VIBS 2019:
Explore the World of Garmin Marine Nav Products

Popular Models by Jeff Cote

Pacific Yacht Systems
marine electronics & electrical

design • installation • service • support

Passion for Boating

- Systems Design Engineer
- Owner/operator of Pacific Yacht Systems
- NMEA & ABYC certifications
- Published monthly columns
  - Pacific Yachting Magazine: Tech Talk
  - Northwest Yachting Magazine: Hot Wire
- Proud Owner: 36' Sailboat
- Favorite BC cruising grounds are Barkley Sound and the Broughton Archipelago

About Pacific Yacht Systems Inc.

- Specialize in marine electrical and electronics
- Servicing the British Columbia and Western Canada
- Worldwide electrical design / consultation
- 2018 Recap:
  - Completed over 1000 boat projects
  - Designed / consulted on over 100 electrical projects
- Over 150 "How To" PYS Videos on YouTube
- www.pysystems.ca for schematics, design info, published articles, etc…

Navigation Selection Criteria

- Consider your boating preferences
  - Howe Sound vs. Inside Passage
- Start with what you have
- All-in-one vs. multiple displays
- Do you navigate from one or two helms
- Buttons vs. touchscreen

Other Considerations

- Feature-rich vs. simplicity
- iPad / Smartphone integration
- Electrical system capacity
- Brand specific advantages

