



# Foghorn



[www.cps Halifax.ca](http://www.cps Halifax.ca) / 1-888-277-2381

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*CPS is a volunteer organization dedicated to enhancing boating enjoyment and safety through training. The Foghorn is the newsletter of the Halifax Squadron, a unit of Canadian Power and Sail Squadrons.*

## Commander's Corner



Since putting the boats to bed for the winter, we have had a mild, wet winter. I am sure we will have some good old fashion weather to come before spring. At this time of year some are already thinking of cleaning, painting and getting ready for the water.

The Halifax International Boat Show will be February 19-22. This is always a good time to start thinking about those goodies you would like to have next year on your boat. So note these dates so you can visit the show to see old friends and pick up some of those items. Remember to drop by and see us at the CPS-ECP Booth, this year we are going to have a new item at the booth. It is the **"Boating Skills Virtual Trainer"** and so much fun to try your boating operator skills. I did very well when I tried it at the AGM this past October considering that I am a sailor and not a power boat operator. Be sure to drop by and try your skills.

Be sure to check out "boating courses.ca" on the national site for winter boating courses. You can also go to [www.cps Halifax.ca](http://www.cps Halifax.ca) to view the courses. You can sign up and get started with the course of your choice. Did you know that you have to have a radio operator's license in order to operate your VHF marine radio; you can take this two day course by checking dates on our website and signing up.

We plan on having a couple of interesting talks at the Armdale Yacht Club over the next couple of months so watch your email for notice of these. Everyone is welcome.

Sarah-Jane Raine S  
Commander

## From the Training Department

The winter session of the 2014-15 Training Program begins soon. While most courses start the week after the Halifax Boat Show (February 19-22), two begin in January. Look for refresher rates in the elective courses: sit in on a course you have previously taken with a view to whiling away winter in anticipation of the upcoming boating season...

**- Seamanship:** For graduates of the Boating Course/Boating Essentials, the Seamanship Course extends the navigational and vessel-handling techniques introduced in Boating/ BE, and delves further into chart work as well as safety at sea. The course runs on Tuesdays. Start date, January 6; late registration until January 20<sup>th</sup>.

**-Boat & Engine Maintenance:** learn basic maintenance and how to diagnose more serious issues with your boat and its power components. Refresher rates available for grads of the older Marine Maintenance programme. B&EM is a 12-week course, starting Tuesday, January 27<sup>th</sup>.

**-Sail:** an absolute must for those devoted to boating under sail, the Sail Course explores all aspects of rigging and sailing techniques. Both a 2nd-family member discount and a refresher option are offered. The course runs on Mondays, for 10 weeks, starting February 23<sup>rd</sup>.

**-Electronic Navigation:** covers the features, capabilities, and uses of electronic charts and the variety of ways they are available - from chart plotters, PDA's, tablets, laptop and desktop computers. A refresher rate is available for students who previously took Navigating with GPS/Electronic Charting. The course runs on Thursdays, beginning February 26, for 7 weeks.

-**RADAR for Pleasurecraft:** Discover the many uses of RADAR, from locating yourself in poor visibility conditions to avoiding collisions to actually navigating and getting fixes by RADAR. This 5-week course runs on Thursdays, beginning April 16.

#### CPS Flagship Courses

- **Boating Essentials:** a 10-week course for new boaters who want to expand their boating knowledge and navigation skills. The PCOC is a pre-requisite for BE. Early-bird discount and 2nd-family member rates are offered. Course starts Wednesday, February 25<sup>th</sup>.

- **Boating Essentials with PCOC seminar:** sign up for the combo, with PCOC running on Friday, Feb 27<sup>th</sup> and Sunday, March 1<sup>st</sup>. The PCOC seminar is also offered as a stand-alone course.

- **Global Navigator:** part 2 of the complete Navigation program, the N course will begin mid-March, depending on sufficient interest.

All listings, dates, cost and venue, are on [the Squadron's 2014-15 Course Calendar](#).

You may register for the course of your choice by clicking on the above link and then on its title. **Early registration is strongly encouraged;** this allows us to order adequate quantities of course materials and reserve classrooms of the appropriate size.

Updates to the Calendar will be announced in the News section of the [Squadron web site](#); check in now and then... Questions? Drop a note to the [Training Officer](#)



Please be sure to stop by the CPS booth at the boat show and check out the new "Boating Skills Virtual Trainer". It is a simulator which allows boaters to practice the basics of recreational small boat handling. Come try it out.

Show Hours are:

Thursday, Feb 19	12 Noon – 8:00 pm
Friday, Feb 20	10:00 am – 9:00 pm
Saturday, Feb 21	9:00 am – 6:00 pm
Sunday, Feb 22	10:00 am – 5:00 pm

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Money can't buy happiness but it can buy a yacht big enough to pull up right alongside it – David Lee Roth

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## AIS, what is it and do I need it?

