



# ZERO BEAT

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



Since 1932

Volume 48 Issue 9

SEMARA-W1AEC

September 2012

# FLEAMARKET 2012



**Sunday, September 9, 2012  
9 AM to 12 PM Rain or Shine**

**GENERAL ADMISSION ONLY \$2.00!**

**30+ YEARS OF FLEAMARKETS!**  
(Seller Setup starts at 8 AM)

**Admission Includes  
One Raffle Ticket!**

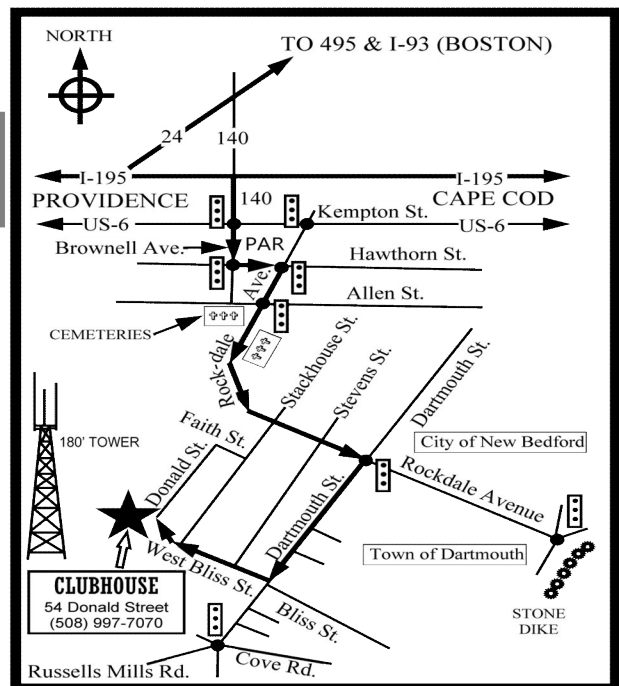
- **FREE ADMISSION** for SEMARA members with a SEMARA table available for sellers.
- **VENDORS** \$10.00 admission fee.

**Talk-in on W1AEC Repeaters:**

- 147.000 + PL 67.0 ←
- 224.800 - PL 67.0 ←

**54 DONALD STREET  
DARTMOUTH, MA 02748**

More Information: **SEMARA.ORG**  
Call Eric, N1WCO at (508) 295-2468  
or email flea [at] semara [dot] org.



**ZERO BEAT**

Published online monthly

©2012 Southeastern Massachusetts  
Amateur Radio Association, Inc.54 Donald Street  
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

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**Directors:**

Andy Reuter—WA1FNM

Brad Paiva—W1BEP

John Walsh—WA1LSH

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**Trustees: (year term is up)**

Henry Blanchett—W1GYL (2012) ch.

John Walsh—WA1LSH (2013)

Louis Mester—W1CH (2014)

Joe Krisnowsky—N1IXC (2015)

Dick Halliwell—K1AHA (2016)

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**STANDING COMMITTEES****Building and Grounds**

Marty Jordan—KA1YFV

Tony Lessa—KB1UAM

**Scholarship**

Sonny Eddleston—K1USW – chair

Chuck Moszczenski—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

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**SPECIAL COMMITTEES****Activities**

VACANT

**ARES/SKYWARN/RACES(ACS)**

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 sometimes have difficulty in getting verification of deaths. Case in point - *it was reported* that “**Jimmy Lopes, W1AQX** (formerly **WB1AQX**), a member of our club [since 1967] died sometime in May or June of this year.” It appears that Jimmy was at the Brendon Woods facility on County St., N.B. Hence, all I can say officially is “*it was reported.*” There does not appear to be any public notice of Jimmy’s passing. The problem is all the information that I have is “hearsay” and I cannot verify it by public documentation. **Joe K, N1IXC** will be trying to track down some concrete information. In the meantime, Jimmy’s FCC callsign will be on the books until *July 26, 2023.*

Did you know that this is the *109<sup>th</sup>* issue of **Zero Beat** I’ve put out? When I took this over from **Bill Miller, K1IBR (SK)** he mentioned that he had been doing it for seven years and needed a break. I remember thinking “that’s longer than I want to volunteering for.” Unfortunately, Bill is now a Silent Key, so I can’t give it back to him.

