



ZERO BEAT

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



Since 1932

Volume 48 Issue 2

SEMARA-W1AEC

February 2012

Officers, Directors, and Newest Trustee



**2012 OFFICERS: SECRETARY MARC-KB1ODE, VICE PRESIDENT JOE-N1IXC,
PRESIDENT MARCEL-W1MLD, AND TREASURER MIKE-KB1NB**



2012 DIRECTORS: ANDY-WA1FNM, BRAD-W1BEP AND JOHN-WA1LSH (NOT IN PHOTO)



**TRUSTEE (5 YEAR TERM - 2016 CHAIRMAN):
DICK-K1AHA**

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Published online monthly
 ©2012 Southeastern Massachusetts
 Amateur Radio Association, Inc.
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 South Dartmouth, MA 02748
 (508) 997-7070

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2011 SEMARA OFFICERS

President
 Marcel Dumont—W1MLD
 Vice President
 Joe Krisnowsky—N1IXC
 Secretary
 Marc Dumont—KB1ODE
 Treasurer
 Mike McDonald—KB1NB

Directors:

Andy Reuter—W1FNM
 Brad Paiva—W1BEP
 John Walsh—W1LSH

Trustees: (year term is up)

Henry Blanchett—W1GYL (2012) ch.
 John Walsh—W1LSH (2013)
 Louis Mester—W1CH (2014)
 Joe Krisnowsky—N1IXC (2015)
 Dick Halliwell—K1AHA (2016)

STANDING COMMITTEES

Building and Grounds
 Marty Jordan—K1YFV
 Tony Lessa—KB1UAM pending

Scholarship

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

Technical/Repeater/Website

Dave Goldstein—W1DJG: Technical
 Rick Cabral—W1RJC: Repeater
 Rick Cabral—W1RJC: Website
 Ben Jackson—N1WBV: facebook

SPECIAL COMMITTEES

Activities
 VACANT

ARES/SKYWARN/RACES

Rob Macedo—KD1CY

QSL Manager

John Nery—W1IESO

Radio Events

Bob Kelley—K1KVV

Tech Talk

Brad Paiva—W1BEP

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

that we need to reinvent ourselves, amateur radio club-wise.

All....

The ole saying is....if it looks like a duck and walks like a duck and quacks like a duck, then it must be a duck. In this case, it looks like a wood pecker, flies like one and chops away at wood like one.

Matter of fact, he or she is more adept at Morse code than many of us. The doggone thing can send 'error' (eight dits) with proper spacing.

Someone said it might be a tip for us to see if we have some varmints that we do not need. Good point. We need to get to the bottom of it, but in the meantime I am enjoying the light moments with Woody.

73 Dave K1JGV

CQS CQS CQS

I have been unsuccessful in getting a response from the general membership on several issues that are important to me. I'd like to give someone else the opportunity to try their hand at addressing some the ongoing club "topics of discussion."

- There is an opening (or two) for an Associate Editor (or two) for *Zero Beat*. If you have any interest, I'd be willing to provide whatever on-the-job-training you desire.
- We are always in need of good, high resolution pictures (at least 300 dpi) of people and activities. Anytime there is a gathering, or some changes made around the clubhouse or grounds, inquiring hams would like to see your pictures. Become an (un)official SEMARA photojournalist.

If you would like to fill the need, please contact me.

~Bob-K1KVV, editor@semara.org

POINT TO PONDER

"Leaders do not need to have all the answers.
 Leaders need to be able to ask the right questions."

~Anonymous

HAMMIN' AROUND

Question* G5C15 G5C15 (A) What is the total resistance of a 10 ohm, a 20 ohm, and a 50 ohm resistor in parallel?

- A. 5.9 ohms
- B. 0.17 ohms
- C. 10000 ohms
- D. 80 ohms

* 2015 Element 3 General Class Question Pool (good thru 2015-06-30)

Answer on page 8.

Club Notes

February is the month when we can make a fresh start at SEMARA. After all — it is a month full of 'food' days. February is when we can give and receive chocolate, corned beef and cabbage, and other such delicacies.



Does that mean we'll be having another 'feast?' Probably not. But perhaps if we offer some pizza ordonits and coffee, we'll get some volunteers to repair the woodpecker hole? or could we take advantage of the mild weather and get the Log-Yagi Sommers antenna ready to be reinstalled on the tower?

We can hope, can't we?

