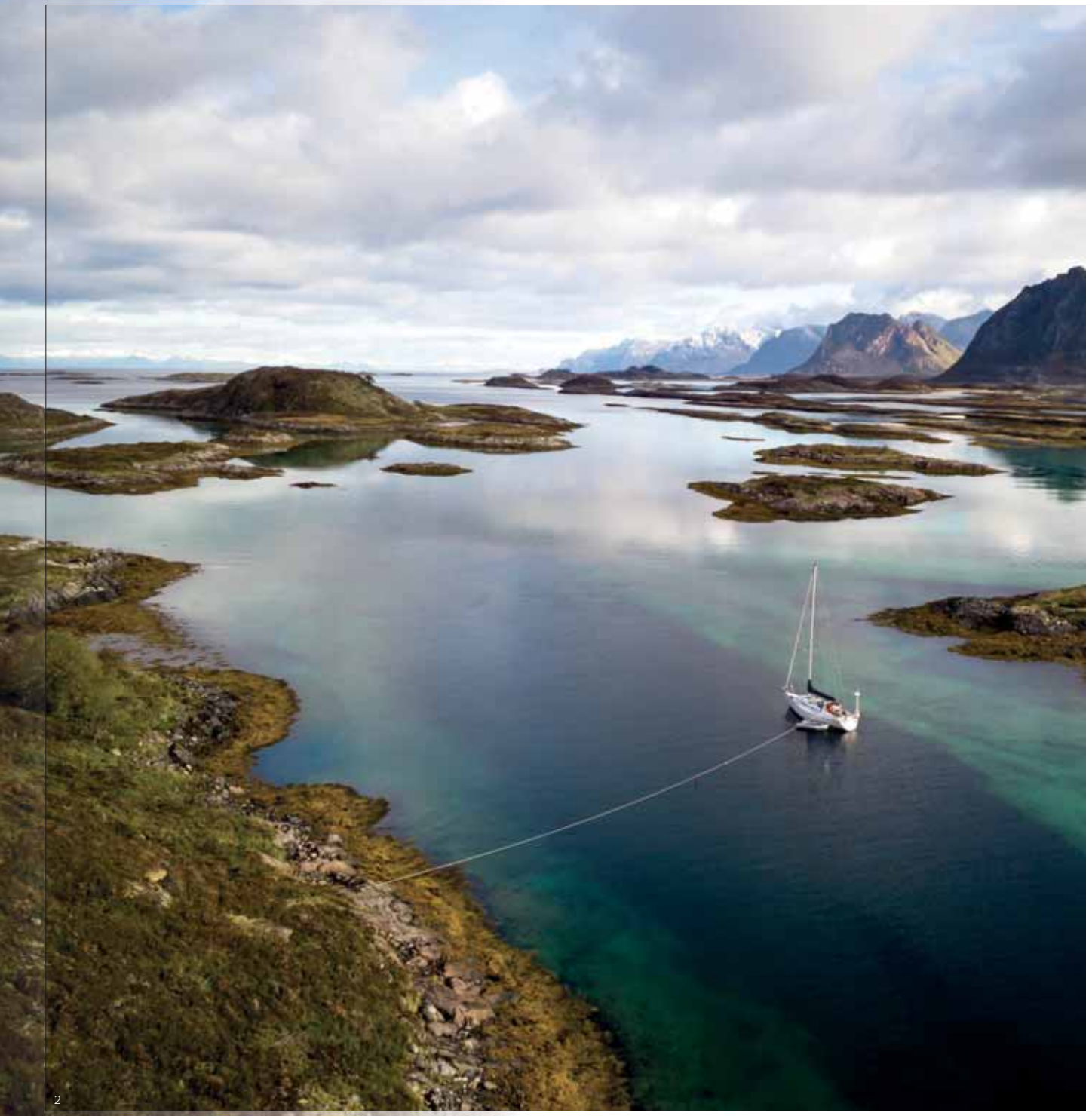
2020

MARINE ELECTRONICS FOR CRUISING

Raymarine®



WELCOME TO THE WORLD OF RAYMARINE

Raymarine products are engineered to deliver the very best in visual navigation information and with a legacy of marine technology spanning over 80 years, we are renowned today for ease-of-use, rugged design,and reliability.

At Raymarine, we are constantly innovating to deliver high-performance sensors and intelligent navigation systems so your time on the water is stress-free and fun. We are committed to you with an industry-leading warranty and worldwide service network. Whether you fish, sail, or cruise you can get underway with the confidence of Raymarine on board.

CONTENTS

04 LightHouse 3
10 MFDs
12 Element
14 Axiom
16 Axiom Pro
18 Axiom XL
20 Charts & Apps
22 Radar
26 FLIR Thermal
28 Digital Switching
30 Instruments
34 Autopilots
38 VHF Radios
40 Docksense Alert
42 Accessories
46 Product Dimensions

303°
Raymarine
Raymarine
Raymarine

LIGHTHOUSE 3 OPERATING SYSTEM POWERFUL AND INTUITIVE

The easy-to-use operating system inside every Raymarine multifunction display, LightHouse™ puts you in command with a fluid touch-screen or HybridTouch™ user experience. LightHouse lets you navigate with the best charts and makes navigating as simple as using a smartphone.

You Are In Command

LightHouse 3 is fast, fluid, and easy to learn. The uncluttered interface is easily personalised for your style of navigating. Get underway with smartphone-like touchscreen experience or take command with HybridTouch keypad and touchscreen control combined.

Expandable

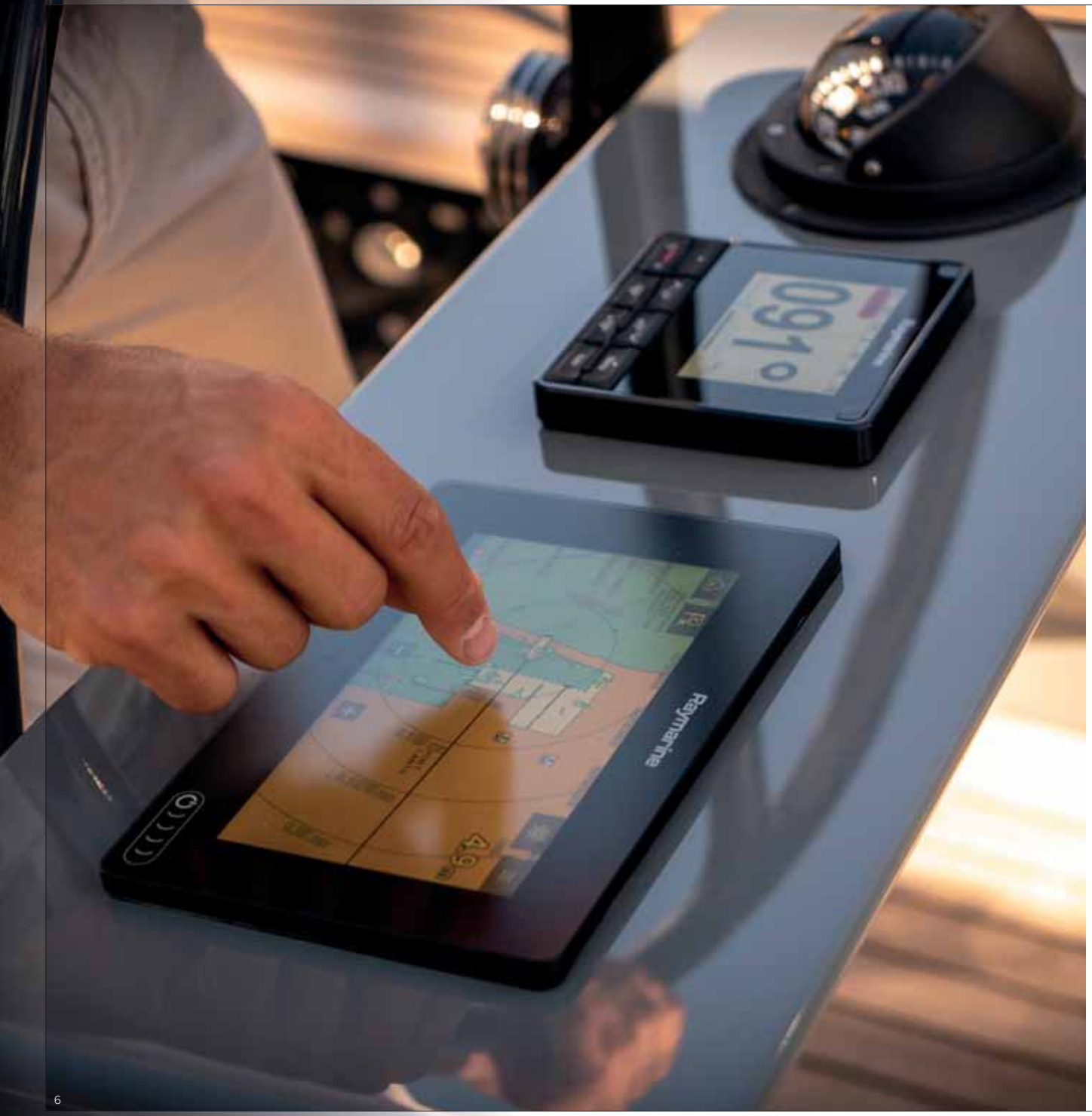
Expand any LightHouse 3 OS based display with powerful sensors, including Quantum radar, CHIRP sonar modules, and FLIR thermal night vision cameras. SeaTalk^{NG} and NMEA 2000 connectivity enable engines displays, instruments, and Evolution autopilot integration. Standard Wi-Fi and Bluetooth allows connection to Raymarine apps, accessories and more.