If you look at old **Zero Beats**, you’ll see that the second front page (page 5) would be devoted to the monthly **Tech Talk**. So what should I do now to fill the space? We haven’t had a **Tech Talk** in the last year.

We used to run **Fox Hunts** every few months. What happened? Did the coyotes get the foxes?

Is there anyone out there who would be willing to become an **Assistant Editor** and provide some material about SEMARA activities and interests and fill a few pages on a monthly basis?

**POINT TO PONDER**

“Depression is about the past,  
anxiety is about the future,  
stay in the present.”

~unknown

**HAMMIN’ AROUND**

**Question\* G9A01** Which of the following factors determine the characteristic impedance of a parallel conductor antenna feed line?

- The distance between the centers of the conductors and the radius of the conductors
- The distance between the centers of the conductors and the length of the line
- The radius of the conductors and the frequency of the signal
- The frequency of the signal and the length of the line

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

Answer on page 8.

# Club Notes

**September** is the month when summer winds down. The weather starts to become a little cooler and we can make a start on our preparations for fall activities.



Be sure to participate in the Tailgate Fleamarket on September 9. Yes, I know it's still summer technically. But fall arrives a mere eleven days later and, anyhow, it's after Labor Day.

See the listing on page 8 for some great radio events to participate in.

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

**Tech Talks.** Talks are now scheduled to follow each business meeting. For details, contact **Brad (WIBEP)** who is in charge.



**VE Session Results.** Two new Technician class licensees qualified at the August 4 exams:

**Ryan P. Snell - KB1YNZ**

**Stuart A.White - KB1YOA**

*Welcome to the hobby  
- see you on the air!*



## 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/ACS 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 another Sudoku puzzle to solve while waiting for the net to start. (Solution on p. 8.)

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

### NEXT VE SESSION @ SEMARA

October 6, 2012

Clubhouse @ 10:30 AM

Contact: Larry Houbre-AA1FS

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

508-991-6055



# Official Meeting Minutes



**August 2, 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 16 members and 0 guests present.

A moment of silence was held for **Jimmy Lopes (W1AQX, SK)**.

## SECRETARY'S REPORT

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

## TREASURER'S REPORT

The Treasurer, **Mike (KB1NB)** reported total income of \$4872.51, expense of \$1683 for a total across all accounts of \$41,466.00. He also reported NETCOM has an outstanding balance of \$17,500.00 to date. A motion was made, seconded and unanimously approved to refer the Treasurer's Report to audit.

## STANDING COMMITTEES

### Buildings and Grounds

**Marty (KA1YFV)** reported all was well with building and grounds. Help in maintenance duties is always appreciated.

### Technical

There was some discussion regarding the Technical Committee. Anyone wishing to be appointed to the committee should see the President, **Marcel (W1MLD)**.

## SPECIAL COMMITTEES

### ARES, RACES, SKYWARN

**Rob (KD1CY)** reported there will be a hospital net this Saturday, August 3 at 10:00 a.m. (info to be sent out via email) and check-ins are welcome. RACES/ARES net will be this coming Monday. He also mentioned the Boxboro event the weekend 8/25 where SKYWARN training will be available as well as SEC info.

### Radio Events

**Bob (K1KVV)** mentioned several events as well as the *Zero Beat* article on beacons.

## OLD BUSINESS

Topics discussed included the antenna rotor, use of the Icom radio donated by Scott Szala and the NETCOM situation. A motion was made and seconded to request the Board of Directors to look into the feasibility of instituting dues for membership. A vote was taken and the motion passed by a majority.