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

SEMARA has a new member! One application for membership was unanimously approved at the January 5, 2012 Business meeting:

Marcilio Raposo (KB1WGR).

Welcome to the club!



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>)

Sudoku

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

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

Tech Talks. This space reserved for announcements about the Tech Talk. **Brad, W1BEP,** is in charge. Ask him when we will have our next Tech Talk and what the topic will be.



NEXT SEMARA VE SESSION

February 4, 2012

Clubhouse @ 10:30 AM

Contact: Larry Houbre-AA1FS

<exams@semara.org>

508-991-6055



Official Meeting Minutes



January 5, 2012

The meeting was called to order at 7:05 p.m. by the President, **Marcel (W1MLD)** with salute to the flag. The roll was called with 24 members and 0 guests present.

SECRETARY'S REPORT

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

TREASURER'S REPORT

The Treasurer, **Mike (KB1NB)** reported a current balance of \$27,365.00 with expenses the past month of \$860.85 and inflow of \$143.61. It was noted that Netcom currently owes SEMARA a balance of \$24,304.00, to date, including their share of the tax assessment and past due rent. They have been sent a letter requesting appearance at the Board of Director's meeting to be held on the 14th of January. It was suggested from the floor to send a certified letter to verify receipt of our meeting request. A motion was made, seconded and unanimously voted to refer the Treasurer's report to audit.

STANDING COMMITTEES

Buildings and Grounds

Dave (K1JGV) mentioned that he had tended his resignation from the committee and made a suggestion to add a member, if interested, to the committee. **Marty (KA1YFV)** will remain a member.

Technical

Tony (NN1D) stated that the grant for a propane generator has been applied for through Homeland Security and he is awaiting the results. He also will look into the power issue regarding the 147.00 repeater.

Scholarship

Sonny (K1USW) stated that scholarship letters have been sent out to all local high school guidance departments, 13 in all, from Somerset to Wareham. He will also attempt to speak with department heads to get more interest. He is also planning to advertise through public service announcements in local newspapers and radio. The deadline for applications to be received is March 1, with a decision expected in April.

SPECIAL COMMITTEES

ARES, RACES, SKYWARN

Chris (W1EAV) mentioned the drill on the Fairhaven repeater this coming week and invited anyone to check in.

Radio Events

Bob (K1KVV) mentioned several upcoming events, such as ARRL Kid's Day and Hunting Lions in the Air, among others.

RATIFICATION OF NEW MEMBERS

An application for membership was received from **Marcilio Raposo (KB1WGR)**, a newly licensed Technician. A motion was made, seconded and unanimously voted to accept him as a Life Member.

OLD BUSINESS

There was some discussion from the floor regarding the backup battery for the repeater. As a result, it was decided for those involved to bring specific information including parts and associated costs, consulting with the Finance Committee, to the next business meeting for a vote.

FOR THE GOOD OF THE CLUB

Tony (NN1D) mentioned that he would be running another Technician class sometime in February. It will run for 4 weeks with a test on the 5th. There has been considerable interest and two past classes have been very successful. He also mentioned the possibility of a General class in the future.

Joe (N1IXC) also mentioned the possibility of bringing the New Bedford EMA EOC to the club for a tour.

ADJOURN

A motion was made, seconded and voted to adjourn at 7:50 p.m.

Respectfully Submitted,

Marc M. Dumont (KB1ODE), Secretary

The **50/50 raffle** was won by Brad (W1BEP).
The split was \$23.00/\$23.00

Letter to the Editor

Editor,

Can you put this URL in the next issue? I think the guys may enjoy the videos and a tour around the hobby.

<http://www.arrl.org/wedothat-radio-org>

Thanks,

73,

Fred N1TF

SEMARA News

Board of Directors Meeting Minutes

January 14, 2012

The SEMARA Board of Directors meeting was called to order by the President, **Marcel (WIMLD)** at 10:27 a.m. with 8 members and one guest present.

