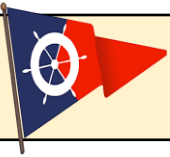


## QUARTERMASTER YACHT CLUB – AIS Systems Tech Talk

# AIS Systems – Project Data

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Title:	Automatic Identification System (AIS) – Class B transponders and web based AIS applications
Objective:	Discuss the safety aspects & multiple implementations of AIS systems
Speaker(s):	Kevin Jones
QYC Only?:	No
Date:	7 June, 2017 (combine with AIS Use Tips Tech Talk)
Time:	7 – 9 PM
Duration:	60 minutes
Location:	Vashon Library (Meyers Hut as backup)
Space Required:	Room with tables, chairs and projection screen
Supplies to bring:	Laptop and power cable, projector and power cable, laptop to projector cable
Tools to bring:	None
Props & Examples:	None
Advertising plan:	Advertise tech talk w/ flyer at QMM, library, grocery store, HW store, Burton Boat, QYC (Meyers Hut, top of hill bulletin board, dock gate), preview at QYC meeting

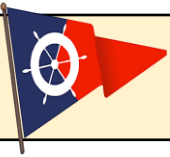


# WELCOME to QYC Tech Talks!

- A Tech Talk is...
  - An exchange of information, ideas and experience
  - More dialogue than “teaching”
  - A little structure
- We encourage...
  - Listening, learning & contributing
  - Discussion and debate
  - Questions
- Our next Tech Talk is:
  - Not yet planned – Fall 2017

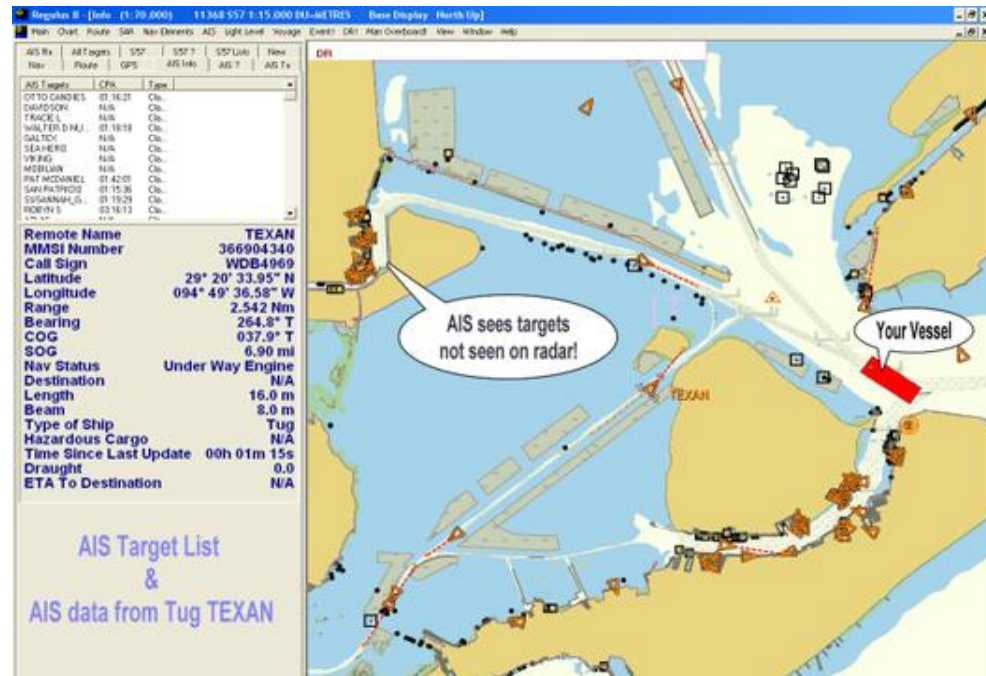


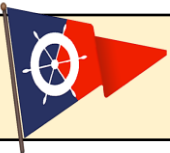
Together, to Learn From Each Other



## AIS Systems - Overview

- What is AIS and why do I want it?
- Different types of AIS systems
- AIS System Requirements
- Displaying AIS data
- Cost
- OPUS V AIS
- Web based systems