Simplified Networking

Axiom, Axiom Pro and Axiom XL all run the LightHouse 3 operating system, allowing you to create navigation systems with any Axiom display combination. Connect up to 10 Axiom displays or integrate with eS and gS Series by upgrading to LightHouse 3 for free.

Beautiful Data

Drag and drop databoxes anywhere on screen. Choose from 4 different size options and up to 14 different data types. Simply swipe the side of the display to reveal the Side Bar data display or launch the Dashboard app for intuitive instrument and engine data displays.



LIGHTHOUSE 3 OPERATING SYSTEM POWERFUL AND INTUITIVE

The LightHouse 3 operating system powers Axiom, Axiom Pro, and Axiom XL multifunction displays. Previous generation Raymarine eS Series and gS Series can also upgrade to LightHouse 3 for free. Some advanced LightHouse 3 features like ClearCruise AR, Axiom UAV, and LightHouse Apps are exclusive to Axiom multifunction displays. Visit raymarine.com/lighthouse to learn more and stay abreast of the latest LightHouse 3 feature updates.

Personalisation

The LightHouse 3 home screen offers bold and simple app icons. Customise the home screen with your favourite apps. LightHouse 3 User Profiles saves yours and other crew member's personal home screens and configuration preferences.

Axiom UAV – Your Eye in the Sky

Experience the power of aerial imaging on board with Axiom and the DJI Mavic Pro drone. LightHouse 3 offers a seamless UAV control experience with convenient touch-to-fly options and automatic return to boat capabilities. Free your drone's video from your tiny smartphone with Axiom's large, sunlight viewable display.

Live Layline Display

LightHouse 3.9 Annapolis supports display of dynamic laylines on the navigation chart. Sailing along laylines maximizes your boat's Velocity Made Good (VMG) to windward, making upwind sailing as efficient as possible. Laylines can be configured to display from a performance profile using fixed angles or from polar performance data.

LightHouse Apps

LightHouse Apps is Raymarine's expanding library of applications for Axiom multifunction displays. Enjoy entertainment apps like Netflix and Spotify or connect with on board systems like Lumishore vessel lighting and Seakeeper gyro systems. LightHouse apps also keep you connected with support for Mazu satellite communications and Theyr weather.

SAILING FEATURES FOR AVID SAILORS

SmartStart™ Start Line

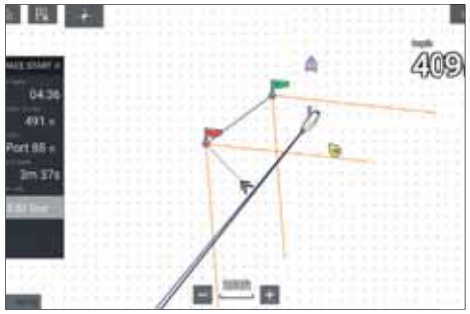
Easily ping the port and starboard ends before the race begins. Sail to each position and enter them on-the-spot, or touch the chart display for simple entry. You can even easily swap ends with a single touch.

Weather Apps

LightHouse 3 now has onboard support for the popular PredictWind and Offshore performance sailing apps. Receive detailed wind and weather forecasts to you boat via Wi-Fi, satellite or SSB. Get detailed departure and weather routing plans right on the app. PredictWind or Offshore subscription required.

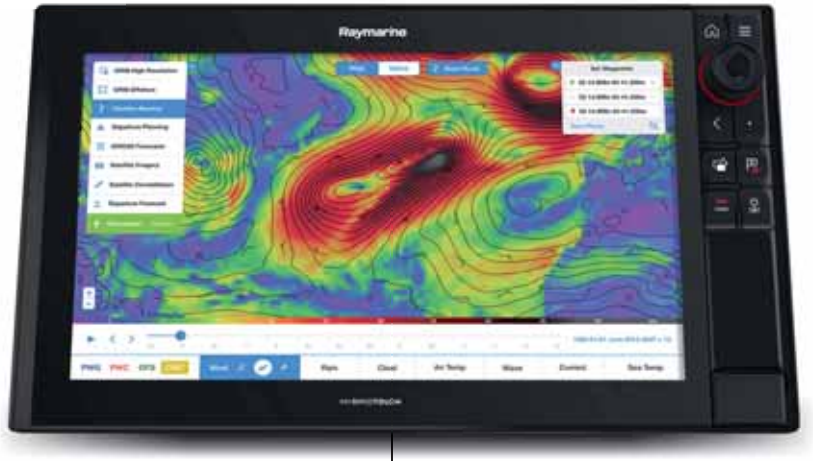
Racing Data Dashboard

LightHouse 3's new Racing Data Dashboard provides full-screen views of critical start line information. Race time, actual time, line distance, wind and layline information are all displayed in a manner that's big, bold and simple to understand.



Race Start Sidebar

LightHouse 3 now includes a convenient Racing Sidebar that can be displayed along the left edge of your MFD screen. Simply swipe from the edge to open it, and swipe back to close. The sidebar gives you instant access to race stats like timer, line distance, bias, and time to burn.



Polar Performance Data

LightHouse 3 includes polar performance data for hundreds of popular cruising and racing hulls. Choose your boat's make and model from our extensive library and enjoy optimized laylines specific to your boat.

Race Timer

LightHouse 3 now includes a Race Timer feature accessible from the racing sidebar, or racing data dashboard. Simply touch the timer to start the countdown, change the duration, or synchronize with official race timing.

CLEARCRUISE AR
AUGMENTED REALITY

ClearCruise™ AR is bringing enhanced on water perception to Raymarine's family of Axiom® multifunction displays.

Award-Winning Navigation Technology

Make Smarter Decisions

See critical navigation objects overlaid on HD video. Surrounding AIS-equipped vessel traffic and charted navigation aids are clearly identified with rich graphics on a live, dynamic video image.

Recognise and Respond to Nearby Marine Traffic

Colour-coded labels provide instant identification, status, and risk-assessment Live AIS Targets. ClearCruise AR provides positive identification of AIS equipped vessels on the horizon.

Understand Complex Navigational Situations

Major chart objects are identified for instant, heads-up recognition. ClearCruise AR technology shows you visually where your saved waypoints and marks are located.

See Waypoints in the Real World

Visualize nearby marks and waypoints for easy navigation. ClearCruise AR technology makes it easy to pick out the buoys marking the edges of the safe channel on a hazy day.

MULTIFUNCTION DISPLAYS AND SONAR/GPS

Raymarine navigation displays put you in command with the speed and simplicity of our LightHouse operating systems. Our Element series offer premium performance for every boater, and our award-winning Axiom® line brings the full power of Raymarine multifunction navigation into a single touch display or networked system.

1. Element Navigation Displays

Element combines reliable GPS and sonar with quad core speed and the simplicity of the LightHouse Sport OS.

Display Options	
Element 7	7.0" (800 x 480)
Element 9	9.0" (800 x 480)
Element 12	12.1" (1280 x 800)

2. Axiom Touchscreen MFDs

Award winning Axiom display feature RealVision® 3D sonar, powerful expansion capabilities, and intuitive LightHouse 3 OS touch screen control.

Display Options	
Axiom 7	7.0" (800 x 480)
Axiom 9	9.0" (800 x 480)
Axiom 12	12.1" (1280 x 800)

3. Axiom Pro HybridTouch MFDs

Axiom Pro is the MFD for captains that want it all. HybridTouch™ control, 1kW sonar, RealVision 3D and the power of LightHouse 3 OS.

Display Options	
Axiom Pro 9	9.0" (1280 x 720)
Axiom Pro 12	12.1" (1280 x 800)
Axiom Pro 16	15.6" (1920 x 1080)

4. Axiom XL Glass Bridge MFDs

Experience the simplicity and power of LightHouse 3 on the big screen. Flagship glass bridge displays, ready for your yacht or ocean cruiser.

Display Options	
Axiom XL 16	15.6" (1920 x 1080)
Axiom XL 19	18.5" (1920 x 1080)
Axiom XL 22	21.5" (1920 x 1080)
Axiom XL 24	24.0" (1920 x 1200)

ELEMENT S NAVIGATION DISPLAYS

The Element S series of navigation displays gives you the freedom to enjoy the open waters—Select your destination and let Element's fast and accurate 10Hz GPS/GNSS lead the way. Engineered for simplicity and affordable performance, Element S will quickly become your trusted cruising companion. A quad-core processor offers responsive performance and Element's all-weather, sunlight viewable displays deliver chart and navigation data in beautiful colour. Element's simple and straightforward LightHouse Sport operating system lets you navigate with confidence. Once underway, Element S will keep you on course with a smart list of user-friendly features, such as AIS target overlays, autopilot integration, and sailing instruments displays. Element S is also compatible with Quantum Wireless Radar.