AIS is an acronym for “Automated Identification System” and it is a system design for ship collision avoidance. Do you remember from the CPS Boating and Radar courses how to calculate the Closest Point of Approach (CPA) and Time to Closest Point of Approach (TCPA) of the vessels around you using the 6 minute rule? That’s what AIS does for you, and it does it accurately, fast and for multiple vessels at the same time.

As a refresher, you calculate the CPA and TCPA by charting the relative bearing position of a vessel at 6 minute intervals. Based on the distance and direction the vessels traveled in those 6 minutes, you can project forward to see if you are on a collision course and how much time you have to react before the collision would occur. Doing this by hand takes, well at least 6 minutes, and likely 2-3 minutes after recording the positions to calculate the solution and that’s just for 1 vessel. In a crowded shipping lane, you can quickly become overwhelmed, especially if you’re trying to navigate and pilot your vessel at the same time. AIS solves this problem by automatically calculating the CPA and TCPA of every other AIS equipped vessel within 20nm and alerting you well in advance of potential collisions.

AIS was officially mandated in 2002 for all commercial vessels greater than 300 tons (called Class A vessels) and enhanced in 2006 to include everyone else (called Class B vessels). Class A vessels are required by international marine agreements to transmit their position and identity information every 3 to 30 seconds, depending on their speed, whereas AIS Class B transmissions are totally optional. They are however becoming more and more prevalent as the price of the hardware drops and boaters realize the potential gains from having the capability onboard.

An AIS system consists of 2 components; a Receiver and optionally a Transmitter.



AIS signals are transmitted on VHF frequencies and use similar technology that enables Digital Selective Calling (DSC). There are currently 27 AIS messages that can be transmitted although only a few of them are used to broadcast your position and identity. The receiver component picks up the transmissions, decodes the digital signal and plots the vessel positions on its own screen and/or sends the information to your chart plotter using NMEA protocols.



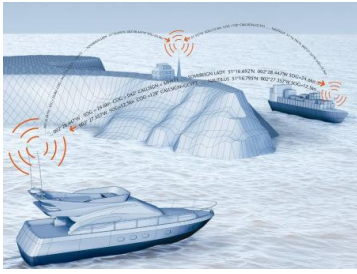
Courtesy of Wikipedia, here is an example of a chart plotter screen with many AIS

transmitting vessels traversing the narrow Davis Strait channel. Note that the triangle that indicates the position of the vessel is oriented in its direction of travel (COG) and may include a line projecting from the tip of the triangle giving you some indication of its speed (SOG). The longer the line, the faster it is traveling.

AIS receive only units will cost you \$300-\$500 while transmit/receive units cost \$700-\$1,200. These prices will likely keep falling as more and more manufactures get onboard with the technology, especially for receive only units, where I personally expect to see it integrated into every VHF radio, much as DSC is today.

I always wondered however, why AIS transmitters cost so much when they seem like just fancy VHF radios? The answer is that unlike manually controlled VHF, an AIS unit transmits automatically on a varying schedule. Using technology protocols similar to your mobile phone network, an AIS unit needs to “negotiate” with other AIS units to agree upon a transmission schedule.

Image what happens with your VHF when 2 or more people key the mic at the same time!



Nothing but gibberish. Even with this negotiation technique, VHF transmissions are still limited to “one-at-a-time”

transmissions so it is possible to have more transmitters than what can be handled. For this reason, AIS units must be equipped with a dedicated On/Off switch and vessel operators are encouraged to switch off transmissions once at dock or anchor.

If you are considering an AIS unit for your vessel, you should take some time and learn about the installation requirements. First, you may need a separate antenna. You can purchase a splitter box that will allow you to use your current VHF antenna and give priority to the VHF, but this splitter will set you back \$200-\$300 while a dedicated AIS antenna costs less than \$100. The bigger issue is that you need to run a new coaxial wire and you need to find a new mounting place for the additional antenna that is at least 1m away from your current VHF antenna, assuming you want to use both at the same time.

Second, most units come with a dedicated GPS antenna. Again, you will need to find a mounting location and run some more wires. I’ve questioned the need for a dedicated GPS and have never received a satisfactory answer. You’re told that it’s because the AIS unit needs accurate and timely updates but reality is that GPS is a broadcast signal, at 1 sec intervals, so the position calculated by the chart plotter GPS antenna should be no different. It’s my belief that it has more to do with coordinating the time

stamps accompanying the GPS and AIS messages. CPA and TCPA calculations are very dependant on accurate time recording so any discrepancies would really impact the solutions. Having dedicated equipment lessens the chance for inaccuracies. You may not have much choice here anyway as only 2 manufactures that I am aware of allow you to configure the AIS unit to accept NMEA GPS signals from your chart plotter.