Topics discussed were as follows:

- ⇒ NETCOM financial overdue balance: Due to the excessive overdue balance owed to SEMARA by NETCOM, a formal letter was sent to **Al Costelo** informing him that the balance was on the agenda for the BOD meeting. Al was invited to attend this meeting. Prior to the meeting, Al contacted the President, **Marcel (WIMLD)** and Treasurer, **Mike (KB1NB)** to explain his situation. He also stated that he could not personally attend the meeting but would be available by telephone at that time to answer questions. It was explained that another tower location under construction went considerably over budget, among other financial obligations. Al also offered to pay the past due and current balance down over the next few months. He had just made a payment of \$2820.00 as well as the \$10.00 returned check fee. After discussing several options, it was the opinion of the Board to recommend waiting to see if NETCOM honors his offer and makes appropriate payments over the next month, prior to SEMARA initiating legal action.
- ⇒ Condition of the building: There was some discussion about the deteriorating condition of the exterior outside wall. This will need to be addressed soon.
- ⇒ Audit of Treasurer's Books: The Treasurer, Mike (KB1NB) presented the financial documents to the Board for audit. All documents were found to be accurate and in good order.
- ⇒ Scholarship: There was some discussion regarding the scholarship this upcoming year. The Board decided to recommend an amount of \$500.00 be brought to the membership at the next business meeting.

Adjourn: The meeting adjourned at 11:12 a.m.

Respectfully Submitted,
Marc M. Dumont (KB1ODE), Secretary

Anyone participate? Can you give us a report? ~Editor

Cape & Islands ARES District Exercise #45

Saturday January 28th, 2012

Setup time: 9:00am

Start Time: 10:00am

End Time: 12:00pm

Operational Duration: 2 hours

Purpose

The Cape Cod and Islands District Amateur Radio Emergency Service will conduct a winter operations exercise to test its capability in establishing communications with stations within its district and outside it under emergency conditions. The operational exercise called "*Operation Tundra*" will test the ability of several stations to communicate with a centrally located expedient command station in Sandwich, MA.

This will also be a drill to test some of our Hospital stations, primary stations, shelters and other ARES member home stations. The exercise will attempt to build upon the lessons learned from our past operational exercises. It will also utilize DIGITAL communications and NVIS HF voice/digital operations.



ARRL Foundation Scholarship Applications

Each year, the ARRL Foundation awards dozens of scholarships to young hams pursuing higher education. The total of these awards tops \$80,000. Several hundred of the country's top high school and college students vie for awards ranging from \$500 to \$5000.

It's easy to apply. All the selection criteria, application forms and instructions can be found on the web. Some scholarships have geographic criteria, others have a preference for field of study, and still others have no curricular or residence requirement. The fundamental requirement is that an applicant be *active FCC-licensed radio amateur*. The application process is completely electronic, including the required academic transcript.

Any questions may be emailed to

foundation@arrl.org.

Amateur Radio News



Your One-Stop Resource

Join or Renew Today! ARRL membership includes QST, Amateur Radio's most popular and informative journal, delivered to your mailbox each month.

Subscribe to NCJ — the National Contest Journal. Published bi-monthly, features articles by top contesters, letters, hints, statistics, scores, NA Sprint and QSO Parties.

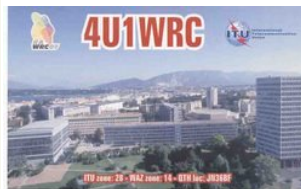
Subscribe to QEX — A Forum for Communications Experimenters. Published bi-monthly, features technical articles, construction projects, columns and other items of interest to radio amateurs and communications professionals.

Free of charge to ARRL members: Subscribe to the ARES E-Letter (monthly public service and emergency communications news), the ARRL Contest Update (bi-weekly contest newsletter), Division and Section news alerts - and much more!

Find us on Facebook. Follow us on Twitter.

ARRL offers a wide array of products to enhance your enjoyment of Amateur Radio

Donate to the fund of your choice — support programs not funded by member dues!



On the Air

Hams who work **4U1WRC** during **WRC-12** will receive a special QSL card. This is the **4U1WRC** QSL card from WRC-07.

4U1ITU — the Amateur Radio station at the ITU — will be signing as **4U1WRC** during the *2012 World Radiocommunication Conference (WRC-12)*, through February 17. The station will revert to 4U1ITU just in time for the ARRL International DX CW Contest, scheduled for February 18-19.

According to ARRL Chief Executive Officer David Sumner, K1ZZ, who is attending WRC-12 as the IARU International Secretariat, the station is in really good shape, with two operating positions capable of going on any two bands at the same time. "A number of delegates are active amateurs, so the station should be quite active for the next several weeks," he said. Amateurs who work **4U1WRC** between January 23-February 17, 2012 can receive a special QSL card via the HB9 Bureau or by QSLing direct to IARC, PO Box 6, CH-1211 Geneva 20, Switzerland.

