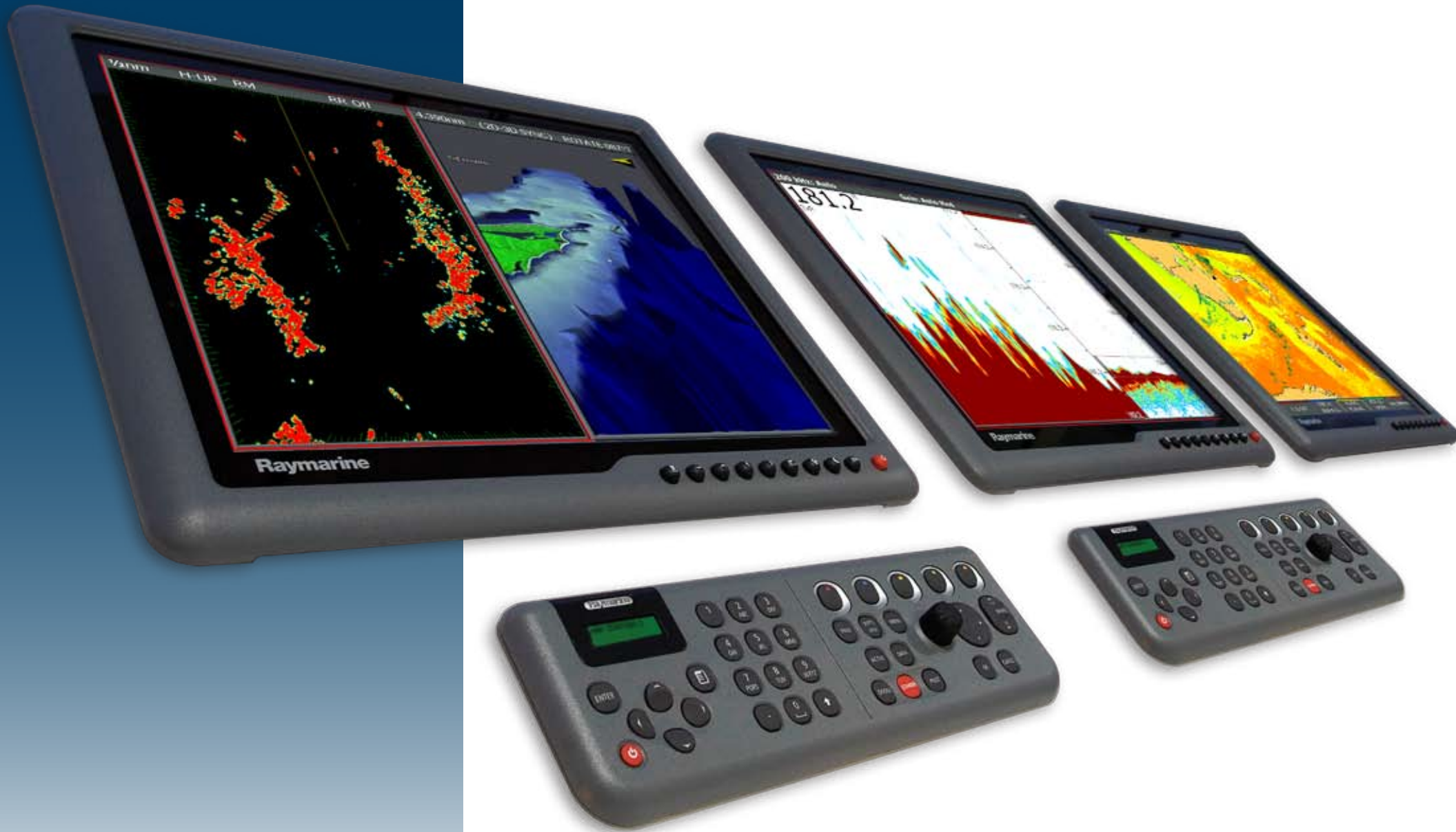


G | S E R I E S

Raymarine®



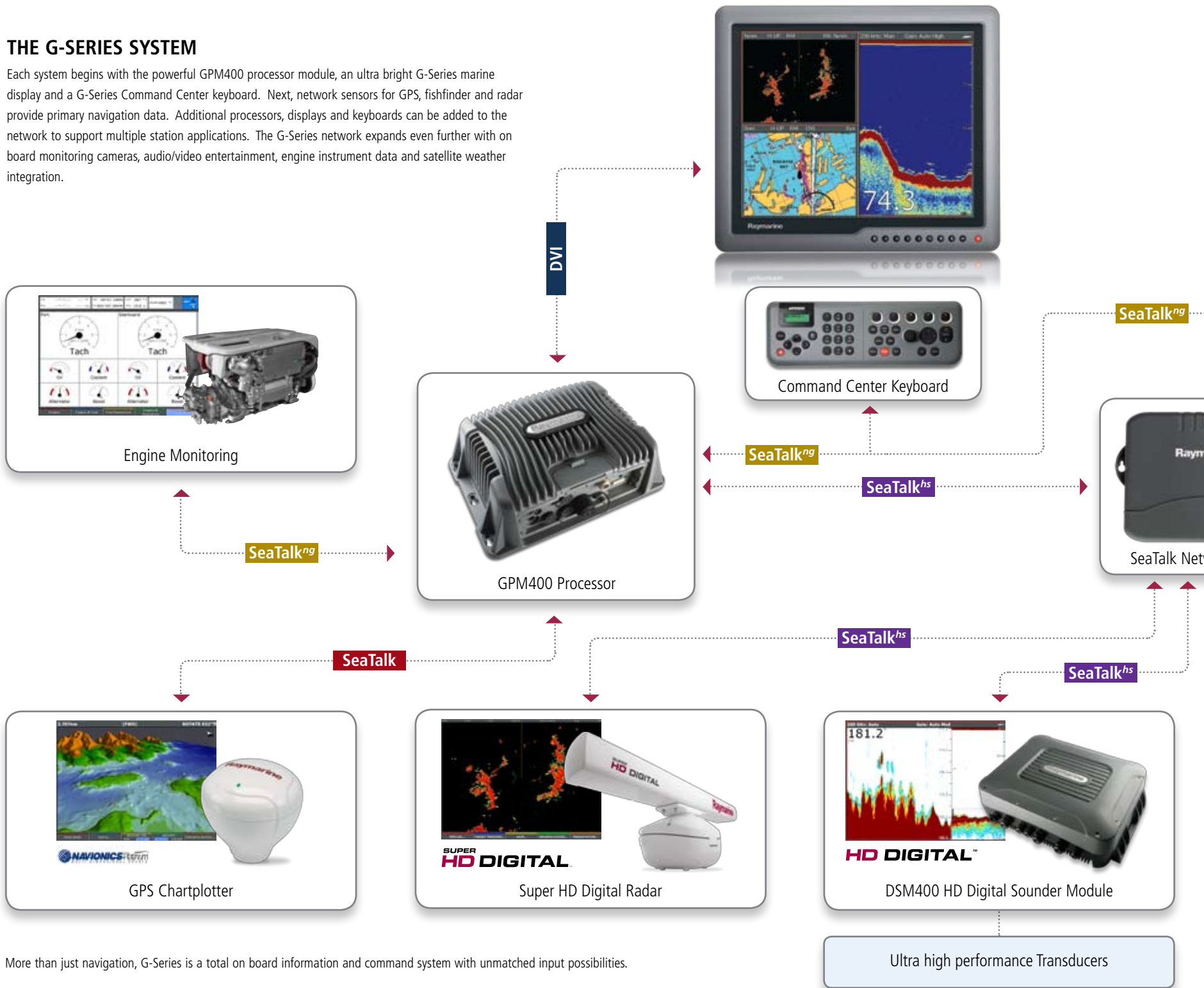
## **G-Series Navigation System**

**Our premier navigation system, G-Series is a multifunction helm solution that combines ultra bright displays, remote keyboards, and powerful processors with network sensors for radar, fishfinder, GPS, weather, and video.**