## NEW BUSINESS

A request via email from **John (WA1ESO)** was read requesting volunteers with 2 meter mobile radios and use of the 147.00 repeater on Saturday, September 22, 2012 for a Cystic Fibrosis charity event in Little Compton. A motion was made, seconded and unanimously voted to allow use of the repeater at that time and volunteers are encouraged to participate.

## FOR THE GOOD OF THE CLUB

There was some discussion regarding advertising SEMARA's 80th anniversary and the VE Session this coming weekend. SEMARA sponsoring our own VE Sessions was also discussed.

A motion was made and seconded to look into putting the beam antenna up or storing it before the Flea Market. After discussion this motion was rescinded.

A motion was made and seconded to purchase 500 feet of wire and materials for, and install a loop antenna. After some discussion this motion was rescinded in order to engineer, design and logistics for the system, present it to the Finance Committee and present the package to membership at the next meeting.

## ADJOURN

A motion was made, seconded and unanimously approved to adjourn at 8:14 p.m.

Respectfully Submitted,

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



### 50/50 RAFFLE

The 50/50 raffle was won by **Bob (K1KVV)** and the split was \$15/\$15.



# SEMARA News



## SUNDAY Morning Ragchew

This is a picture taken through our Members-only webcam. They seem to be a loyal group. I see them there almost every Sunday - talking and drinking coffee.

[Perhaps the donuts are gone by the time I look in on them?]

With no one interested in operating WIAEC rigs, I can see why the equipment is marginal. We really do need to get the Yagi on the clubhouse roof working again.

## SEMARA Radio Check Ride

What should you have to know to operate **WIAEC**?

SEMARA used to have dedicated meeting space and a radio room with a complete club station, but today we share the radio shack with the meeting room. Remember, the station is a shared resources that could be operated by many club members. *For those amateur radio operators who cannot put up antennas at their homes, the club station is a great way to get on the HF bands or to have fun with VHF weak signal operation.*

**But here's the problem.** The typical home station is configured by the owner to be exactly what that operator wants. It has the brand of radio equipment and the accessories preferred by that person, and everything is laid out in a personal way. The club station will be used by many different operators. It may have different equipment than what you are used to, and be configured differently. With all of these different operators, each with different station layouts at home, *the club station presents a learning challenge!*

Let's consider some basic things that might be expected of each WIAEC station user. These could make up a "check ride," similar to that given to a licensed pilot when being checked out in an airplane for the first time. Although a person may hold a pilot's license, it is by no means certain that the pilot knows everything about every airplane! The same is true about licensed amateur radio operators and radios. To begin this discussion, I consider these six basic knowledge areas; you may be able to think of some others:

**License and identification.** To operate an amateur radio station, you need a license; so the user should have his or her license (along with some supporting identification, if requested) in their possession. Is the license current with the appropriate operating privileges?

**Safety and convenience.** It is important to go over basic safety topics. These include how to shut the power off, where the fire extinguishers and other emergency equipment (such as an AED) are, the working exits, the telephone, and restrooms, and how to call for emergency help [dial 9-1-1].

**Ergonomics, accessories, and policies.** This topic area covers your comfort and safety while operating the station. It covers how to switch the lights on and off, where to get writing paper, a frequency chart, and other commonly used desktop materials; how to adjust the seats, station layout, and use the ham shack computer, as well as policies related to the use of the station. For example, a policy might include logging all contacts, always using the club callsign **WIAEC**, and so on.

**Radio orientation and operation.** This will show the new operator what each piece of equipment does and how it operates. It will include all the basics, such as the power switch, tuning, modes, antenna switching and rotor control and use of various accessories such as amplifiers.

**Record-keeping.** Should there be a sign in/out sheet for users of the station or is the logbook enough? What is the procedure for logging contacts? Is there a QSL policy and procedure? If a piece of equipment is not working or if a part is broken or missing, what is the protocol to make sure the problem will be remedied?