Quantum CHIRP Radar

Element S helps to navigate congested waterways with increased awareness and confidence using an optional Raymarine Quantum wireless CHIRP radar or an AIS receiver. Quantum brings award-winning solid-state radar capability and Element S's AIS overlays intelligently identify approaching targets.

Simple and Straight Forward

Element's LightHouse Sport OS is designed for boaters that like to keep things simple. The LightHouse Sport OS and Element's ergonomic keypad are easy to customize, and an oversized waypoint key allows for quick marking of your favourite locations, plus three user-programmable quick keys provide access to your favourite pages with one button push.

Superior Performance

Enjoy legendary Raymarine performance at an affordable price with 7, 9, and 12 inch super-bright displays for all weather conditions. Element features a fast quad-core processor, for quick chart redraw and responsive performance coupled with a precision 10hz GPS/GNSS sensor. Element is backed by Raymarine's three-year warranty (product registration required).

AXIOM TOUCHSCREEN MULTIFUNCTION DISPLAYS

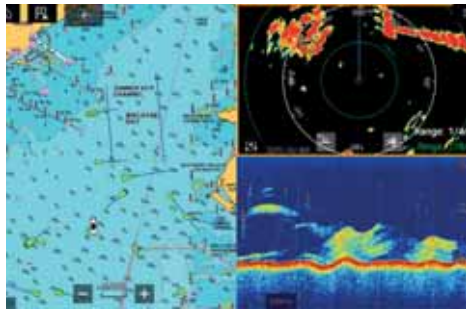
Axiom is expandable, so its capabilities can grow, as needed. It supports the full range of Raymarine accessories, including Quantum radar, CHIRP Sonar, FLIR thermal cameras, audio integration, instruments, cameras, and Evolution autopilot. Standard Wi-Fi and Bluetooth connectivity allows connection to the latest Raymarine apps for tablets and smartphones.

Award Winning Performance

Axiom's intuitive LightHouse 3 operating system, quad-core performance, and innovative technologies like ClearCruise Augmented Reality, Quantum Doppler radar, and RealVision 3D have earned Axiom multiple prestigious industry innovation awards.

Expandable

Connect Axiom with Quantum radar, FLIR thermal cameras, instruments, Evolution autopilots and much more. Wi-Fi and Bluetooth connect you to the latest Raymarine LightHouse Apps and entertainment. Axiom also networks seamlessly with Axiom Pro and Axiom XL displays so you can build a custom Raymarine navigation system that fits your needs.



Sonar Built-In

See the underwater world in an entirely new way with Axiom's available CHIRP DownVision, SideVision, and RealVision® 3D sonar. Axiom also supports high-frequency CHIRP and 600-watt, dual-frequency digital sonar. Alternatively, Axiom displays are available in GPS chartplotter only versions.

Rugged All Glass Display

Axiom is available in 7, 9 or 12-inch sizes to fit any vessel. Axiom's rugged all-glass display is optimised for flush or surfacing mounting and looks great on any helm. Raymarine's super-bright LED display technology with optical bonding delivers superior visibility day or night.

AXIOM PRO HYBRIDTOUCH DISPLAYS

Axiom Pro is engineered for captains that want it all. Available with RealVision 3D, 1kW CHIRP sonar, and Raymarine HybridTouch control, Axiom Pro is the new standard for “all-in-one” display. And with a blazing fast quad-core processor, a super bright IPS display, and the smart LightHouse OS, Axiom Pro delivers a fluid and intuitive navigation experience. Axiom Pro is easy to expand into an advanced navigation network that includes multiple Axiom displays, Quantum Doppler Radar, Evolution autopilot, FLIR thermal night vision technology, and more.

HybridTouch

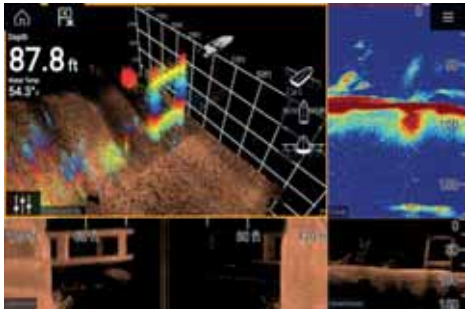
Axiom Pro puts you in control with its intuitive HybridTouch control system. A responsive multi-touch touchscreen display provides Smartphone-simple operation, while an integrated rotary controller, cursor pad, and keypad give you confident control when seas get rough.

Rugged and Bright

Axiom Pro employs In-Plane Switching (IPS) display technology for ultra-wide viewing angles, superior colour, and excellent compatibility with polarised lenses. See every detail above and below the water line in stunning high definition with Axiom Pro's super bright, optically bonded displays.

Cruise Like a Pro

Available in 9, 12 and 16-inch sizes, Axiom Pro is at home on premium cruising power and sailboats and advanced networking lets you integrate Quantum and Magnum radars, FLIR cameras, and Evolution autopilots. Mix and match any combination of Axiom, Axiom Pro, and Axiom XL for even greater flexibility when outfitting navigation tables, flybridges, and other locations on board.



Sonar Built-In

Axiom Pro is ready to explore anywhere with available built-in 1kW CHIRP, RealVision 3D, DownVision, and SideVision sonar. Axiom Pro models are also available with a single channel high CHIRP sonar for captains looking for basic sonar imaging and reliable depth reading performance.

AXIOM XL
FLAGSHIP GLASS BRIDGE TOUCHSCREEN DISPLAYS

Designed for glass bridge installations, Axiom XL displays offer superior performance, large format visibility and elegant simplicity. Engineered to perform in extreme conditions, the fully waterproof Axiom XL family of glass bridge MFDs can be installed in both open cockpits and enclosed bridge stations. Each model uses in-plane switching technology (IPS) and Raymarine optical bonding to deliver wider viewing angles, sharp contrast, and unmatched readability in bright sun.

Flagship Performance

Axiom XL is Raymarine's largest and highest-performing family of multifunction navigation displays. Choose from 16, 19, 22 or 24-inch sizes with all-glass construction and full-HD displays. Axiom XL is right at home on the helms of luxury yachts and high-performance cruisers.

Advanced Video Integration

Axiom XL is the pinnacle of video and system integration. View and control a remote personal computer right from the helm with Axiom XL's HDMI input and USB touchscreen control or project Axiom XL to a remote monitor with HDMI output. Three power over Ethernet (POE) ports enable simple connectivity of IP cameras for security and ClearCruise Augmented Reality navigation.

Elegant Simplicity

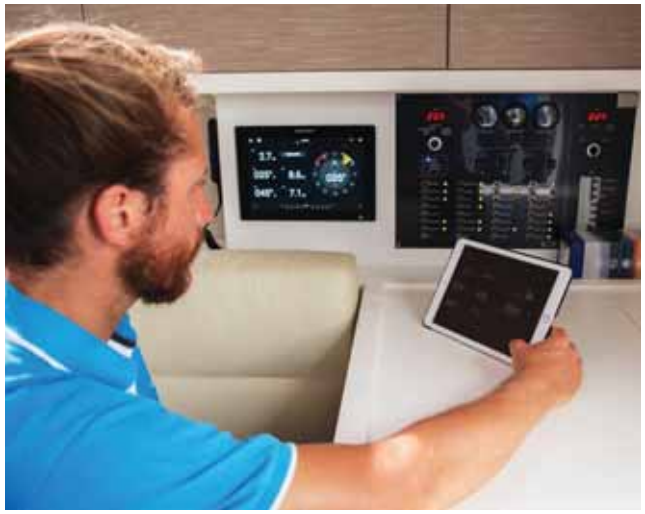
Axiom XL displays are powered by Raymarine's LightHouse 3 OS and offer a fast, fluid, and uncluttered interface that is easily personalised for your navigation style. Enjoy multi-touch screen control or add the Raymarine RMK-10 keypad for complete remote system control.

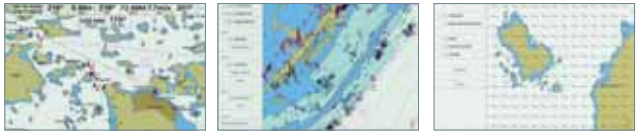
Glass Bridge

Axiom XL delivers superior performance and large format visibility. Axiom XL displays offer flexible surface mount or true flush mount capability for a true Glass Bridge experience. Axiom XL is engineered to give you the largest possible display with the smallest overall footprint. This allows a true big-screen presentation even on tight helms.