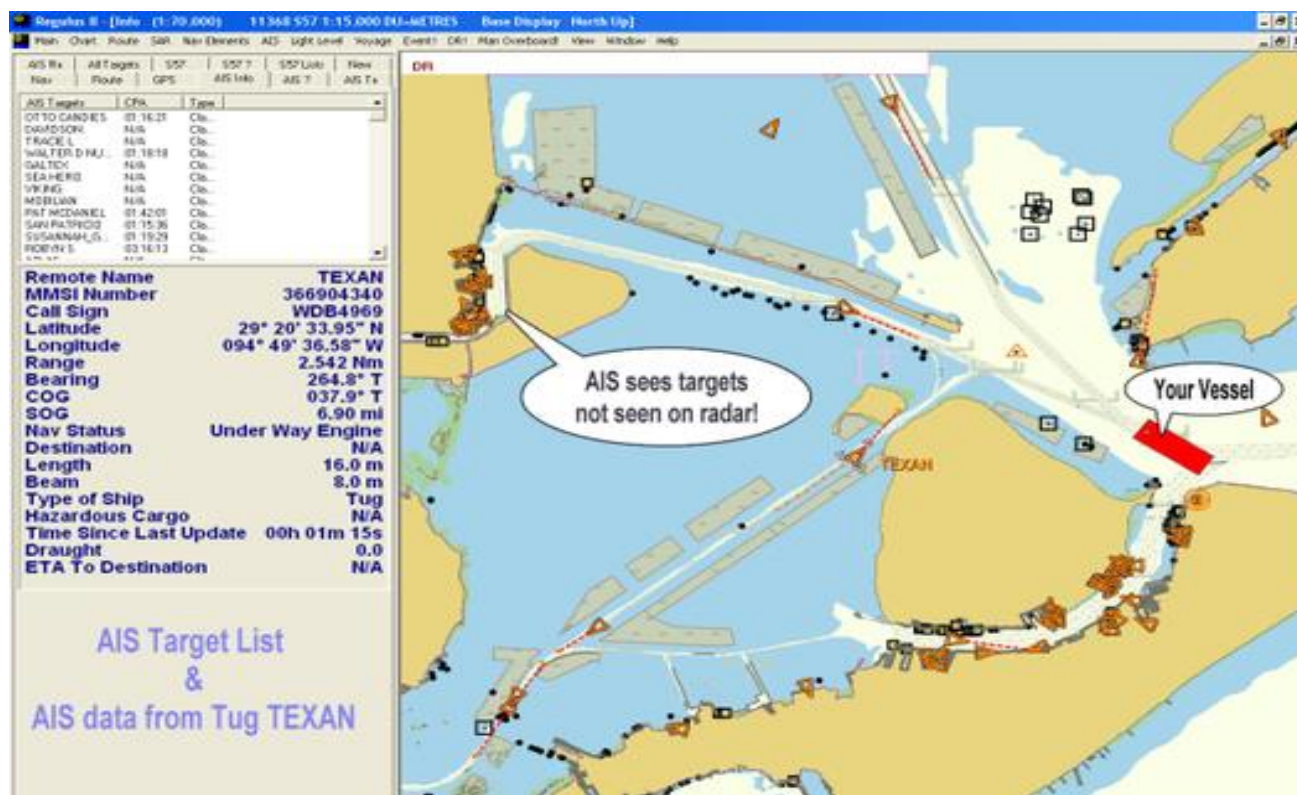




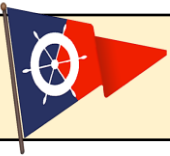
## AIS Systems – What, Why?

- AIS = Automatic Identification System
- Ship to Ship data exchange of:

- Name
- Location
- Heading
- Speed
- Type
- CPA/TCPA



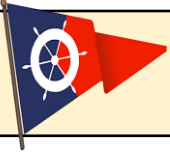
AIS Transponder: you see them, they see you, fog or no fog!



## AIS Systems – Alerts & Warnings

- Closest Point of Approach (CPA)
- Time to CPA (TCPA)
- Chart plotter visual depiction of CPA
- Text box indicates TCPA
- Audible warnings available

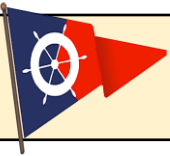
Will you collide with that ferry boat? How close will you be when you pass?



## AIS Systems – Types

- Receiver
  - Detects and displays other ship AIS data
- Transponder
  - Receives other ship AIS data
  - Sends your ship AIS data to others
  - Class A: not available to recreational boaters
  - Class B: for recreational vessels
- Standalone or integrated in VHF radio
- Numerous web based AIS applications

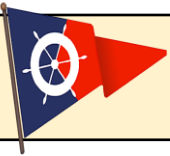
Receiver or Class B Transponder for recreational vessels



## AIS Systems – Requirements

- Receive only: AIS unit with access to a VHF antenna
  - Separate dedicated VHF antenna
  - Splitters - your radio & AIS use the same antenna
- Transponders: additionally require GPS position data
  - Separate GPS antenna
  - Combined GPS/VHF antenna
- Web based: access to a cell phone or WiFi network

Web based is handy, not always available, and not always up to date!

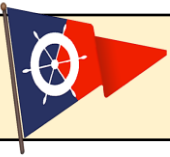


## AIS Systems – Displaying Data

- Web based: provided by the application
- AIS with dedicated display: provided by the AIS system
- Otherwise:
  - Interface with your chart plotter, if compatible, or...
  - PC based navigation systems
  - Considerations include NMEA network compatibility, wifi interface, etc

*Check compatibility carefully! Just because they both have NMEA 0183 does not mean they can talk to each other!*



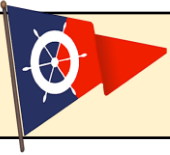


## AIS Systems – Cost

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- Vesper XB-8000 Type B Transponder with WiFi
- Combination GPS / VHF antenna
- Antenna mounting bracket
- Laptop – already owned
- OpenCPN Chart Plotter Software – free
- Total cost: \$829 (with boat show discount & taxes)

If you encounter fog or travel afar, worth every penny!