Date for Medical Devices on 70 cm

01/27/2012 on arrl.org

In November 2011, FCC Commissioners unanimously agreed to allocate spectrum and adopt service and technical rules for the utilization of new implanted medical devices that operate on 413-457 MHz (70 cm). These devices will be used on a secondary basis as part of the Medical Device Radiocommunication (MedRadio) Service in Part 95 of the FCC rules.

In the Federal Register for Friday, January 27, the FCC announced that the effective date for these new rules is Monday, February 27. The new rules expand the existing MedRadio Service rules to permit the use of new wideband medical implant devices that employ neuromuscular microstimulation techniques to restore sensation, mobility, and other functions to paralyzed limbs and organs. These medical devices hold enormous promise to advance the state of medical care, lower health costs, and improve the quality of life for countless Americans.

The rules will allow these new types of MedRadio devices to access 24 megahertz of spectrum in the 413-419 MHz, 426-432 MHz, 438-444 MHz, and 451-457 MHz bands on a secondary basis.

(Continued from page 7)

sure to run your SWR tests to insure the antenna is doing what you want it to do.

Remember the impedance ratio of a transformer (balun) is the square of the turns ratio.

A good rule of thumb for placement of the choke is: Antenna wavelength in meters divided by 4 = Approximate length in feet.

Some handy URLs.

⇒ Home-brew a 4:1 Balun:

<http://www.rason.org/Projects/balun/balun.htm>

⇒ Broadband Baluns:

http://www.qsl.net/ta1dx/amator/broadband_baluns.htm

⇒ Magnetic Long Wire UnUn 9:1:

http://m0ukd.com/Magnetic_Long_Wire_UnUn/index.php

⇒ Windom off center fed (20/80):

http://www.w8ji.com/windom_off_center_fed.htm

⇒ The Windom Handbook:

<http://www.packetradio.com/windom.htm>

Amateur Radio News

It's Winter – What Next . . .

de Fred-N1TF

As I write this it's 20 degrees outside with a 10 to 15 knot wind. At least the sun is shining. I like to write about antennas this time of the year because it gets the mind looking forward to warmer days. Is there any question why the ARRL QST Antenna Issue comes out before spring?

I have been searching the web for ideas to improve the fruits of antenna farming and may have come across a couple that will interest you. This month I want to cover briefly the OCD or Off Center-fed Dipole. A lot of us call them Windoms but for accuracy lets say that they are at best “Windom look-a-likes.” A Windom antenna is one-half wavelength long at the lowest frequency to be used and is fed by a single wire at a point along the radiator where the impedance is expected to be near 600 ohms. The other end of the feed-line is connected directly to the output network of the transmitter and operated against ground. Some radiation is expected to come from the feed line when the antenna is operated off resonance. The Windom of today is an OCD with a balanced feed-point about 13% off-center

Listening in on the repeater, several of the guys are talking about Off Center-fed Dipoles. **Dick, K1AHA**, is using one and I think **Dave, K1JGV** has just put one up. I use one for 80 through 10 meters. The feed point impedance of a 37/63 percent split OCD is between 300 and 450 ohms balanced. The approximate position of the feed-point can be calculated at the resonant frequency to yield your desired impedance. Then, with SWR measurements, the best match is found by testing across all bands. Any multiband antenna is a compromise and the OCD is no different. It only compromises better than the others do.

The output of your rig is looking for 50 ohms. To compensate for the difference, we can use a balun for impedance matching. The output stage of our transceiver may be able to handle the load if it comes in at 50 ohms \pm 15 ohms. Characteristic impedance can be a pain; but every effort we make to match them throughout the antenna system is appreciated by the equipment connect-

ed. (See the Table below.) A center-fed dipole is about 70 ohms and the finals can usually handle that difference.

I ran across an interesting article on the web a few months ago that touted a 20/80 percent split rather than the “standard” 37/63 percent split for the OCD. (See URL listing at end of article) The theory was to get the feed impedance a little on the high side to improve the SWR on the amateur bands that are not “even harmonics” of the fundamental cut (resonant frequency) of the antenna. This is a neat way to select the bands or frequencies on which the antenna will function. Care must be taken when adjusting the feed-point because it has the most effect on the higher frequencies such as 10 or 6 meters.

A satisfactory configuration for this type of antenna is a flattop configuration 30 to 50 feet over a conductive soil. Being near the salt water gives us a big advantage with regard to conductive soil. I have read that when the radiation patterns of the OCD are plotted, the longer leg should yield the stronger lobe. I have not tested this claim yet but will this summer.