CHARTS AND MOBILE APPS

Raymarine navigation displays give you the power to explore, plan, and navigate the open water, with confidence. High definition displays and quad-core performance brings electronic charts from leading map makers to life. Enjoy fully-featured vector charts, high-quality raster charts, plus advanced features like 3D maps, satellite overlays, and automatic routing options.





Navionics Charts

Navionics charts are the essential cartographic reference for boaters worldwide with accurate and thorough maps of oceans, lakes and marine areas. Create your own maps with SonarChart live, sync your waypoints and routes with the Navionics Boating App or get to your next destination with Dock-to-dock auto-routing.

Ask your Raymarine dealer about purchasing Navionics bundled with an Axiom, Element or Dragonfly.

C-MAP Charts

C-MAP, a leader in professional and leisure digital nautical charts, is world renowned for accurate and easy to understand chart products, including C-MAP Essentials and 4D-MAX+ premium marine charts. Enjoy advanced features like 3D view, satellite overlay, and raster chart support.

Explore the complete C-MAP chart offering at c-map.com

Raymarine LightHouse Charts

Raymarine LightHouse Charts are a library of raster and vector digital map products from Raymarine and leading map makers like IMRAY, Delius Klasing and Solteknik HB. Visit raymarine.com/MarineCharts to explore the complete library LightHouse Chart options.

SeaPilot

Now part of the Raymarine family, the Seapilot mobile app combines professional grade navigation features with a simple and uncluttered user experience. A full-featured navigation app, Seapilot offers waypoint and route planning and navigation, AIS overlays, GRIB weather and advanced auto routing.

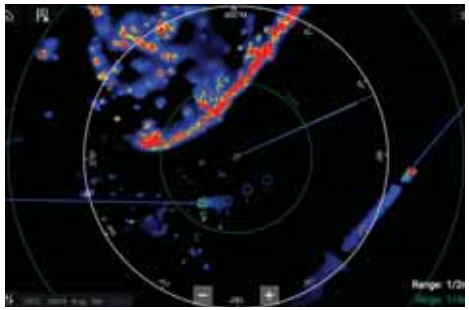
Try Seapilot today. Available on iOS at the Apple App store and for Android on Google Play store.

MARINE RADAR ANTENNAS

Day and night, radar systems from Raymarine keep you aware of surrounding traffic, hazards and obstacles, approaching weather and so much more. Use your radar to navigate in dense fog or rain. Confirm your boat's position with super-accurate radar ranges. Let MARPA help you navigate safely through a crowded harbour. Enjoy map-like coastal detail when cruising offshore. Raymarine offers a wide range of radar solutions for all types and sizes of boats.

Quantum Radars

Raymarine Quantum™ radar, with CHIRP pulse compression technology, offers superior radar imaging, low power solid-state radar performance, and simple installation. Choose the basic Quantum for reliable solid-state radar performance or step up to Quantum 2 with Doppler enhanced target identification.

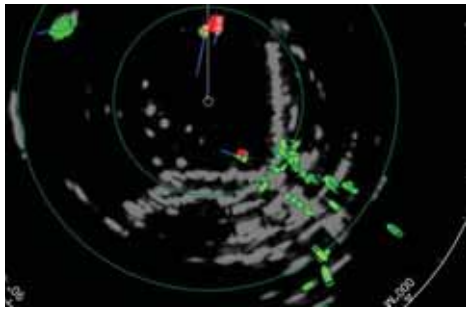


Compact Performance

Quantum radars use solid-state CHIRP pulse compression technology to deliver superior target awareness at both long and extremely short ranges. FLIR's exclusive ATX™ advanced target separation technology displays targets like boats, buoys, and landmarks with exceptional resolution and separation quality.

Energy Efficient

Quantum radars solid-state technology consumes very little power, making Quantum especially friendly to vessels running on battery power. Solid-state radar technology also generates very low radiated emissions.



Quantum 2 with Doppler

Quantum 2 with Doppler elevates your awareness by detecting radar frequency shifts returned by moving versus stationary targets. Quantum 2 then colour codes inbound targets red (dangerous) and outbound targets green (safe), making it easy to discern potentially hazardous situations when navigating in high-traffic areas.

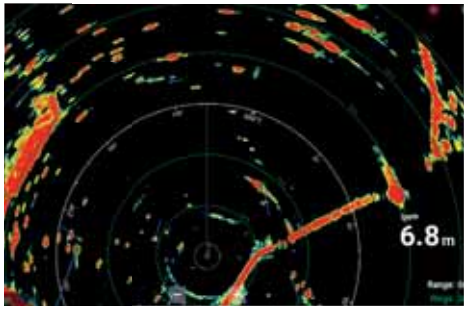
Simple Installation

With every Raymarine Quantum system, you'll also benefit from a rugged and lightweight design that is easy to install. Quantum 2 can be installed in a traditionally wired configuration, or use built-in Wi-Fi technology to connect directly to your Raymarine MFD.

OPEN ARRAY
RADAR

Magnum Open Arrays

Magnum™ high-performance open array radars bring long-range performance and enhanced small target radar imaging to Raymarine multifunction navigation displays. Employing many of the same radar technologies trusted by the United States Coast Guard, Magnum offers intelligent target tracking and reliable performance, all packaged in a sleek open array pedestal built to withstand the elements.

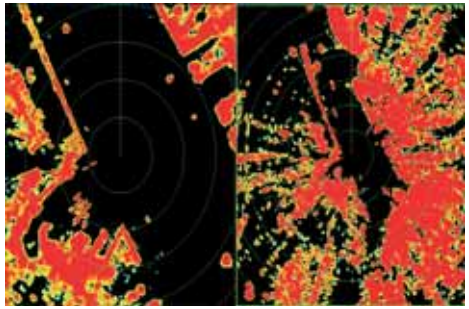


Long Range Performance

Magnum is available in 4kW or 12kW power output options and with either a four-foot or six-foot antenna array option. Magnum radars offer a maximum range up to 96nm for 12kW models – ideal for blue water vessels – and up to 72nm for 4kW models.

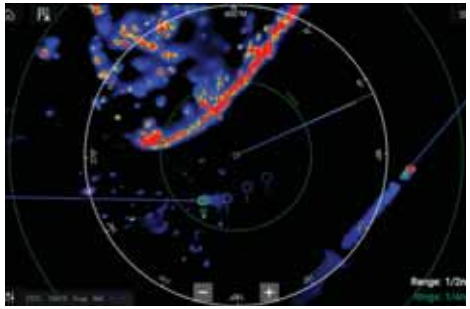
Choice of the Pros

Magnum radars are built upon the same radar technology Raymarine provides to the United States Coast Guard, so you can trust Magnum to deliver with professional features like beam sharpening technology for enhanced detail and bearing resolution. Combine Magnum with Axiom and take advantage of True Trails target history display and real-time heading updates.