# QUARTERMASTER YACHT CLUB – AIS Systems Tech Talk

## AIS Systems – OPUS V

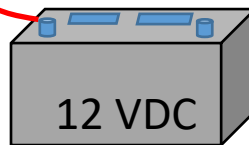


TRAM TB-16773  
GPS/VHF antenna



Vesper XB-8000

WiFi

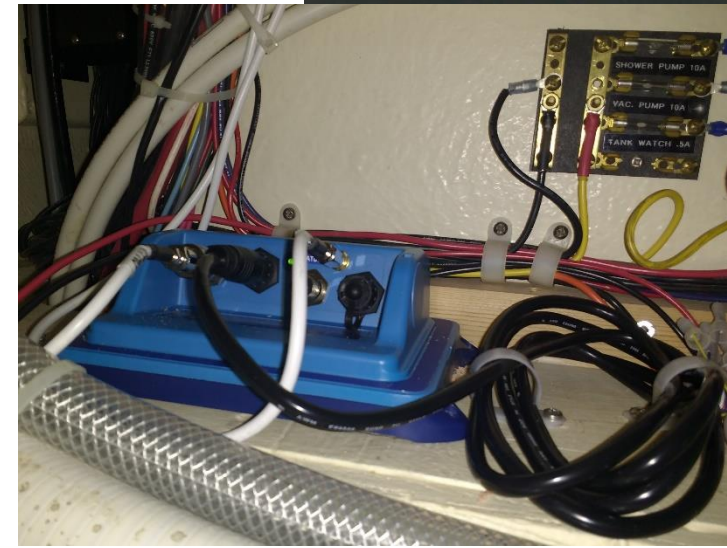
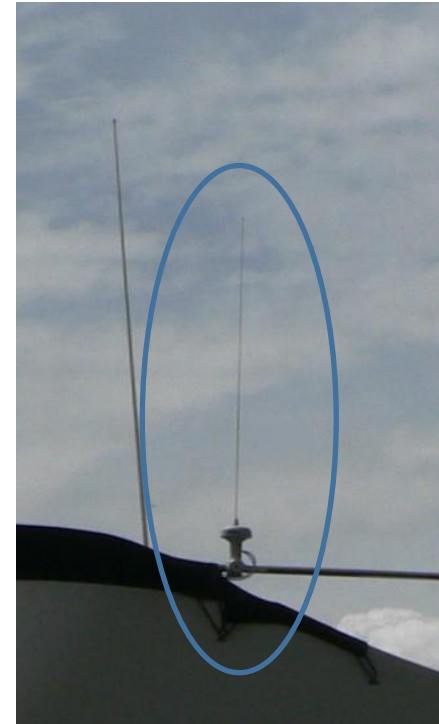


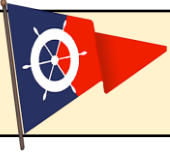
12 VDC



Dell Laptop with Windows 10  
OpenCPN Chart Plotter Software  
USB GPS antenna (backup)

Approximately  
eight to ten hours  
for complete  
installation and  
checkout

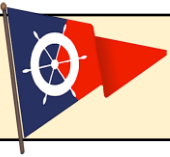




## AIS Systems – Web Based

- Marine Traffic: <http://www.marinetraffic.com/>
- Vessel Finder: <https://www.vesselfinder.com/>
- My Ship Tracking: <http://www.myshiptracking.com/>
- FleetMon: <https://www.fleetmon.com/>
- Ship Finder: <http://shipfinder.co/>
- Shine Micro: [http://www.shinemicro.com/vessel\\_tracking.asp](http://www.shinemicro.com/vessel_tracking.asp)
- AIS Hub: <http://www.aishub.net/>

Web based systems require internet access and receipt of AIS signals



# QUARTERMASTER YACHT CLUB – AIS Systems Tech Talk

## AIS Systems – Future Capabilities

**OpenCPN 4.2.0**  
Navigate View AIS Tools Help

**Dashboard**

**Sunrise/Sunset**  
12:14:00 UTC  
04:44:00 UTC

**Moon phase**

**Position**  
50 50.681 N  
126 38.991 W

**GPS Status**

**GPS Compass**

**SOG**  
7.60 kts

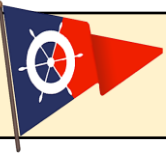
**COG**  
67°

**Mag COG**  
50° mag

**311829301 BS**  
[SAR Aircraft]  
SOG 288 kts COG 328°(M)  
CPA 2.20 NMi in 5 min

**Ship 50.844705 -126.649814**    **SOG 7.59 kts COG 048°(M)**    **50.478778 -126.417936**    **141°(M) 23.7 NMi**    **Scale 156900 (3.3x)**

11:36 AM  
6/27/2019



# AIS Systems

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QUESTIONS?