PYS Preferred Choice

GARMIN™

Garmin Specific Advantages

- Easy to use

- Reliable

- Good integration: NMEA 2000 & NMEA 0183

- Large product selection

- Great value
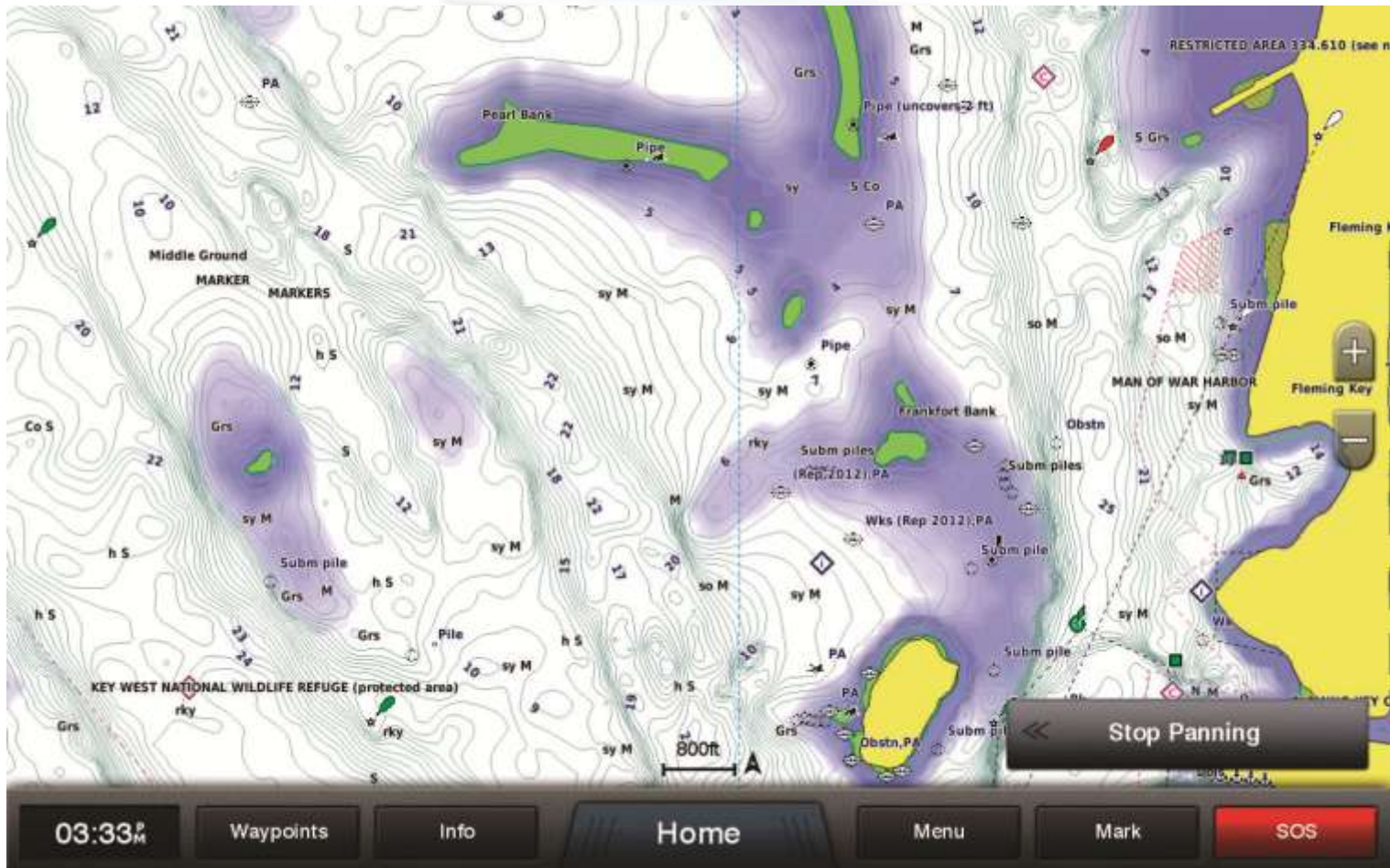
Garmin Suite

Garmin Possibilities

- Chartplotter & MFD
- Sonar
- Radar
- Autopilot
- VHF/AIS
- Cameras
- Instruments & sensors
- Digital switching (e.g. CZone)
- FLIR cameras
- FUSION-Link

Chartplotter (MFD)

- Chartplotter only vs. Multi-Function Display (MFD)

- Garmin Bluecharts G3

- Screen size

- Buttons vs. touch-screen