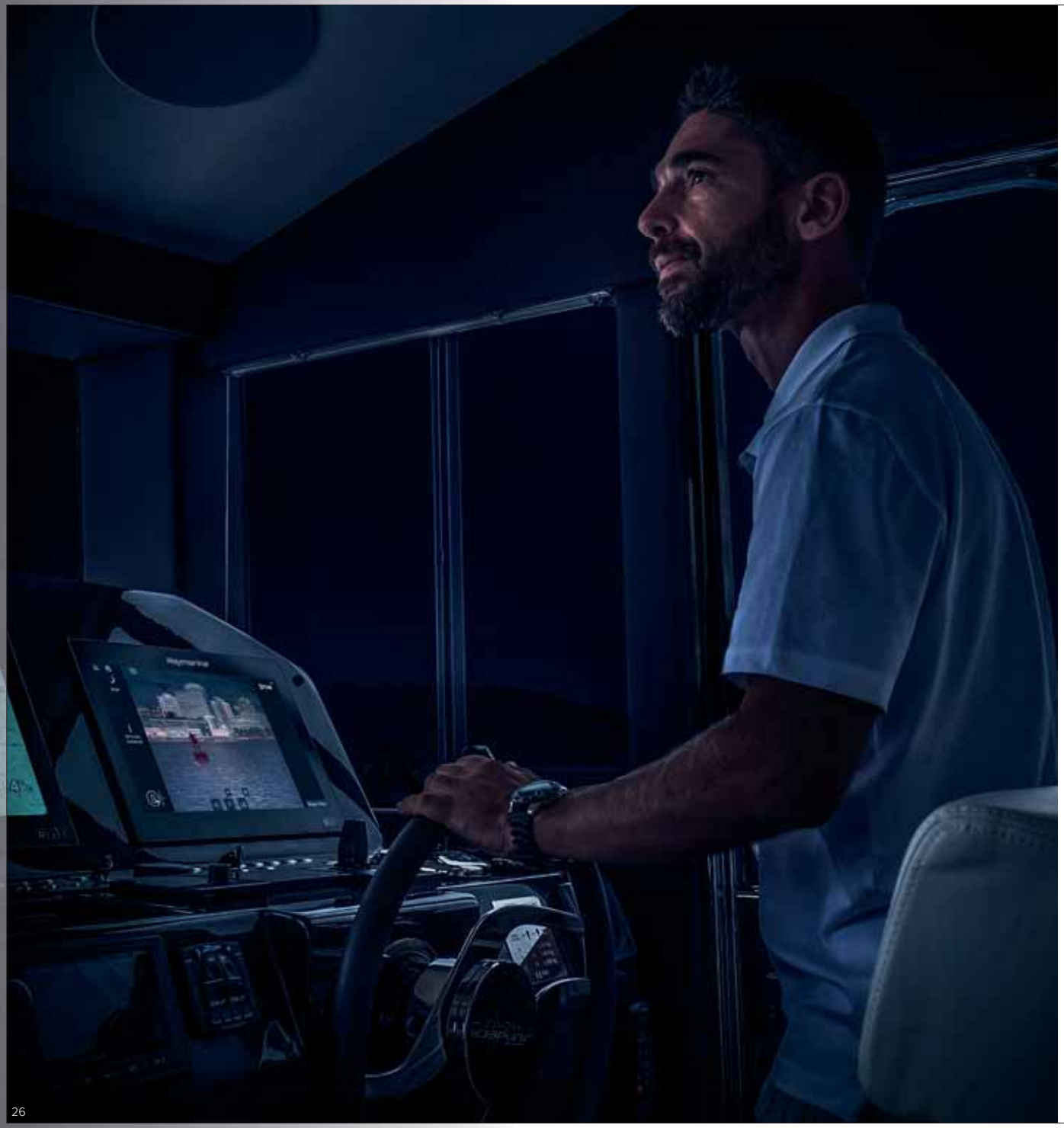
Essential Coastal Cruising Tools

Magnum radars feature dual-range scanning enabling them to work simultaneously at a short range scale for collision avoidance and a long range scale for coastal navigation. Magnum also has automatic 24 or 48 RPM antenna rotation speed for faster updates when tracking contacts at close range.



Enhanced Target Awareness

Magnum delivers better situational awareness with fully automatic MARPA target acquisition and tracking. Magnum also makes use of Raymarine's Evolution or AR200 9-axis heading sensor technology to provide real-time, accurate target plots.



FLIR THERMAL NIGHT VISION CAMERAS

FLIR maritime thermal imaging cameras turn night into day, keeping you safe and secure and letting you boat with confidence. From small boats to superyachts, FLIR offers leading-edge thermal cameras that are rugged, reliable and straightforward to use.

NEW

M300 Series

The M300 Series sets a new standard for safe marine navigation and situational awareness. Applying enhanced stabilization technology to high-performance visible, thermal, or multispectral imaging, M300 Series marine cameras deliver unwavering vision in high-stakes environments.

With options for any marine application, the M300 Series offers outstanding vision in the most gruelling conditions. Three unique sensor combinations on the M300 Series give captains total control over their vision. The M300C captures high definition visible imaging and uses a 30x optical zoom to monitor distant targets. M332 and M364 dedicated thermal cameras capture excellent vision in complete darkness, blinding glare, and light fog. The M364C and M364C-LR combine visible and thermal sensors, leveraging FLIR Colour Thermal Vision™ (CTV) and MSX™ for safest navigation and awareness.

Safer Navigation

The M300 Series makes nighttime navigation safer and less stressful. FLIR thermal technology gives captains the power to see clearly in total darkness, glaring light, and light fog.

FLIR Colour Thermal Vision® (CTV)

Exclusive FLIR Colour Thermal Vision blends visible camera details with a thermal image, overlaying vital colour imagery that allows captains to positively identify navigation aids and other vessels within the thermal scene.

M232

The FLIR M232 marine thermal night vision cameras takes affordability and easy integration to a new level. Combining 320x240 thermal resolution, video over IP, and ClearCruise IR technology into a compact housing, the M232 is the perfect addition to any Axiom navigation system.

Enhanced Awareness

Combine the M232 with a Raymarine Axiom MFD and take advantage of FLIR ClearCruise™ IR, intelligent thermal analytics. ClearCruise IR provides audible and visual alerts when “non-water” objects such as boats, obstacles, or navigation markers are identified in the scene.

M300 Lowlight camera image

M300 Series Thermal image

M300 Series Colour Night Vision

DIGITAL SWITCHING VESSEL SYSTEM CONTROL AND AUTOMATION

Digital switching systems replace traditional mechanical switches and circuit breakers on board a boat with digitally controlled power distribution modules. These modules are controlled from any LightHouse 3 based multifunction displays, from mobile devices, or programmable switch panels located anywhere on board.

Raymarine's LightHouse 3 multifunction displays work with digital switching systems from leading providers EmpirBus, CZone, and Böning Automation. When shopping for your next new boat be sure to ask which digital switching options are available.

Digital Power Distribution

Digital switching systems use rugged and compact digital circuit control modules instead of mechanical switches and breakers. Modules are typically customised to meet the exact needs of the system being controlled, and communicate with each other using NMEA2000 networking. With digital switching systems, boat builders can significantly reduce the size and length of cabling required to distribute power throughout the boat. This makes the boat lighter overall, and can also create a significant cost savings compared to a traditionally wired boat.

Mobile Devices

With Raymarine Control and Remote Apps, you can take control using a tablet or smartphone.

Elegant Simplicity

LightHouse 3 supports rich graphical controls for digital switching systems. The graphics can be extensively customised, creating an experience that is both powerful and simple to operate. Touchable graphics bring vessel systems to life and report status of critical systems at a glance. Macro controls can be easily created to perform normally complex operations with a few simple touches. Changes to the boat's systems can be easily accommodated with simple file updates.

INSTRUMENTS ANALOGUE AND DIGITAL

Raymarine instruments are world renowned for accuracy, innovative features and high-performance. From the space saving i40 series to the multifunction i70s series, there are Raymarine instruments available to fit every boater's requirements.

i40 Compact Instruments

i40 Depth, Speed, Bidata and Wind displays are compact but powerful and offer full integration with Raymarine autopilots and multifunction displays. i40 instruments have a built-in transducer interface and feature simple SeaTalk networking to other devices. Advanced integration to SeaTalk^{NG} and NMEA2000 networks is also possible using an optional adapter module.

i50 Depth and Speed

The i50 Depth and i50 Speed instruments are dedicated, data displays for sail and powerboats. Each i50 can host its own transducer or can be set up to repeat data from a different on board source. i50 instruments offer a super-wide viewing angle, excellent daytime visibility and adjustable red back lighting for night time use.

i50 Tridata

The i50 Tridata instrument combines the functions of the Speed and Depth instruments into a single display with 3-lines of information. Dual connections are provided for depth and speed transducers, or the Tridata can act as a repeater for data from another source. In addition to depth and speed Tridata displays water temperature, distance log, trip log, as well as speed over ground (when interfaced to a GPS receiver.)

i60 Wind and CH Wind

Designed primarily for sailing vessels, the i60 Wind and Close Hauled (CH) Wind displays offer an easy-to-read analogue needle display for wind angle along with a crisp LCD display for wind speed or force. The Wind instrument shows the relative wind angle through 180°, while the close hauled (CH) wind model shows an enlarged scale from 0° to 60° for close-angle sailing.

i70s Instrument

Raymarine's i70s instrument offers maximum visibility and versatility in an instrument display. Built with a 4.1" colour LCD display the i70s has all-weather optical bonding and bright LED back lighting for excellent viewing day or night.

The i70s has fully customisable pages capable of showing digital, analogue and graphical displays. Use your i70s to show parameters for depth, speed, wind, GPS, AIS, navigation, engine data, tank levels, environmental data, and much more.

i70s receives information from connected SeaTalk^{NG} or NMEA2000 sensors and devices. i70s can also network with i50, i60 and Raymarine Wireless instrument systems.

The i70s features a glass-bridge inspired design that complements Axiom multifunction displays. Optional snap-on bezels are also available to match other Raymarine instrument and MFD families.

Micro-Talk Gateway

The Micro-Talk Wireless Performance Sailing Gateway allows you the flexibility to mix-and-match any combination of wired or wireless Raymarine instruments, transducers, multifunction displays and autopilots. Whether you are building a new system from scratch, or expanding an existing system, the Micro-Talk Gateway enables performance-minded sailors to take advantage of the enhanced accuracy and installation convenience offered by Raymarine's wireless, solar-powered wind transmitter options.