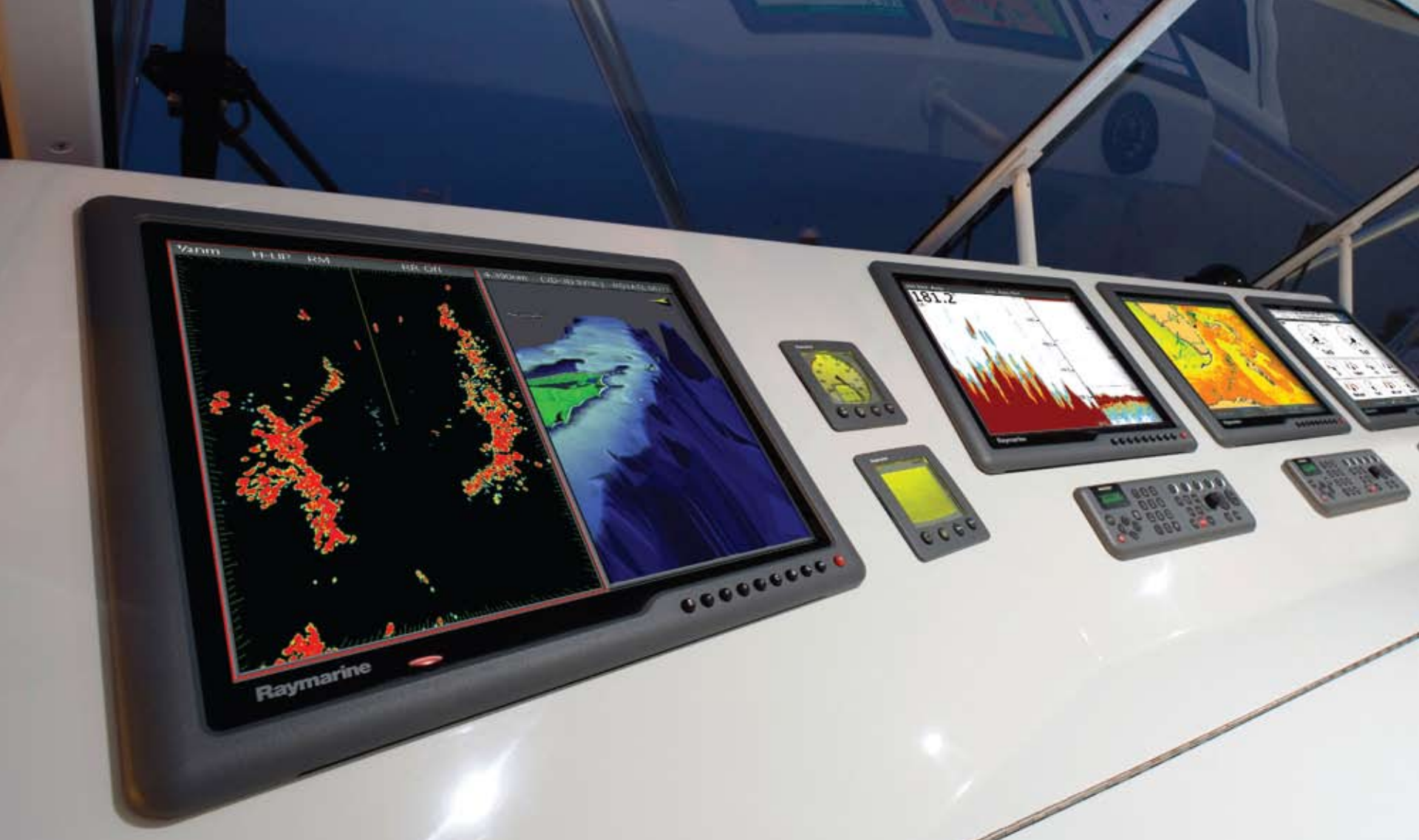
# THE G-SERIES SYSTEM

Each system begins with the powerful GPM400 processor module, an ultra bright G-Series marine display and a G-Series Command Center keyboard. Next, network sensors for GPS, fishfinder and radar provide primary navigation data. Additional processors, displays and keyboards can be added to the network to support multiple station applications. The G-Series network expands even further with on board monitoring cameras, audio/video entertainment, engine instrument data and satellite weather integration.



More than just navigation, G-Series is a total on board information and command system with unmatched input possibilities.





