

Lat. N 41° 36.795' Long. W 070° 56.550'

Maidenhead Grid Coordinates: FN41mo

For FISTS Sprints: FISTS #10555

### LOCAL NETS

Everyone is welcome to check in!

**147.000+** (PL 67.0 Hz) (FM) — Massachusetts RACES Drill (Region 2, Sector A) is held on the first Monday of the month at 7:30 PM.

**50.200 MHz** (USB) — Net is held Wednesdays at 8:30 PM. Dick, K1AHA (Dartmouth) is net control.

**28.490 MHz** (USB) — Net is held Tuesdays at 8:30 PM. Dick, K1AHA (Dartmouth) is net control.

**3868 kHz** (LSB) — SEMARA Morning Net is held weekdays from 7:30-8 AM ET.

### LOCAL REPEATER DIRECTORIES

See <http://www.nerepeaters.com/se.htm>

144 (<http://www.nerepeaters.com/2m.htm>)

222 (<http://www.nerepeaters.com/222.htm>)

440 (<http://www.nerepeaters.com/440.htm>)

902 (<http://www.nerepeaters.com/902.htm>)

(for stations within 35 miles of SEMARA, see current listings on p. 7)

### Sudoku

Here is an easy Sudoku puzzle to solve while waiting for the net to start. (Solution on p. 8.)

7		9	8		6	2		1
1			5	9	4			
		3		2	1	9	8	
5	2	1					9	4
6	4		9					
							2	8
	9		4			5	3	2
	7				9			6
				5			7	9

# Official Meeting Minutes



**November 3, 2011**

The meeting was called to order at 7:04 PM by the President, **Marcel (W1MLD)**, with salute to the flag. The roll was called with 21 members and 0 guests present.

## SECRETARY'S REPORT

A motion was made, seconded and unanimously voted to accept the Secretary's Report as posted on the bulletin board and in *Zero Beat*.

## TREASURER'S REPORT

The Treasurer, **Mike (KB1NB)**, reported that major expenses for the past month were taxes and the new floor. There is currently a balance of \$25,786 in the accounts. A motion was made, seconded and unanimously voted to refer the report to audit.

## STANDING COMMITTEES

### Buildings and Grounds

**Dave (K1JGV)** stated that he had received a verbal estimate from his electrician for new breakers and electrical work on the heating system as well as heat tape to wrap pipes in the crawl space beneath the building. The quote was between \$250.00 and \$450.00. After some discussion it was decided to request further research on materials, labor and pricing, referral to the Finance Committee and return at the next meeting for consideration.

A motion was made from the floor to purchase heat tape and a thermostat, and wrap the pipes ourselves. This motion was seconded and unanimously approved.

**Armand (W1BUG)** volunteered to go purchase the materials. There was also some discussion regarding the front door which is to be replaced soon.

### Technical

**Marcel (W1MLD)** referred to an email received from **Rick (W1RJC)** who stated he would try to work on connecting radios to the internet this weekend.

There was also some discussion regarding a past request to the Technical Committee for inventory of equipment. With several months having passed, The President, **Marcel (W1MLD)**, asked for volunteers to conduct inventory. **Armand (W1BUG)** and **Marcel (W1MLD)** volunteered.

### Scholarship

**Joe (N1IXC)** stated that letters would soon be sent to schools.

## SPECIAL COMMITTEES

### ARES, RACES, SKYWARN

**Rob (KD1CY)** spoke about recent changes to MEMA and RACES information as well as new net formats.

The next RACES net would be this coming Monday night on SEMARA, the ARES net following on SCMARG.

It was mentioned that, in the recent Technician class given by **Tony (NN1D)**, 27 students took the class with 17 taking the test. All 17 passed their Technician test. The new licensees were all invited to become involved with clubs and radio.

### Radio Events

**Bob (K1KVV)** mentioned a few events in the near future, including an event to commemorate the final communication for the WBZ tower in Springfield, MA.

## PRESIDENTS COMMENTS

Topics discussed during the recent BoD meeting included Tech Committee, questions regarding equipment not working, local Fire and Police Departments pursuing grants to purchase a propane powered generator to run their repeaters, a new battery for the 147.00 repeater, access keys for buildings on the grounds, a possible radio event to commemorate SEMARA's 80<sup>th</sup> anniversary and increased participation from members.