- Built-in Wi-Fi

- ActiveCaptain app

Garmin Bluecharts G3

Garmin Nomenclature

- World Basemap vs Bluecharts
- Garmin Network Port

Sounder
- cv: ClearVü & Traditional Chirp
- sv: SideVü, ClearVü & Traditional Chirp
- xs: ClearVü & Traditional Chirp
- xsv: SideVü, ClearVü and Traditional

echoMAP Plus

- Best value chartplotter / sounder
- Buttons: 6"
- Touch w/ Key Assist: 7", 9"
- Sounder: cv & sv
- Garmin Panoptix ports
  - 0: 6x
  - 1: 7x / 9x
- NMEA 2000
- NMEA 0183 ports: 1
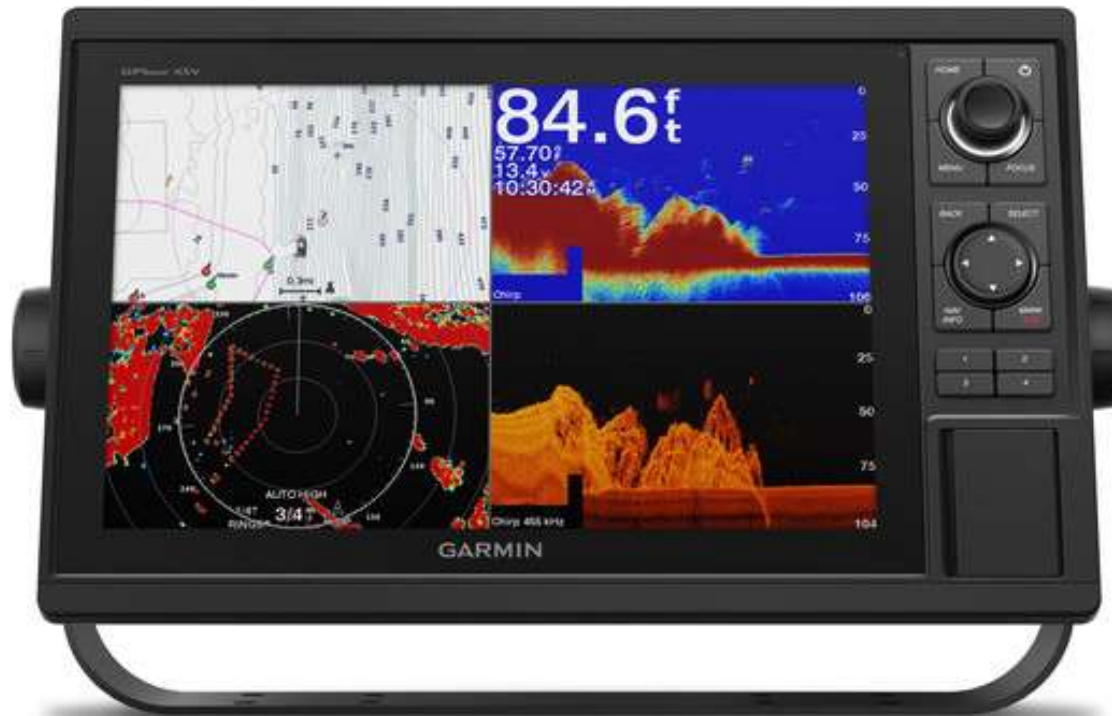- No radar