Wireless for Cruising

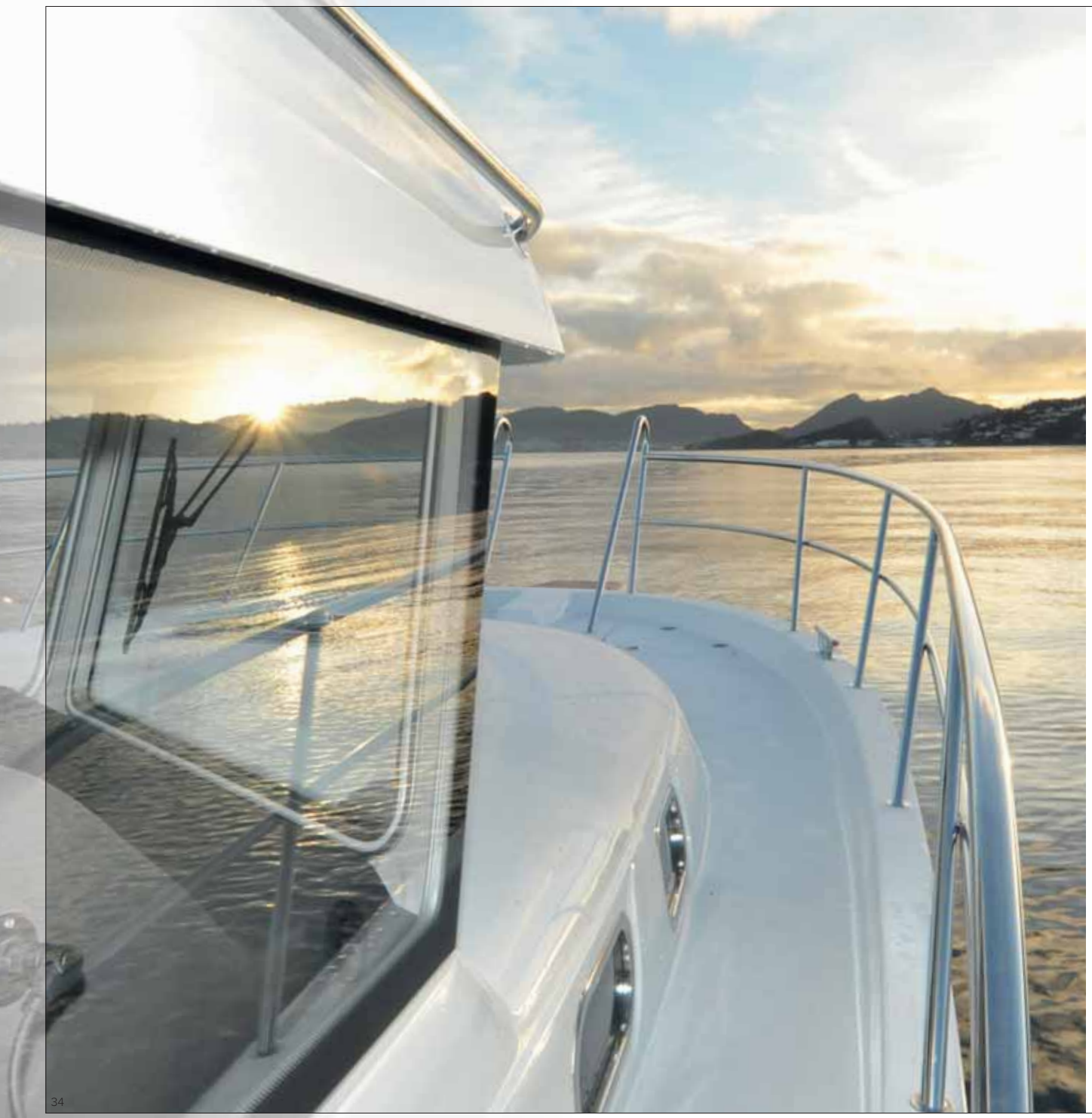
Raymarine's wireless instrument systems offer instant access to accurate depth, wind, speed and GPS data. The displays are simple to install, solar powered, and use Micronet wireless networking to communicate. Micronet MN100 series instruments include single line, dual-line and analogue wind display options. A wide selection of optional transducers, sensors and accessories are available to customise your system.

Wireless For Racing

Raymarine wireless instruments deliver a tactical advantage to the club racer or ocean navigator alike. In addition to navigation data, Raymarine wireless racing systems deliver polar data, true wind speed and angle, VMG, compass heading and more. Small screen, large screen and hand-held options ensure you have the data you need, where you want to see it.

Race Compass

Raymarine's Micro Compass and Racemaster compass systems give you the winning advantage with accurate, reliable readouts. The self-contained Micro Compass' tactical scale give you clear stable figures for port and starboard tacks. Racemaster is a two tier display that displays heading, wind shift indicator, line bias, and race timer. Both compasses are 100% solar powered, install in seconds, and can be easily removed for storage.



EVOLUTION AUTOPILOTS

With over 40 years of autopilot research and development, Evolution™ is the pinnacle of Raymarine autopilot technology. Designed for razor-sharp course keeping and steady control, Evolution autopilots require virtually no calibration or complicated setup. We offer a full range of Evolution autopilot systems to fit sailing yachts, outboard powered RIBS and luxury cruisers.

Visit raymarine.com/evolution to find the right autopilot for your boat or consult your local Raymarine electronics dealer to help you configure the perfect Evolution system.

Autopilot Perfection

Evolution's 9-axis EV sensor core now uses patented algorithms for improving the accuracy of measured wind conditions. Enhanced awareness of wind angle and wind speed allows Evolution to deliver crisp and responsive steer-to-wind control, giving both cruising and racing skippers the confidence to let Evolution take command in the most challenging conditions.

Track IQ™ Technology

Exclusive Evolution TrackIQ™ technology delivers best-in-class steer to GPS waypoint tracking. Patented Evolution algorithms and 9-axis gyro stabilisation compensates for the effects of sea conditions and vessel motion, enabling Evolution to make smoother steering commands and keep the vessel on a plotted GPS course with incredible accuracy regardless of boat size.

Selectable Performance

Evolution offers 3 selectable levels of performance to fine-tune ride quality and course keeping. **Leisure Performance** relaxes course keeping and places the emphasis on attaining a smooth and comfortable ride. **Cruising Performance** balances all-around accurate course keeping with excellent ride quality and **Race Performance** dials up the course keeping to maintain the tightest possible cross track error, at the sacrifice of some ride comfort.

Evolution Advantage

Raymarine Evolution Autopilots make your time on the water more efficient and more enjoyable. Evolution steers so accurately it can save fuel and get you to your destination faster. Spend less time chasing the compass and more time looking out for traffic and hazards. Evolution gives you the freedom to let go of the helm to trim sails, check the chart, and perform other watch keeping tasks.

Evolution autopilot systems consist of 3 major components:

Evolution Sensor Core

The EV sensor core is the heart of every Evolution system. More than just a compass it contains an aerospace-derived 9-axis gyro, heading system, and course processor. Evolution AI™ algorithms in the sensor core learn and adapt to your boat, wind and waves.

Drive Unit and ACU

The drive unit and actuator control unit (ACU) are the muscle behind Evolution that connects to your boat's steering system. Raymarine has a broad range of drive units to match almost any type of mechanical, hydraulic or steer-by-wire system.

Control Head or MFD

Evolution autopilots can be controlled from compact p70 or p70Rs colour control heads, or directly from networked LightHouse 3 multifunction displays. This gives you multiple options for where and how you'd like to be able to control your autopilot.

Cockpit Autopilots

EV-100 Autopilots are installed in the cockpit of tiller and wheel steered yachts and smaller power boats. An EV-100 system consists of an EV-1 Sensor, ACU-100 Autopilot Control Unit, Drive Unit and Control Head.

EV-100 Sail

The EV-100 wheel pilot comprises a fully enclosed wheel-drive for simple installation and superb autopilot performance.

Vessel Type: Sail
Max Displacement: 7,500kg
Drive Type: Wheel Drive

EV-100 Tiller

The Raymarine EV-100 Tiller Pilots are perfect for large tiller steered yachts up to 6,000kg (13,200 lbs) displacement.

Vessel Type: Sail
Max Displacement: 6,000kg
Drive Type: Tiller Drive

EV-100 Power

Perfect for vessels with single outboard engines and hydraulic steering, install the entire system above or below decks as required.

Vessel Type: Power
Max Displacement: N/A
Drive Type: 0.5L Hydraulic Pump

EV-150 Hydraulic

The EV-150 delivers superior autopilot performance for hydraulically steered boats, particularly those with outboard motors and rudder-reference less systems.

Vessel Type: Power
Max Displacement: N/A
Drive Type: Type1 Hydraulic Pump

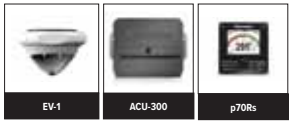
ST1000/ST2000

Removable Cockpit Autopilots for Tiller Steered Yachts. Tiller pilots have consistently been the world's most popular pilot.

Vessel Type: Tiller Steered Yachts
Max Displacement: 3,000kg - 4,500kg
Drive Type: Tiller

Inboard autopilots

The Evolution inboard range consists of autopilot packs designed to suit specific vessel types, steering systems and vessel displacements.



EV-200

The EV200 system pack controls vessels with any Type 1 drive unit (Hydraulic, Linear, Sail or Power).

EV-300 Solenoid

The EV300 system is for use with electric solenoids that control the vessels hydraulic steering system.

EV-400

The EV400 pack controls vessels with any Type 1 to Type 3 mechanical or hydraulic drive units.