There was some discussion about the first cleaning and sealing of the new flooring. Ultimately, a motion was made, seconded and unanimously passed to hire a professional to clean, seal and wax the floor the first time. This motion was seconded and unanimously approved.

## NEW BUSINESS

A motion was made, seconded and unanimously approved to purchase a runner carpet to be placed by the back door to protect the floor. **Armand (W1BUG)** volunteered to get the runner.

## FOR THE GOOD OF THE CLUB

Thanks were given to **Dick (K1AHA)** for all his recent work on antennas, etc. at the Club.

**Eric (N1WCO)** questioned if anyone was interested in starting the "Camel Net" again.

**Bob (K1KVV)** mentioned that *Genesis ARS* was holding a General License Class at Jordan Hospital,

*(Continued on page 5)*

# SEMARA News

(Minutes continued from page 4)

with information on their website.

**Marcel (W1MLD)** mentioned that there is an UPS as surplus equipment and anyone who wants it is welcome to it.

## NOMINATIONS AND VOTING

With election of SEMARA Officers next month, it was decided that anyone who wishes to run place their name on the board under their desired position over this coming month. Nominations from the floor for officers during the meeting were as follows:

**President: Marcel (W1MLD)** accepted

**Vice President: Bob (K1KVV)** declined, **Joe (N1IXC)** accepted

**Secretary: Marc (KB1ODE)** accepted

**Treasurer: Mike (KB1NB)** accepted

**Directors: Andy (WA1FNM)** accepted,

**Eric (N1WCO)** accepted,

**Brad (W1BEP)** accepted,

**Dave (K1JGV)** accepted

**Trustees: Richard (K1AHA)** accepted,

**Rob (KD1CY)** accepted

## ADJOURN

A motion was made, seconded and unanimously voted to adjourn at 8:22 PM.

Respectfully Submitted,

**Marc M. Dumont (KB1ODE)**, *Secretary*

## SKYWARN Recognition Day 2011\*



December 2, 7 PM — December 3, 7 PM

This will be the 13th year of SKYWARN Recognition Day and it is anticipated that over 100 NWS Forecast Offices will be participating once again this year.

The National Weather Service in Taunton Amateur Radio Station, WX1BOX, will once again be active for SKYWARN Recognition Day 2011.

In addition, for the fifth straight year, the National Weather Service Gray, Maine Office will also be active under call-sign, WX1GYX.

The Boston Amateur Radio Club will also be active as they have been over the past several years at the NWS Blue Hill Observatory under call-sign W1BOS/MQE from 9 AM-3 PM on Saturday.

\* <http://www.wx1box.org/node/1556>



## October 2011 Board of Directors Meeting Minutes

October 29, 2011

The SEMARA Board of Directors meeting was called to order by the President, **Marcel (W1MLD)**, at 10:20 AM with 5 members and one guest present.

Topics discussed were as follows:

**Log Periodic Antenna:** The log periodic antenna has been out of service for quite some time. Some of the needs were discussed. There are several who are willing to assist in repairs and weather is soon becoming a factor. Repairs to this, as well as other equipment in disorder should be discussed at the business meeting.

**Webcam:** Several people have noticed the webcam constantly swinging from side to side or up and down. Also it is often parked pointed straight down towards the corner. This is a concern that someone is playing around with the camera over the internet which could possibly damage the camera. It was suggested that auto patrol be disabled to see if that alleviates some of the problem.

**Equipment Insurance:** The topic of equipment insurance from the ARRL was discussed. The cost is extremely reasonable and would have saved significant cost from damages in the past. The Tech Committee was asked quite some time ago to inventory equipment so we can proceed with insuring it. With inventory not having been completed to date it was decided to ask for volunteers at the next business meeting to inventory all SEMARA equipment.

**Door FOB entry system:** The keyless FOB entry system has been out of service for quite some time. There was discussion regarding researching information to and effecting repairs to the system.

Other topics for discussion included Tech Talks being related to amateur radio and electronics, vacancies in committees and increases participation from members, more input from members regarding articles for *Zero Beat*, and possibly getting an earlier start for social activities (get togethers, flea market, radio events) to increase participation.

The meeting adjourned at 11:47 AM.