echoMAP Plus 97sv

GPSMAP 10xx / 12xx

- Keypad interface & multifunction control knob

- Displays: 10" & 12"

- Garmin network ports: 2
  - E.g.: Radar & MFD

- NMEA 2000

- NMEA 0183 ports: 1

GPSMAP 1242xsv

GPSMAP 7xx / 9xx / 12xx Touch

- Best value for touch
- Displays: 7", 9", 12"
- Garmin network ports
  - 1: 7xx / 9xx
  - 2: 12xx
- NMEA 2000
- NMEA 0183 ports: 1

GPSMAP 1222 Touch

GPSMAP 84xx / 86xx

- Glass bridge look
  - flagship line
- Displays: 10", 12", 16"
  - Optional xsv
- Displays: 17", 22", 24"
- Garmin network ports: 2
- NMEA 2000
- NMEA 0183 ports: 1

GPSMAP 8424

ActiveCaptain App

- Access charts and maps anywhere
- ActiveCaptain community
- Mobile quickdraw community
- Simple syncing
- Updates from the App
- Control your chartplotter
  - GPSMAP
- Stay connected
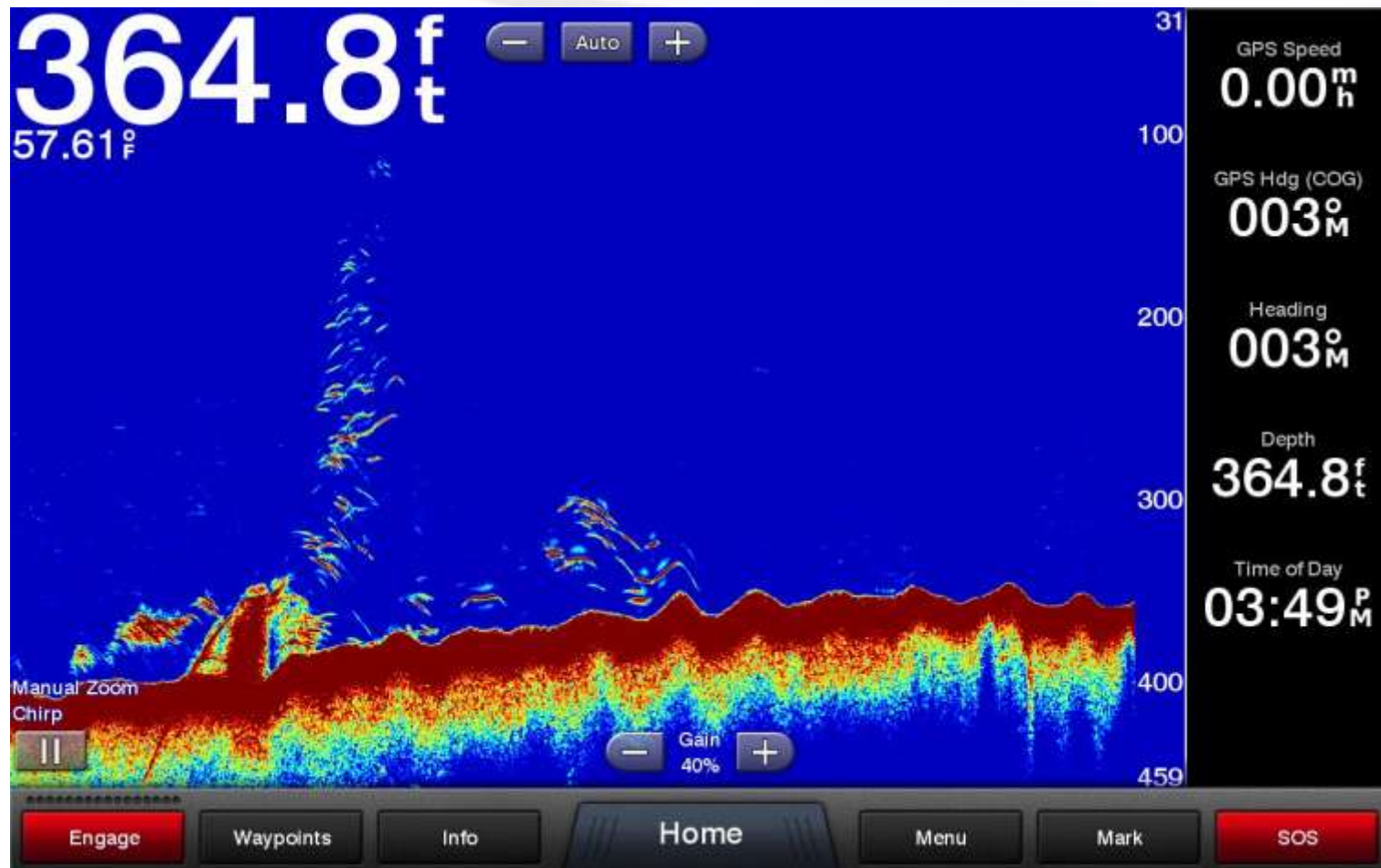
Built-in SailAssist Features

- Pre-race guidance page (virtual starting line)
- Synchronized info: laylines, time to burn, race timer
- Enhanced wind rose,
- Heading and course-over-ground lines
- Set and drift
- True and apparent wind data