**Securing at shutdown.** After the operating session, the station must be shut down and secured. This includes disconnecting the equipment from the power mains and antenna jumper cables to prevent lightning damage. It is also considered good practice to leave the radio in a more or less "normal" mode of operation. The desk should be left so that the operating desk is clear of clutter. And, finally, the lights should be turned off.

*A club station is an excellent resource for all club members, but because it is shared among many users it is wise to have some clear rules about its use and to include an orientation ("check ride") for each new user.*

*\* Adapted from Courage Center Handiham World Weekly E-Letter, written by Patrick Tice, WA0TDA - Handiham Manager*

# SEMARA News (cont.)

## 13th Annual Southern New England Weather Conference

**Saturday October 27th, 2012**

Earlybird registration is now available through Sept. 9 for this year's 13th Annual Southern New England Weather Conference. The conference will be held on Saturday, October 27<sup>th</sup> at Meditech Corp. in Canton, MA (at the base of Blue Hill), same place as last year. The conference is sponsored by the not-for-profit Blue Hill Observatory Science Center.

We have a fantastic program lined up for this year. Unlike previous conferences, which covered a wide range of meteorological topics, this year we are going to explore in-depth three major events that all happened in 2011:

1. The June 1 Springfield/Monson/Brimfield Tornado
2. Tropical Storm Irene
3. "Snowtober" - the late October 2011 snowstorm.

We plan to cover each event from several interesting angles.

Assuming there is no major outbreak of severe weather in the last week of October, our keynote speaker in the afternoon will be **Dr. Greg Forbes**, the Severe Weather Expert from *The Weather Channel* in Atlanta, GA. He will discuss the very severe 2011 that struck the entire nation.

Also, before the conference, we will be having a "Breakfast with Matt" with some tidbits about various weather websites.

The cost of the earlybird registration (collected by Blue Hill Observatory Science Center) is \$89; after Sept. 10, it increases to \$99...and registration onsite will be \$109. This includes a continental breakfast and a delicious hot lunch buffet.

Conference website:

[www.sneweatherconf.org](http://www.sneweatherconf.org)

Conference agenda/abstracts/biographies:

[www.sneweatherconf.org/2012Agenda.shtml](http://www.sneweatherconf.org/2012Agenda.shtml)

Conference registration:

[www.sneweatherconf.org/confregform.cfm](http://www.sneweatherconf.org/confregform.cfm)



## Making SEMARA Better

I hope you will take a few moments to think about how and why you are a member of SEMARA.

What direction do you want SEMARA to take?

What are we leaving out?

There are lots of things we could be thinking about to make SEMARA a better amateur radio club. No, I'm not going to tell you what to do - in fact let me turn that around and gather your ideas. Let me put it to you:

1. What was it that got you interested in *becoming an amateur radio operator* in the first place?
2. What is/was *the reason SEMARA was formed*, what is its mission? Let's hear from all the old-timers out there!
3. What do we need to do to *get you to a Tech Talk*? The last one was attended by a small crowd.
4. What can you do to *attract and keep* interested, new hams?
5. What activities, and modes, do we need to get involved in to help keep us and the hobby *alive and well* into the indefinite future?
6. What kinds of *workshops and training courses* do you want us to organize and arrange to offer.
7. Are you interested in getting *your own station in order*?
8. How are *your antennas* and feed lines?
9. Are you interested in *becoming an "Elmer"* to a new ham?

Let me hear from you!

~Bob-K1KVV [editor, ZERO BEAT]

## FCC Protected Sites

E1B03 asks: "Within what distance must an amateur station protect an FCC monitoring facility from harmful interference?"