Respectfully Submitted,

**Marc M. Dumont (KB1ODE)**, *Secretary*

The **50/50 raffle** was won by **Joe K. (N1IXC)**-\$13.50

# Amateur Radio News

## Limiters – What and Why

An **FM receiver** has several stages to process the signal and decode it for use by the operator. (See the *FM Receiver* block diagram below.) The first stage would normally be a preamp followed by an RF amplifier feeding a mixer. The output of the mixer goes to an IF stage or two that, in turn, feed the limiters. The output of the limiter is fed to a detector to decode the intelligence from the signal. The detector, or demodulator or decoder, is looking for a signal devoid of any amplitude variation and consisting only of a frequency or phase shift that contains the information, be it voice, data, music or whatever.

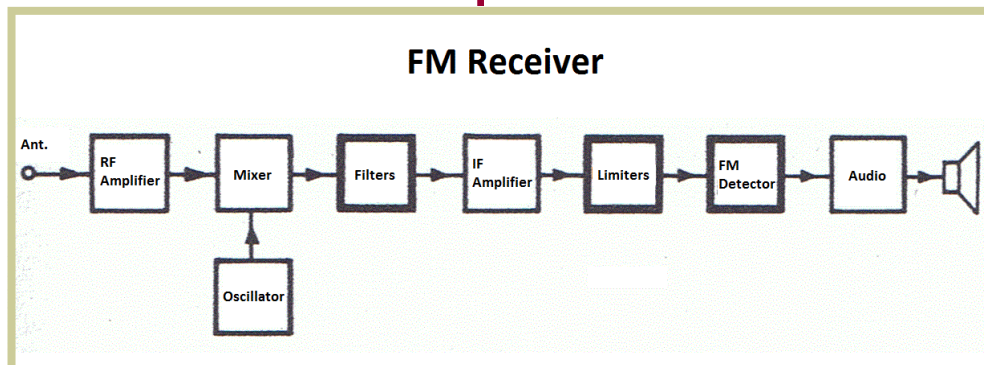
Note that the Limiters are in the IF stages prior to the detector and are for the express purpose of removing any amplitude component from the received signal prior to detection.

Most signals on the repeater are what we lovingly call Full Quieting. This means that the limiters are functioning because the strength of the incoming signal is such that the threshold of the limiting circuits has been met and the amplitude component is being stripped from the IF signal. Therefore, the amplitude component does not reach the detector and has become a non-issue.

Conversely, if you hear a hiss or crackling on the signal it is most likely caused by a signal that is not strong enough to make the limiters go to work and the amplitude component is reaching the detector. Generally, this component is decoded as a hiss, static or whatever the detector thinks it is. The end result is a less intelligible signal; or, in the worst case, the signal isn't strong enough to open the squelch and nothing gets through.

Remember that when evaluating a signal through a repeater, there are two receivers involved. The repeaters and yours. You have limiters too; and, for the same reason, they yield the same results.

73, de N1TF-Fred



## December

### Building & Grounds Report

It has been an interesting year with some long overdue projects getting done to upgrade the building. Three giant ones were the roof, security cams and a new floor. We have a new front door and a better system for keeping the pipes cozy in the winter.

Some smaller projects included fresh paint where it was needed, more barriers to prevent “night riders” from transversing our property, and disposal of a considerable amount of junk.

There is still more to be done. One thing that comes to my mind is the rear outside wall of the club, but “*Rome was not built in a day.*”

My hat is off to others who have headed up a lot of this work. We all know who they are and I will let it go at that. Some led, some followed, but work got done and I am happy for the club. It was long overdue. Now, I wish to speak openly about how I see things in general.

*This will be my last report as one of the B & G chairs.* I feel that it is essential that we get some younger members to step up to the plate. The main reason I say this is that it has been older members who have headed up these projects. So, I will not mention ages, but the majority of the leaders are collecting Social Security and qualify for Medicare.

I will still help out occasionally, but will retire to the background in order to give someone younger a shot at the title. I suggest some of the other mature gentlemen do the same.

I think 2011 has been a good year for SEMARA and may 2012 be even better.