EV-200 Drive-By-Wire

EV-2 has been designed for the latest drive-by-wire steering systems and connects directly to Raymarine's SeaTalk^{ng} bus.

Follow on Tiller

The follow on tiller autopilot controller brings fully functional power steering to remote and secondary control stations anywhere on board your boat, yacht or commercial vessel through your Evolution Autopilot Drive unit.

VHF RADIOS BE HEARD LOUD AND CLEAR

From compact VHF Radios to the ultimate all-in-one communications solution - we have a VHF Radio for every boater! You'll always be heard loud and clear with a VHF Radio from Raymarine. Whether it's our new compact Ray53, full-sized Ray63, or multifunction Ray90, you can depend on your Raymarine VHF Radio for years of trouble-free communication at sea.

RAY53

COMPACT VHF RADIO WITH BUILT-IN GPS

Ray53 is small in size, but big on features and performance. Class D Digital Selective Calling gives you critical distress, safety and convenience features while a built-in GPS/GNSS receiver with external aerial connection makes for simple installation.

RAY63

DUAL-STATION VHF RADIO WITH BUILT-IN GPS

Ray63 has all of the capabilities of the Ray53 on a full-sized radio chassis with a larger LCD screen and controls. Ray63 also supports a full-function RayMic wired remote control or up to 2 RayMic wireless control stations.

RAY73

DUAL-STATION VHF GPS, AIS, LOUDHAILER

Ray73 is Raymarine's deluxe traditional VHF radio packed with all of the powerful features of the Ray53 and 63, plus a built-in Automatic Identification System (AIS) receiver along with a loudhailer output. Add an optional hailing horn for fog signals and voice communication with on-deck crew.

RAY90 and RAY91

MODULAR MULTI-STATION VHF

Raymarine's Ray90 and 91 VHF radios bring multi-station communications to whole new levels of power, performance and flexibility.

Their black-box design hides the transceiver unit out of sight while offering simple operation from their compact handset stations.

Ray90 and 91 support up to 2 wired handsets/ speaker stations, plus up to 3 more wireless stations for simple installation and true walk-around convenience.

Ray91 adds a Class B Automatic Identification System receiver for enhanced awareness of surrounding marine traffic on your chartplotter and radar.

DOCKSENSE ALERT ASSISTED DOCKING TECHNOLOGY

DockSense Alert™ is the next generation of Raymarine's intelligent docking technology that works on nearly any boat. Using FLIR stereo vision camera technology, DockSense Alert detects and alerts the captain as obstacles come near the boat, and instantly notifies you when your boat is drifting into danger. Live video feeds from each camera make it simple to see into blind spots right from the helm.

DockSense Alert works with Raymarine Axiom multifunction displays and renders a simple birds-eye view of the boat and its surroundings. An array of 3D stereo vision cameras with advanced motion sensors accurately measure the distances to the dock, pilings, and other moored vessels.

Audible and visual cues alert you to excessive closure rates, and help you visualise the effects of internal and external forces like wind, current, propulsion and thrusters.

Configurable Proximity Alerts

DockSense Alert's adjustable alert zone lets you decide when you want to receive audible and visible cues to warn you of objects in close proximity.

3D Stereo Vision Sensors

DockSense Alert uses patented FLIR 3D stereo vision cameras to precisely measure the distance to and height of objects in the camera's field of view.

Integrated with LightHouse 3

The DockSense Alert App for Axiom gives you a detailed overhead view of the scene, proximity warnings and alerts, plus detailed live views of your boat's blind spots.

DockSense Alert gives captains the confidence to dock in challenging conditions at any dock, in any location. Unlike other docking assistants, DockSense Alert is entirely self-contained. No external beacons or sensors need to be attached to the dock or pilings. Everything you need is built into your boat and works everywhere your boat goes.

Note: DockSense Alert is available as a factory-installed option on select new boat brands. Ask your dealer about DockSense Alert for your new boat.

ACCESSORIES
& PERIPHERAL PRODUCTS

AIS (Automatic Identification System)

Automatic Identification Systems (AIS) enable vessels and shore side tracking stations to wirelessly exchange identification, position, course, speed and more. Your Raymarine MFD can show this information right on your chart, radar and augmented reality displays to improve awareness and reduce the risk of collision.

AIS650 AIS Transceiver

The AIS650 is a class B AIS transceiver allowing you to transmit your data to other AIS equipped vessels, and receive their data.

AIS350 AIS Receiver

Raymarine's AIS350 is a receive-only AIS device that allows you to receive and display the AIS data transmissions from nearby vessels.

AIS700 AIS Transceiver

The AIS 700 is a Class B AIS transceiver with a built-in antenna splitter that allows the AIS to share an antenna with your VHF marine radio many vessels.

AIS4000 AIS Transceiver

The AIS4000 boasts a high definition colour display for quick access to integrated charts, alarms, and tracking. Additional support for wired and wireless networking with shipboard systems make AIS4000 a premier SOLAS and Inland Waterway-certified Class A transceiver.

ACCESSORIES & PERIPHERAL PRODUCTS

ITC-5

The Raymarine iTC-5 converts analogue transducer signals used in i70, ST70+ and ST70 instrument systems to SeaTalk^{ng}.

CAM210 / CAM220

Ruggedised, High Definition, Day and Night network bullet video camera suitable for all above deck applications. Integrated sun-cover for maximum visibility and small frame size for easy installation anywhere on the boat.

AR200

The AR200 is an Augmented Reality Sensor consisting of a GPS/GNSS receiver and Attitude and Heading Reference System (AHRS) sensor. The AR200 provides position, heading, pitch and roll data to compatible Axiom MFDs.

When combined with a compatible IP camera the AR200 enables use of the ClearCruise™ Augmented Reality features available on your Axiom MFD.

Marine Audio

Raymarine's Axiom multifunction displays powered by LightHouse 3 OS can integrate seamlessly with marine audio systems from Rockford Fosgate, FUSION and JL Audio. Using NMEA2000 networking you can remote control your AV system right from your Raymarine displays.

Satellite TV

Our antenna systems automatically track and receive satellite TV signals in almost any conditions - guaranteed quick, clear, reliable access to hundreds of digital channels.

Available with 33 cm, 37 cm, 45 cm and 60 cm dish diameters.

Transducers

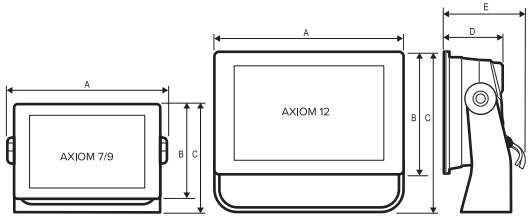
Raymarine offers a wide range of depth, speed and temperature transducers that work with instruments, multifunction displays and sonar modules. Transducers are available in transom mount, in-hull, or through hull configurations. Transducers are manufactured from plastic composite, bronze or stainless steel to fit practically any boat on the water.

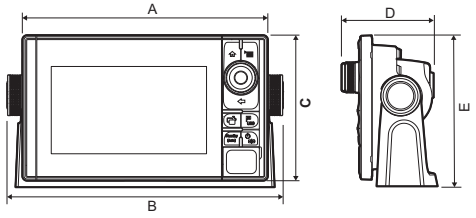
Wired Remote

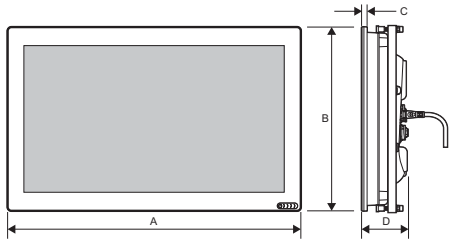
The compact RMK-10 remote keypad works with any LightHouse 3 OS multifunction display and puts control right where you need it. With horizontal or vertical mounting options and a compact footprint it fits just about anywhere above or below decks.