Traditional CHIRP Sonar

- CHIRP sonar sweeps a continuous range of frequencies
  - from low to high, in a single transmission
- Returns from each frequency
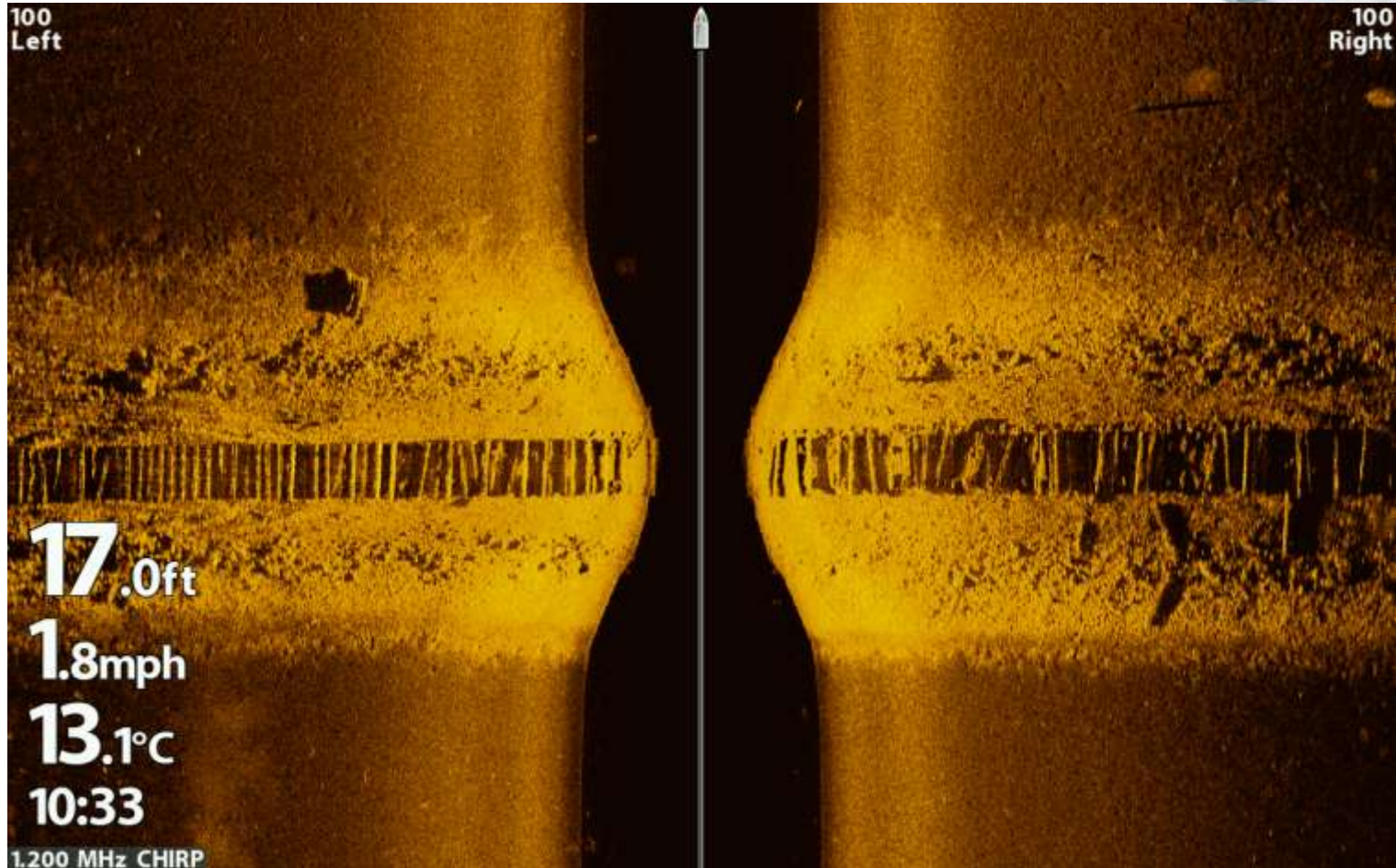- CHIRP sonar is able to create a **clear, high-resolution image.**