**Dave-K1JGV, Building & Grounds**

## FCC Releases New Rules for 60 Meters\*



On November 18, the FCC released a Report and Order (R&O), defining new rules for the 60 meter (5 MHz) band. These rules are in response to a Petition for Rulemaking (PRM) filed by the ARRL more than five years ago and a June 2010 Notice of Proposed Rulemaking (NPRM). In the R&O, the FCC replaced one of the channels in the band, increased the maximum authorized power amateur stations may transmit in this band and authorized amateur stations to transmit three additional emission designators in the five channels in the 5330.6-5406.4 kHz band (60 meters).

The Amateur Radio Service in the United States has a secondary allocation on 60 meters. Only those amateurs who hold General, Advanced or Amateur Extra class licenses may operate on this band. Amateur stations must not cause harmful interference to -- and must accept interference from -- stations authorized by any administration in the fixed service, as well as mobile (except aeronautical mobile) stations authorized by the administrations of other countries.

Here is a summary of the changes. **Please note that these changes have not yet taken effect.** These new rules will take effect 30 days after they are published in the Federal Register. The ARRL will announce on its website when the rules are published.

The frequency **5368.0 kHz** (carrier frequency 5366.5 kHz) is **withdrawn** and a **new frequency** of **5358.5 kHz** (carrier frequency 5357.0 kHz) is authorized.

The **effective radiated power limit** in the 60 meter band is raised by 3 dB, from 50 W PEP to **100 W PEP**, relative to a half-wave dipole. If another type of antenna is used, the station licensee must maintain a record of either the antenna manufacturer's data on the antenna gain or calculations of the antenna gain.

**Three additional emission types** are authorized. **Data** (emission designator *2K80J2D*, for example, PACTOR-III), **RTTY** (emission designator *60H0J2B*, for example, PSK31) and **CW** (*150HA1A*, i.e. Morse telegraphy by means of on-off keying). For **CW**, the carrier frequency must be set to the center frequency. For **data** and **RTTY** the requirement to **transmit "only on the five center frequencies specified"** may be met by using the same practice as **on USB**, i.e. by setting the suppressed carrier frequency of the USB transmitter used to generate the J2D or J2B emission to the carrier frequency that is *1.5 kHz below the center frequency*.

*Automatic control* on data and RTTY is *not permitted*; a control operator must be in a position to exercise either local or remote control over the transmitter. The FCC noted that "*amateur operators must exercise care to limit the length of transmissions so as to avoid causing harmful interference to Federal stations.*" This is a very important caveat: **If a Federal station requires amateurs to cease using a frequency, the amateur station must be able to do so without delay.**

A reasonable person might wonder *what the difference is between data and RTTY*. According to former ARRL Chief Technology Officer Paul Rinaldo, W4RI, there used to be a difference, but there's not much of one today. "Years ago, a B designator (telegraphy for automatic reception [i.e. narrow-band direct-printing telegraphy emissions]) meant decoding and display on a teletypewriter (TTY) or other mechanical machine," he explained. "A D designator signified transmission of data, telemetry or telecommand intended for data processing or just storage for possible future use. When computers or computer-like devices were introduced to emulate RTTY transmission and/or reception, the line between telegraphy and data transmission blurred to the point of little or no practical distinction."

PACTOR-III and PSK31 are cited in the new rules as examples of data and RTTY emissions, respectively, that will be authorized; however, in paragraph 28 of the R&O, the Commission states that amateur stations will be permitted to use "*any unspecified digital code, subject to the requirements of Section 97.309(b).*" Therefore, as a practical matter it appears that any J2D data emission is to be permitted up to a bandwidth of 2.8 kHz, provided that care is exercised to *limit the length of transmissions*.

### Amateur Radio and the 60-m Band

The 60 meter band is part of the larger 5.060-5.450 MHz band, which is a federal/non-federal shared band that is allocated to the fixed service on a primary basis and to the mobile (except aeronautical mobile service) on a secondary basis. The Commission added the Amateur Radio Service as a secondary allocation after determining that such frequencies could be useful for completing disaster communications links at times when existing frequencies in the 3.500-4.000 MHz (80 and 75 meter) and 7.000-7.300 MHz (40 meter) bands are not available due to ionospheric conditions. It concluded that such an allocation represented the best compromise available to give the amateur service access to new spectrum while assuring the federal government agencies that their use is protected.