I think there is another benefit to the 20/80 split. The 4:1, 6:1 or 9:1 balun (you can use any of them at the feed point) will have its weight closer to the tied end and thereby the antenna will not sag as much when hung in a flattop configuration.

If you're interested in filling the radiated pattern with a vertical component, consider a choke balun at a specific point along the feed line. This is a 1:1 balun, or more precisely a unun, inserted in the feed line. If your antenna resonates at 80 meters, the choke is placed 22 feet below the feed point balun; if it resonates at 40 meters the choke is placed 10 feet below the feed point. Now you can also say you have a “*Carolina Windom.*”

Notes:

As usual, the numbers aren't going to be as neat as table 1 shows but a slight mismatch, say 15 ohms at the output can be handled by the transceiver. One with a built in tuner will probably handle up to 150 ohms. Be

(Continued on page 6)

Unun/Balun Impedance Ratios

If the feed point impedance is:	200 ohms	300 ohms	450 ohms
To get the best match use:	4:1	6:1	9:1
Output impedance:	50 ohms	50 ohms	50 ohms

Some Radio Events

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

Phone/CW/Digital modes

- Feb 4, 0000Z - Feb 5, 2400Z 1.8-28 50,144
Vermont QSO Party www.ranv.org
- Feb 4, 1400Z - Feb 4, 2400Z 1.8-28 50+
Minnesota QSO Party www.w0aa.org
- Feb 4, 1600Z - Feb 5, 0400Z 1.8-28
British Columbia QSO Party orcadxcc.org
- Feb 4, 1700Z - Feb 5, 2359Z 1.8-28 50+
Delaware QSO Party www.fsarc.org
- Feb 10, 1400Z - Feb 12, 0200Z 1.8-28
YL-OM Contest www.ylrl.org
- Feb 11, 1500Z - Feb 12, 0300Z 3.5-28
Louisiana QSO Party laqso.w5yl.org
- Feb 11, 1600Z - Feb 12, 0400Z 1.8-28
New Hampshire QSO Party www.w1wqm.org
- Feb 13, 1300Z - Feb 17, 2359Z 1.8-28 50+
School Club Roundup
www.arrl.org/school-club-roundup

Phone/CW modes

- Feb 25, 1500Z - Feb 26, 0300Z 3.5-28 50-432
Mississippi QSO Party www.arrlmiss.org
- Feb 26, 1700Z - Feb 27, 0300Z 3.5-28
North Carolina QSO Party www.w4nc.com

Answer: Sudoku ⁶⁷

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

Local VE Sessions

Walk-ins permitted unless otherwise noted.
<http://www.arrl.org/find-an-amateur-radio-license-exam-session>

- SEMARA – 10:30 AM** February 4th
Larry Houbre-AA1FS
<exams[at]semara[dot]org>
508-991-6055
- Fall River, MA – 7:00 PM** February 20th
Skip Denault-KB1CNB
<skip[at]newtestamentschool[dot]org>
774-644-3469
- Falmouth, MA – 9:00 AM** February 11th
W. Ben Fleck-K2LYE
<BenFleck[at]verizon[dot]net>
508-540-2583
- Providence, RI – 7:00 PM** February 9th
Louis Mester-W1CH
<W1CH[at]arrl[dot]net>
401-263-6045

Coming FLEAS & FESTS

www.arrl.org/hamfests/search

- 4 Feb Augusta ME AARA Bill K1NIT 207 623 9075
- 11 Feb Springfield VT CVMFA
Dave K1ZS 603 446 7312
- 18 Feb Marlboro MA
AARC Timothy KA1OS 508 919 6136
- 19 Feb Westford MA
NEARC Bruce 603 772 7516
- 25 Feb S Burlington VT
HAM-CON Mitch W1SJ 802 879 6589

Answer: HAMMIN' AROUND

What is the total resistance of a 10 ohm, a 20 ohm, and a 50 ohm resistor in parallel? A. 5.9 ohms. Recall it's the current that add in parallel circuits. $I = V/R$, calculate the reciprocal of the sum of the reciprocals.

CLUB ACTIVITIES

BUSINESS MEETING

7 PM First THURSDAY of the month

SUNDAY RAGCHEW

7-10 AM

MOST-OF-THE-TIME LUNCH(call ahead)

Meet at the clubhouse at 11:00 AM FRIDAYS

Leave for LUNCH at 11:30 AM