Traditional CHIRP Sonar

ClearVü CHIRP Sonar

SideVü CHIRP Sonar

Black Box Sonar Module

- GSD 25 Premium
  - 1 kW dual-channel CHIRP sonar clearVu & downVu
- GSD 26 Chirp Professional
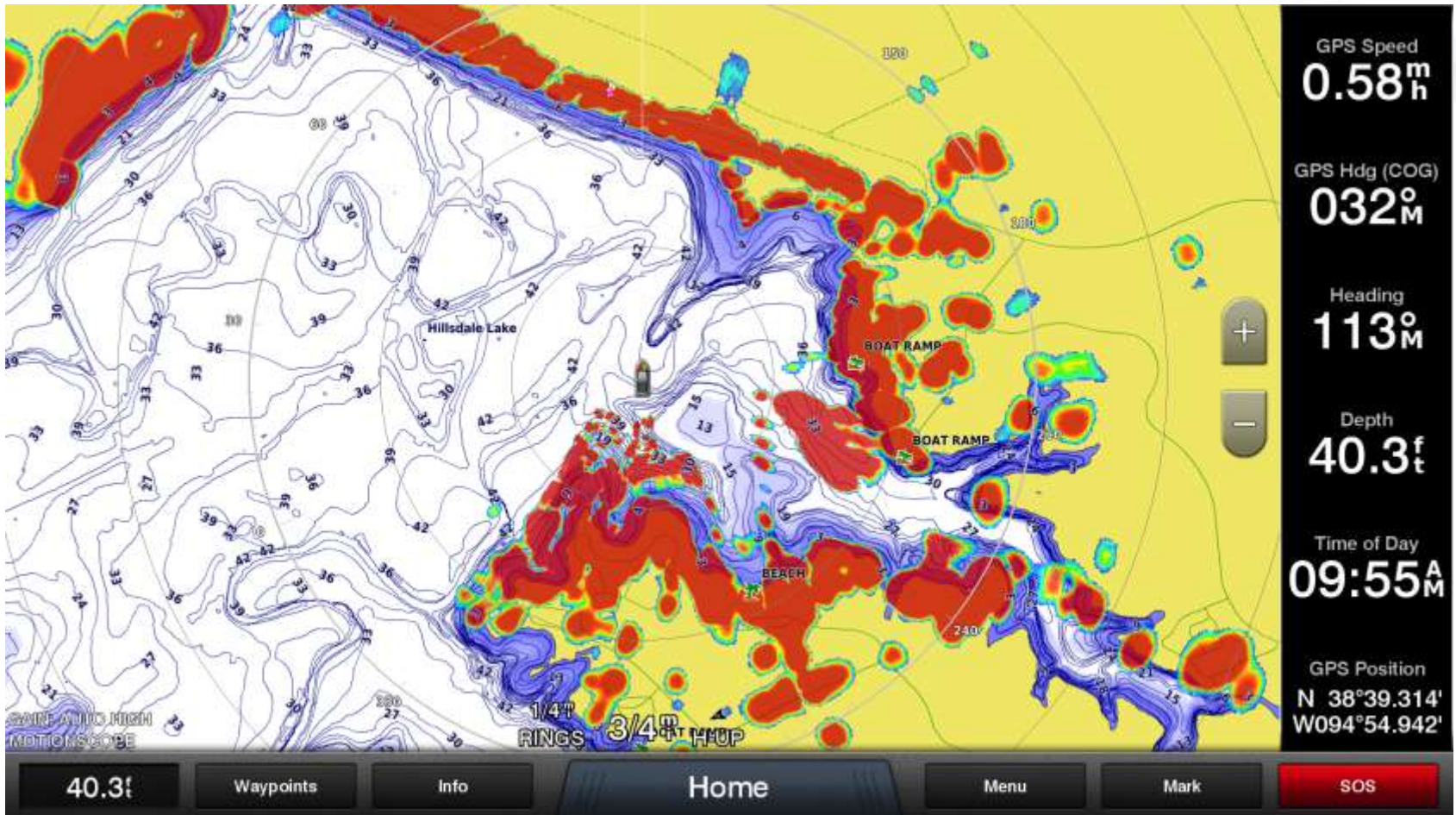 - Up to 3kW