\* Abstracted from ARLB024 1/21/2011

**Some Radio Events**

<http://www.arrl.org/contest-calendar>  
> Contest Corral

**Phone/CW/Digital modes**

1.8-7 **UBA Winter Contest**  
[www.uba.be/en/hf/contest-rules](http://www.uba.be/en/hf/contest-rules)  
Dec 10, 1700Z - See website - Multiple operating periods.

1.8-28 50,144  
**Lighthouse Christmas Lights QSO Party**  
[arlhs.com](http://arlhs.com) Dec 17, 0001Z - Jan 2, 2359Z

**Phone/CW modes**

1.8 **Top Band Sprint**  
[www.qrparci.org/contests](http://www.qrparci.org/contests) Dec 2, 0000Z - Dec 2, 0600Z

28 **ARRL 10 Meter Contest**  
[www.arrl.org/contests](http://www.arrl.org/contests) Dec 10, 0000Z - Dec 11, 2400Z

1.8 **Russian 160 Meter Contest**  
[www.radio.ru/cq](http://www.radio.ru/cq) Dec 15, 2100Z - Dec 15, 2300Z

1.8-28 50,144 **RAC Winter Contest**  
[www.rac.ca/en/rac/programmes/contests](http://www.rac.ca/en/rac/programmes/contests)  
Dec 17, 0000Z - Dec 17, 2359Z

3.5-7 **DARC Christmas Contest**  
[www.darc.de/referate/dx/contest/xmas/en](http://www.darc.de/referate/dx/contest/xmas/en)  
Dec 25, 0830Z - Dec 25, 1059Z

**CW only**

3.5-28 50 **ARRL Rookie Roundup**  
[www.arrl.org/contests](http://www.arrl.org/contests)  
Dec 18, 1800Z - Dec 18, 2359Z

3.5-28 50+ **ARRL Straight-Key Night**  
[www.arrl.org/straight-key-night](http://www.arrl.org/straight-key-night)  
Jan 1, 0000Z - Jan 1, 2400Z

**Digital only**

50-222 **NA High-Speed Meteor Scatter Contest**  
[www.ykc.com/wa5ufh](http://www.ykc.com/wa5ufh) Dec 11, 0000Z - Dec 15, 0200Z

**Local VE Sessions**

Walk-ins permitted unless otherwise noted.

<http://www.arrl.org/find-an-amateur-radio-license-exam-session>

**SEMARA – 10:30 AM** **December 3<sup>rd</sup>**  
Larry Houbre-AA1FS  
<[exams@semara.org](mailto:exams@semara.org)>   
508-991-6055

**Fall River, MA – 7:00 PM** **December 19<sup>th</sup>**  
Skip Denault-KB1CNB  
<[skip@newtestamentschool.org](mailto:skip@newtestamentschool.org)>  
774-644-3469

**Falmouth, MA – 9:00 AM** **December 10<sup>th</sup>**  
W. Ben Fleck-K2LYE  
<[BenFleck@verizon.net](mailto:BenFleck@verizon.net)>  
508-540-2583

**Providence, RI – 7:00 PM** **December 8<sup>th</sup>**  
Louis Mester-W1CH  
<[W1CH@arrl.net](mailto:W1CH@arrl.net)>  
401-263-6045

**Coming FLEAS & FESTS**

[www.arrl.org/hamfests/search](http://www.arrl.org/hamfests/search)

No more for the rest of 2011

**Answer: HAMMIN' AROUND**

*What is impedance?*  
C. The opposition to the flow of current in an AC circuit

**Answer: Sudoku <sup>16</sup>**

9	7	8	3	5	6	4	1	2
6	1	4	9	8	2	5	7	3
2	3	5	7	1	4	6	9	8
8	2	6	5	4	1	7	3	9
3	5	1	2	7	9	8	4	6
4	6	7	8	6	3	1	2	5
5	8	9	1	2	7	3	6	4
7	6	3	4	9	5	2	8	1
1	4	2	6	3	8	9	5	7

**CLUB ACTIVITIES**

BUSINESS MEETING  
7 PM First THURSDAY of the month  
SUNDAY RAGCHEW  
7-10 AM

MOST-OF-THE-TIME (call ahead)  
Meet at the clubhouse at 11:00 AM FRIDAYS  
Leave for LUNCHEON at 11:30 AM