The last consideration is what to do with the AIS output? Do you need to find more space on your dashboard for yet another screen or will you integrate the AIS unit with your current chart plotter? Can your chart plotter even handle the newer AIS NMEA message and display the AIS vessel positions?

So do you really need it? Probably not if you don’t venture far from harbour but if you find yourself frequently crossing shipping lanes, say at the entrance to Halifax harbour, you may want to consider a receive only unit. Large commercial vessel can’t really stop for you anyway so transmitting your position isn’t going to help you much. If you’re sailing far away in open water you should probably consider an AIS transmitting unit so others can see you. AIS is also tracked all over the world by land based stations and satellites so it’s an easy way for loved ones to find you and follow your progress. Have a look at <http://www.marinetraffic.com/> to see a real time view of all AIS traffic around the world.

On a final note, please remember that having an AIS unit onboard doesn’t mean you don’t have to still keep watch. Only commercial vessels are required to have them and there are still a lot of other boats out on the water. AIS is just another tool to help you along the way. The technology however has some amazing future potential, but that’s another article for another day!



## CPS Halifax Squadron

For further course information and registration, please go to  
[the Squadron's 2014-15 Course Calendar](#)

### WINTER SCHEDULE

Course	Start Date	Duration	Instructor	Fee
Seamanship	Tues, Jan 06 <sup>th</sup> 2015 (late registration to Jan 20 <sup>th</sup> )	15 weeks	Angus Macpherson	\$170 member \$195 non-member 2 <sup>nd</sup> family member rate available
Boat & Engine Maintenance	Tues, Jan 27 <sup>th</sup> 2015	10-12 weeks	Norman Raine	\$140 member \$165 non-member Refresher rate available
Sail	Mon, Feb 23 <sup>rd</sup> 2015	10 weeks	Luke Porter	\$140 member \$165 non-member 2 <sup>nd</sup> family member & Refresher rate available
Boating Essentials	Wed, Feb 25 <sup>th</sup> 2015	10 weeks	Ron Hoffman	\$225 (Early Bird discount and 2 <sup>nd</sup> family member price available) Includes 1-yr CPS membership
Boating Essentials with PCOC	Wed, Feb 25 <sup>th</sup> 2015 (+ see Boating Basics, below)	10 weeks	Ron Hoffman	\$285 (Early Bird discount and 2 <sup>nd</sup> family member price available) Includes 1-yr CPS membership
PCOC seminar	Fri, Feb 27 and Sun March 1 <sup>st</sup> 2015	8 hours	Harry Henteleff	\$90(2 <sup>nd</sup> family member price available) Includes 1-yr CPS membership Refresher rate available
Electronic Navigation	Thurs, Feb 16 <sup>th</sup> 2015	7 weeks	Dave Hackett	\$115 member \$135 non-member Refresher rate available
RADAR	Thurs, Apr 16 <sup>th</sup> 2015	5 weeks	Dave Hackett	\$110 member \$120 non-member Refresher rate available

### ROC(M): VHF marine radio courses:

Start Date	Duration	Instructor	Fee
Fri, Jan 16 <sup>th</sup> & Sun, Jan 18 <sup>th</sup>	8 hours total	Harry Henteleff	\$90 (\$85 member rate)
Fri, Feb 27 <sup>th</sup> & Sun Mar 1 <sup>st</sup>	8 hours total	Dan White	\$90 (\$85 member rate)
Fri, Mar 27 <sup>th</sup> & Sunday Mar 29 <sup>th</sup>	8 hours total	Dan White	\$90 (\$85 member rate)

Further VHF dates TBA in the News section of our [Squadron Web Site](#).

Unless otherwise specified, classes are held at the [Cpt. Wm. Spry Centre](#)

### CPS Halifax Squadron Bridge Members 2014-2015

Position	Email Address	Officer's Name
Commander	CPS_Commander@cpshalifax.com	Sarah-Jane Raine
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Treasurer	CPS_Treasurer@cpshalifax.com	Dan White
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Membership Officer	CPS_Membership@cpshalifax.com	Catherine Lunn
Social Officer	SocialOfficer@cpshalifax.com	Howard Donohoe
Supply Officer	SupplyOfficer@cpshalifax.com	Rozanne Raine
Newsletter Editor	NewsEditor@cpshalifax.com	Janice Cook
Communications Officer		Dave Hackett
Public Relations	PublicRelations@cpshalifax.com	Howard Donohoe



From left to right: Dan White, Janice Cook, Dave Hackett, Rozanne Raine, Norman Raine, Sarah-Jane Raine, Andrea McCrea, Harry Henteleff, Catherine Lunn, Howard Donohoe