- A. 1 mile
- B. 3 miles
- C. 10 miles
- D. 30 miles

This is one of those "either you know it or you don't" questions. *The correct answer is A: 1 mile.* But how do you even know if you are near an FCC monitoring facility? You'll find them on the Cornell website:

<http://www.law.cornell.edu/cfr/text/47/0.121#b>

# Old SEMARA News

## Wireless Networking\*

About two dozen people learned the inside scoop on wireless networking at the *Tech Talk* given on August 21, 2003 by **Tim Smith, N1TI**. He told us that 802.11 wireless networking is definitely here. SEMARA recently installed a wireless router to allow similarly equipped laptop computers to access our internet, especially during times of emergency.

*What is 802.11b?* It uses 11 Mbps networking technology: direct sequence spread spectrum; eleven 25 MHz channels are usable in the US, however only three of them can be used together in close proximity without interfering; can operate in either Ad-Hoc (peer-to-peer) mode or Infrastructure (connecting via an access point) mode.

Equipment costs are nominal with wireless access points ranging from \$70 to \$130 and many have built-in broadband routers. PCI and PCMCIA cards are available for \$40 to \$80. And rebates from \$10 to \$30 are often offered. With an installed base of around 15 million users, it represents a \$1,000,000,000 per year industry.

*The problem is security.* After all, wireless networking is just radio communications. Hence, anyone with a radio can eavesdrop and inject traffic or worse. The main culprit is RF leakage. That permits security attacks from afar. The industry's solution is Wired Equivalent Privacy (WEP). This approach shares a single cryptographic key among all attached devices. It encrypts all packets sent over the air using the shared key. A checksum is used to prevent the injection of spoofed packets.

But it is not as secure as the manufacturers would like you to believe. Hacking wireless access points take only readily available "tools of the trade." Basically, you need a wireless card with hacker software running on your laptop and an antenna to be in business. These are available on eBay for as little as \$50. Hacker software is yours for the downloading. Now you are ready to go mobile, to go *war-driving*.

All war-driving takes is putting the gear in your car, mounting the antenna on the roof, and running sniffer software such as NetStumbler. Just drive around to discover who is on the air and what kind of equipment is running. Add a GPS and you can make a survey map. If you want to know more, use software like AirSnort to crack the WEP encryption. A survey of Los Angeles that Tim found on the web shows only 468 out of 1733 access points were using WEP; 1265 were unencrypted!

*Who is vulnerable?* Just about every access point can be hacked. Tim's computer showed us that SEMARA's

wireless access router was Linksys. Need I say more? And the threat is even worse. When the hacker gets your IP address, they can then attack wired computers as well as wireless ones. Especially vulnerable access points are those that spread their signals far and wide. Translation—microwave can travel further when the source is higher and closer to the outside wall. This is worse when the access point is next to a street.

*What can you do about it?* For starters, identify your signal range. Hackers with gain antennas can pick up your signal further away than your laptop with a wireless card! Periodically scan your place for rogue access points and check you router logs for strange MAC addresses.

Some simple RF absorbing material or shielding might help reduce the RF leakage enough. You are a ham, so experiment—that is what the hackers do, and they do not even know the theory!



**TIM SMITH, N1TI**



**10+ DB ANTENNA**



**20+ DB ANTENNA**

Photos by **Ken Howland, N1AVA**

\* Originally published in *Vol. 39, issue 9 Zero Beat* September 2003.