GSD 25

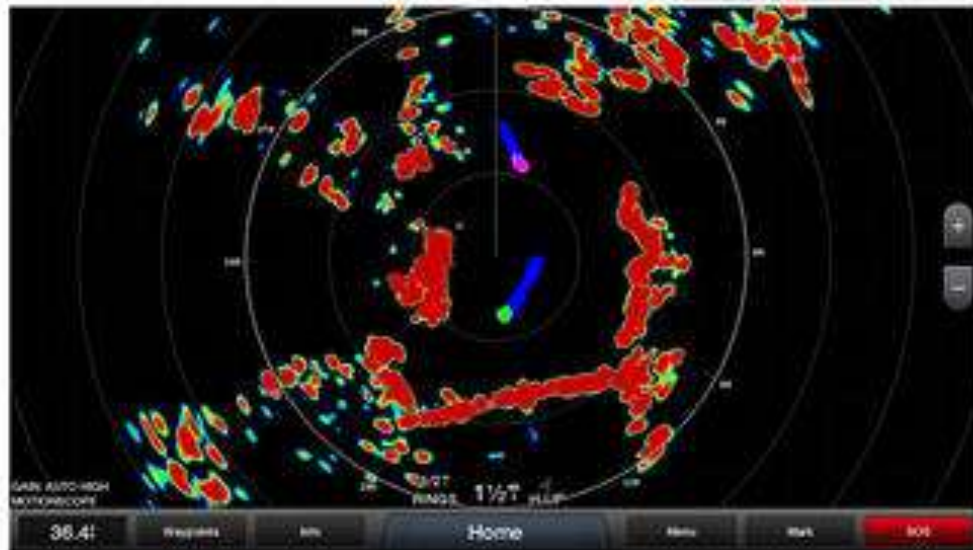# GSD 26

Why Radar?

- Ability to "see" boats and land in low visibility
  - Great for fog, night, and positional awareness
  - Track boat movements
- Line of sight only
  - Cannot see around corners
- Range Varies

Radar Overlay Image

Radome Radar

Open-Array Radar
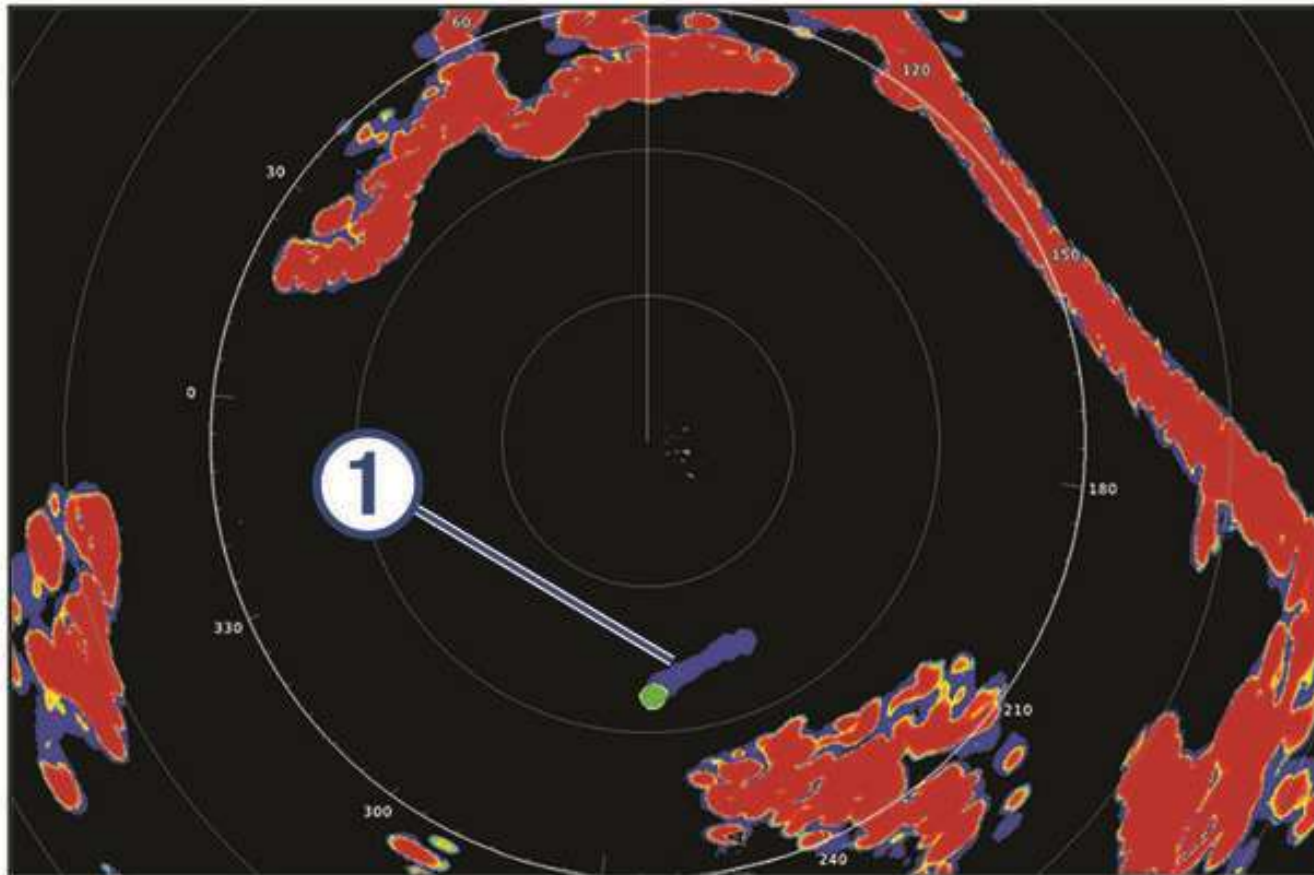
Garmin Marine Radar Features