DIMENSIONS
BASIC PRODUCT SIZE DATA

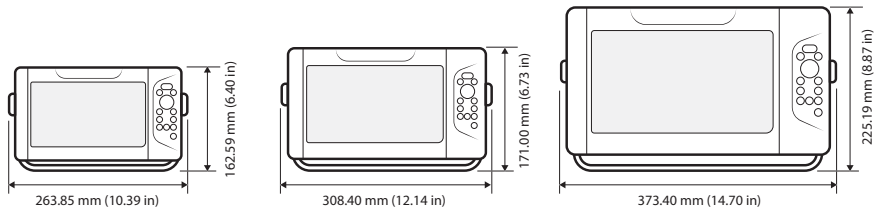
AXIOM, AXIOM PRO, AND AXIOM XL DIMENSIONS																				
	AXIOM 7		AXIOM 9		AXIOM 12		AXIOM PRO 9		AXIOM PRO 12		AXIOM PRO 16		AXIOM XL 16		AXIOM XL 19		AXIOM XL 22		AXIOM XL 24	
	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in
A	250.4	9.86	265.03	10.43	314	12.36	299.32	11.78	358	14.1	452	17.8	394.9	15.55	462	18.18	533.5	21.00	578.4	22.77
B	133	5.24	157.78	6.21	217	8.54	329.5	12.97	388.5	15.3	–	–	248.2	9.77	289.4	11.4	326.3	12.85	386.8	15.23
C	162.5	6.4	187.8	7.39	226.8	8.93	173.8	6.84	222.8	8.77	258	10.2	9.0	0.35	9.0	0.35	9.0	0.35	9.0	0.35
D	76.4	3.0	76.71	3.02	76.20	3.0	97.9	3.85	96.3	3.79	101.8	4.0	74	2.91	74	2.91	76	3.0	76	3.0
E	218	8.59	170	6.69	170	7.08	186.2	7.3	246.13	9.69	–	–	–	–	–	–	–	–	–	–



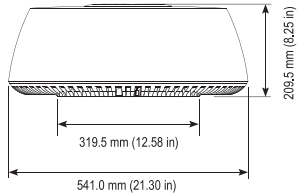




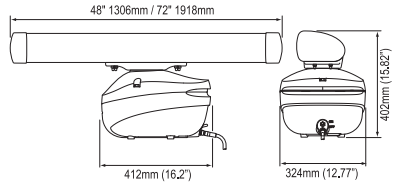
ELEMENT



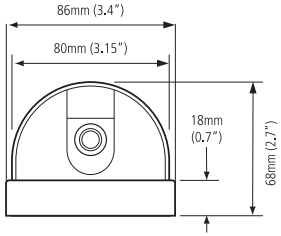
QUANTUM RADAR



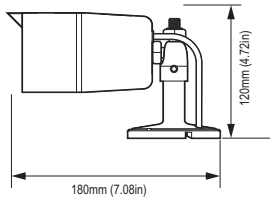
MAGNUM RADAR



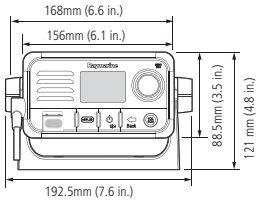
CAM220IP



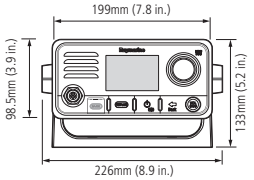
CAM210IP



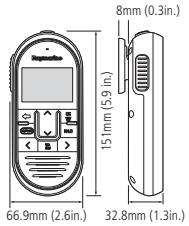
RAY53



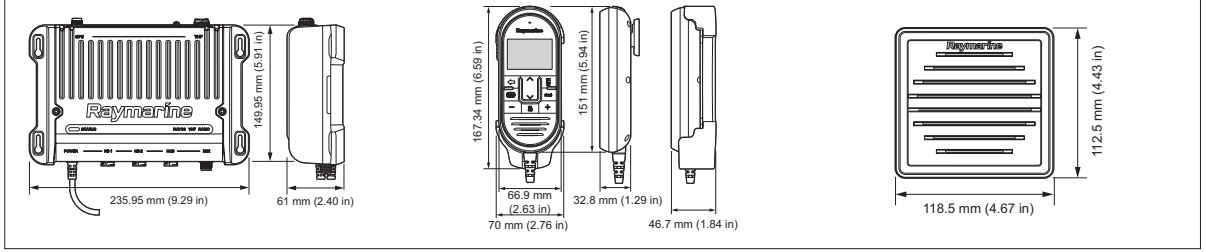
RAY63/73



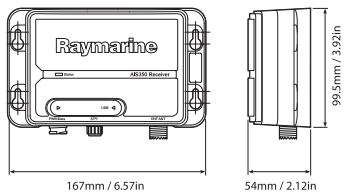
RAYMIC



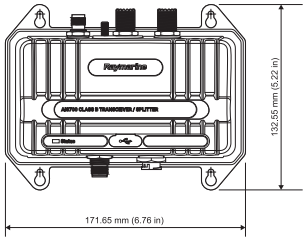
RAY90/91



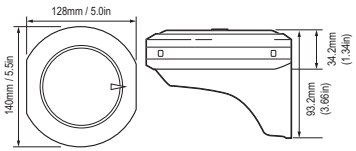
AIS350/650



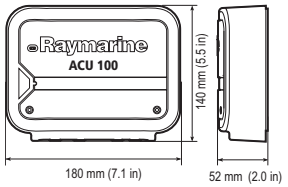
AIS700



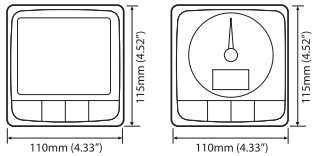
EV1 / EV2/AR200



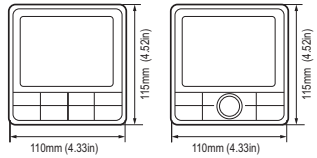
ACU 100/150



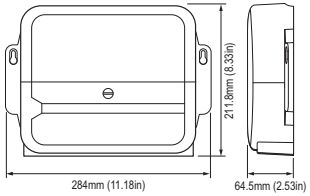
i50 / i60 / i70



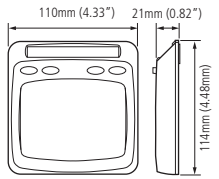
p70s / p70Rs



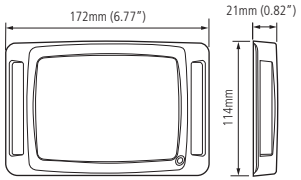
ACU 200/300/400



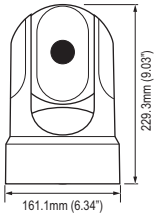
T100



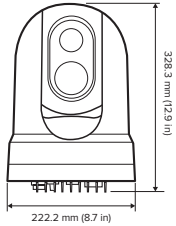
T200



M232



M300



Safety Notices

Raymarine products are intended to be used as aids to navigation and must never be used in preference to sound navigational judgement. Their accuracy can be affected by many factors, including environmental conditions, equipment failure or defects, and incorrect installation, handling or use.

Only official government charts and notices to mariners contain all the current information needed for safe navigation, and the captain is responsible for their prudent use. It is the user's responsibility to use official government charts, notices to mariners, caution and proper navigational skill when operating any Raymarine product.

Content Note

The technical and graphical information contained in this brochure, to the best of our knowledge, was correct as it went to press. However, the Raymarine policy of continuous improvement and updating may change product specifications without prior notice. Therefore, unavoidable differences between the product and this brochure may occur from time to time, for which liability cannot be accepted by Raymarine.

Some images in this brochure have been used for illustration purposes only.

Export Restrictions

The information contained in this brochure pertains to dual use products controlled for export by the Export Administration Regulations (EAR). Diversion contrary to US law is prohibited. US Department of Commerce authorization is not required prior to export or transfer to foreign persons or parties unless otherwise prohibited.

Photography

The lifestyle photography used in this brochure is supplied by: Ice Yachts / Pirelli RIB / Targa / Faster / Galeon / Joe McCarthy / Boston Whaler / Silver / Azimut / Contest Yachts / Leopard - Rob Kamhoot / Kuster Yachts / Saffier Yachts / Vanquish / Beneteau - Guido Cantini / Sundeck / Matt Dickins / Rob Kamhoot / Juho Karhu / Frauscher / Dufour / Viknes / Leopard Catermarans

FLIR Maritime Belgium Bvba
Luxemburgstraat 2,
2321 Meer,
Belgium
T: (+32) (0) 3665 5162

Raymarine UK Limited
Marine House
Cartwright Drive, Fareham, PO15 5RJ,
United Kingdom
T: (+44) (0)1329 246 700

FLIR Maritime US Inc.
9 Townsend West
Nashua NH 03063
United States of America
T: (+1) 603-324-7900

FLIR Maritime Asia Pty Ltd
Suite 1.01, 26 Rodborough Road
Frenchs Forest, NSW, 2086,
Australia
T: (+61) (0) 2 8977 0300

Raymarine Benelux
Florijnweg 21G,
6883 JN VELP
Nederland
T: (+31) 26 361 4242

Raymarine Denmark
Centervej 7
4600 Køge
Denmark
T: (+45) 4371 6464

Raymarine Finland Oy
Suomalaistentie 1-3
02270 Espoo
Finland
T: (+358) 207619937

Raymarine France
Parc d'Activités des Peupliers
37 Rue des Peupliers, CS 50007
92752 Nanterre Cedex - France
T : (+33) 146497230

Raymarine Germany GmbH
Borsteler Chaussee 53,
22453 Hamburg,
Germany
T: (+49) 40 237 8080

Raymarine Italy Srl
Via L. Manara 2,
20812 Limbiate (MB),
Italy
T: (+39) (0)2 99451001

Raymarine Norway
Stasjonsveien 19
1580, Rygge,
Norge
T: (+47) 69 26 46 00

Raymarine Sverige AB
C/O Flir Systems AB
Antennvägen 6,
BOX 7376,
187 66 TÄBY
T: (+46) 317 633670

Raymarine®

a brand by FLIR®

19-2569-MAR CRUISING V1.0 **UK**
LIT70280