**Some Radio Events**

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


- Sep 1, 1200Z-Sep 2, 0400Z 1.8-28/50+  
**Colorado QSO Party** [www.ppraa.org/coqp](http://www.ppraa.org/coqp)
- Sep 2, 1800Z-Sep 3, 0300Z 1.8-28/50+  
**Colorado QSO Party** [www.tnqp.org](http://www.tnqp.org)
- Sep 7, 1800Z-Sep 8, 1800Z 1.8-28/50+  
**QCWA Fall QSO Party** [www.qcwa.org/qso-party.htm](http://www.qcwa.org/qso-party.htm)
- Sep 8, 1400Z-Sep 9, 0200Z 1.8-28/144  
**Arkansas QSO Party** [www.arkanham.org](http://www.arkanham.org)
- Sep 8, 1600Z-Sep 8, 2400Z 1.8-28/50  
**Ohio State Parks on the Air** [parks.portcars.org](http://parks.portcars.org)
- Sep 8, 1800Z-Sep 10, 0259Z 50+  
**ARRL Sept VHF Contest** [arrl.org/contests](http://arrl.org/contests)
- Sep 15, 6 AM-Sep 16, 12 Mid 10G+  
**ARRL 10 GHz Cumulative Contest** [arrl.org/contests](http://arrl.org/contests)
- Sep 15, 1600Z-Sep 16, 2400Z 1.8-28/50,144  
**Washington State Salmon Run** [www.wwdxc.org](http://www.wwdxc.org)
- Sep 17, 7 PM-Sep 17, 11 PM 144  
**144 MHz Fall VHF Sprint** [www.svhfs.org](http://www.svhfs.org)
- Sep 25, 7 PM-Sep 25, 11 PM 222  
**222 MHz Fall VHF Sprint** [www.svhfs.org](http://www.svhfs.org)
- Sep 29, 7 AM-Sep 29, 1 PM 902+  
**902 MHz Fall VHF Sprint** [www.svhfs.org](http://www.svhfs.org)
- Sep 29, 1400Z-see website 1.8-28/50,144  
**Texas QSO Party** [www.txqp.net](http://www.txqp.net)

**Local VE Sessions**

<http://www.arrl.org/>

**find-an-amateur-radio-license-exam-session**

Walk-ins permitted unless otherwise noted.

- SEMARA – 10:30 AM** Oct 6<sup>th</sup>  
**Larry Houbre-AA1FS**   
[<exams\[at\]semara\[dot\]org>](mailto:exams@semara.dot.org)  
**508-991-6055**
- Fall River, MA – 7:00 PM** Sept 17<sup>th</sup>  
**Skip Denault-KB1CNB**  
[<skip\[at\]newtestamentschool\[dot\]org>](mailto:skip@newtestamentschool.dot.org)  
**774-644-3469**
- Falmouth, MA – 9:00 AM** Sept 8<sup>th</sup>  
**W. Ben Fleck-K2LYE**  
[<BenFleck\[at\]verizon\[dot\]net>](mailto:BenFleck@verizon.dot.net)  
**508-540-2583**
- Providence, RI – 7:00 PM** Sept 13<sup>th</sup>  
**Louis Mester-W1CH**  
[<W1CH\[at\]arrl\[dot\]net>](mailto:W1CH@arrl.dot.net)  
**401-263-6045**

**Coming FLEAS & FESTS**

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

- 8 Sept Woonsocket RI BVARC Bob W1YRC 401-333-2129
- 9 Sept **SEMARA Tailgate Fleamarket Dartmouth MA**  
**Eric** 508 997-7070
- 15 Sept Forestdale RI RIAFMRS Rick K1KYI 401-864-9611
- 16 Sept Cambridge MA FLEA at MIT Nick 617-253-3776
- 29 Sept Center Conway NH WMARC Thaire W2APF 603-447-2376

**Answer: HAMMIN' AROUND**

*Which of the following factors determine the characteristic impedance of a parallel conductor antenna feed line? A. The distance between the centers of the conductors and the radius of the conductors*

**Answer: Sudoku <sup>17</sup>**

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

**CLUB ACTIVITIES**

**BUSINESS MEETING**

First THURSDAY of the month @ 7 pm

**Sunday RAGCHEW**

7-10 am

**Thursday COFFEE CROWD**

Dunkin Donuts @ Bliss Corner, Dart. @ 1 pm

**Friday LUNCH BUNCH**

Leave for LUNCH at 12 noon

Gather @ clubhouse before 12  
or phone/call ahead