- Radome size: 18", 24"
  - 4 kW
- Open Array size: 4', 6'
  - 6 kW, 12 kW, 25 kW
- HD+, xHD
- Fathom
  - 40 W, 50 W, 120 W

Fathom Radar

- Safer operation

- MotionScope
  - detect and highlight targets moving toward you or away from you

- Echo Trails

- Dual Range
  - shows close and long range split screen images at the same time, using a single antenna

Garmin Echo Trails

Popular GMRs

- GMR 18 HD+, 18 xHD, Fathom 18 & 24
- GMR™ 424 xHD2

AIS Benefits

- Displays surrounding traffic
    - See local commercial traffic
    - Plan a narrow passage or bridge
    - Hail other vessel by name
- Receive-only vs transmit & receive
- Collision alarm

Garmin AIS 800

- 5 watts of transmit power with Class B SO
- Built-in GPS with connector for optional external antenna
- NMEA 2000® connectivity
- Internal VHF antenna splitter

Garmin 215 VHF

- Built-in GPS for DSC
- Optional AIS model
- Integration
  - NMEA 2000
  - NMEA 0183

Garmin 315 VHF

Autopilot Benefits

- "2nd Hands" to steer boat
  - Steady track (save fuel)
  - Offset current and wind
  - Emergency help
- Steer boat to
  - Heading
  - Waypoint
  - Route

Garmin Autopilot Models

- Compact Reactor vs Reactor
- Drive: hydraulic, mechanical, retrofit, solenoid, steer-by-wire
- Control head: GHC 20
- Garmin benefits:
  - Shadow drive
  - SmartPump V2

Compact Reactor™ 40 Hydraulic Autopilot with GHC™ 20

Reactor™ 40 Hydraulic Corepack with SmartPump v2

GC 200 Marine IP Camera

- Monitoring
  - e.g: engine room, lower helm, dinghy-tow, dockview

- Navigation
  - thermal night vision for travelling in low light conditions

- Security
  - galley or engine room and access it remotely through your smartphone

Garmin GMI
Wired Start Pack 52

GNX™ Wireless Sail Pack 52

GRID 20 (Garmin Remote Input Device)

Wireless Remote Control

Connect with PYS

- PYS Electrical Orientation for your boat
  - 90 mins: Batteries, DC distribution, charger, alternator, inverter
- PYS Design Services for DIYers
  - Electrical system designed by PYS (collaborative and to marine code)
  - Installed by yourself or other outfit
- Pacific Yachting magazine - Monthly Tech Talk Column
- Northwest Yachting – Monthly Hot Wire
- YouTube – 500K Views
- www.pysystems.ca 1000s of articles
- Monthly email newsletter

Questions?

Marine Electronics

Full service shop delivering marine electrical and navigation solutions tailored to your vessel and boating needs

Pacific Yacht Systems
marine electronics & electrical

design • installation • service • support

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