**BIGGER**

**FASTER**

**SMARTER**



Marine Display and Command Center Keyboard



GPM400 Processor Module

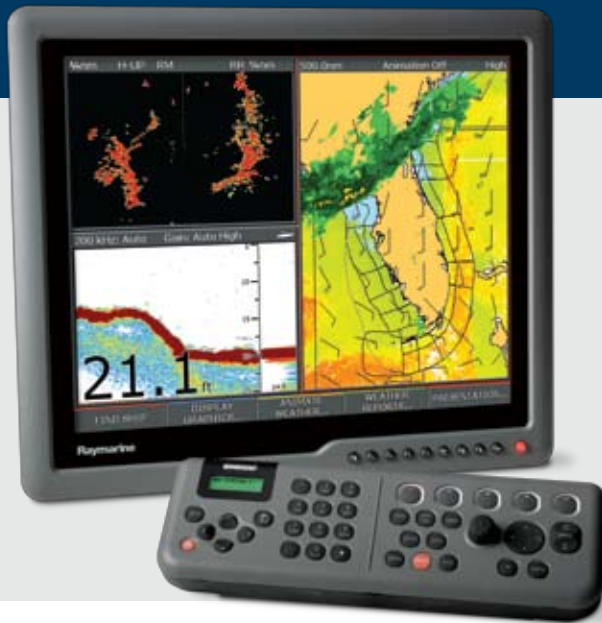


Super HD Digital Radar



DSM400 Digital Sounder Module

# COMMAND CENTER KEYBOARD



## TOTAL SYSTEM CONTROL

- Command Center keyboard controls multiple GPM400 processor modules and display combinations
- LCD identifies each nav station and display in use
- Eliminates the need for external video switches by controlling each G-Series marine display's video inputs remotely
- Low profile flush mount or optional wireless kit
- Intuitive color coded softkey interface and convenient alphanumeric keypad
- Built-in Raymarine autopilot control - engage the autopilot from within the G-Series interface\*

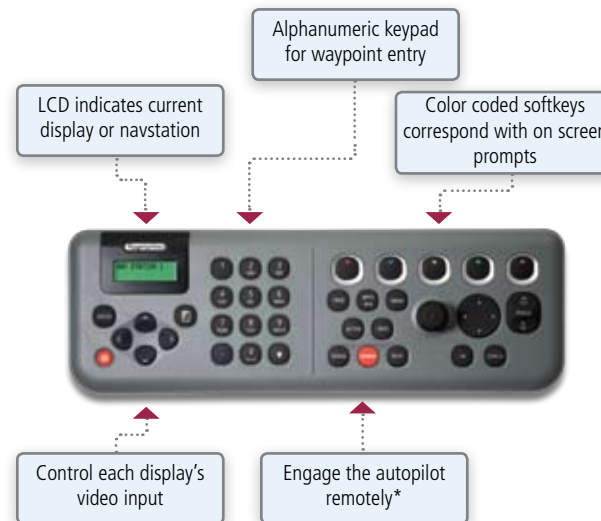
## G-SERIES KEYBOARD

The intuitive G-Series Command Center keyboard provides the captain an elegant interface to all points on the network. There is no need to reach for multiple controls; a single keyboard serves as the total point of control for the entire system, including multiple displays and processors. Alternatively, multiple keyboards can be added to the system for even greater flexibility.



## WIRED OR WIRELESS

Choose the wireless G-Series Command Center keyboard option for the convenience of navigating with G-Series at remote displays or flat screen televisions.



## DIMENSIONS



\*Requires a complete Raymarine autopilot system

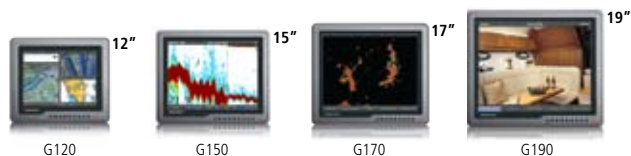


## HIGH DEFINITION NAVIGATION

- Ultra bright sunlight viewable display technology
- High resolution displays in four sizes to fit a variety of applications
- 9 video inputs
- Direct access keys for each video input source
- Low profile mounting
- Remote control of video input, power and brightness from the G-Series Command Center keyboard
- Picture In Picture with the ability to re-size and reposition the second window anywhere on the display

## ULTRA BRIGHT DISPLAYS

Each G-Series marine display delivers brilliant color and a wide viewing angle thanks to Raymarine's ultra bright sunlight viewable display technology. These rugged marine displays feature an impact resistant glass fascia that is bonded to the LCD to eliminate condensation and improve contrast. Adjustable backlighting and a convenient night mode ensure maximum visibility in all conditions.



## BIG SCREEN. SMALL FOOTPRINT

G-Series marine displays are available in 12, 15, 17 or 19" versions. Each display features a rugged aluminum, low profile bezel that looks great on any helm, plus the thin bezel design offers maximum display area in a small footprint.

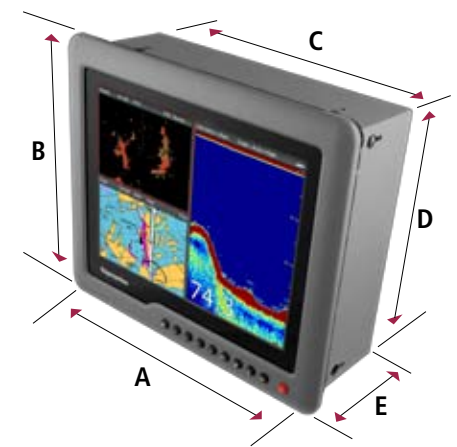
## MAXIMUM RESOLUTION

Using DVI video output, the GPM400 and G-Series marine displays enable navigation with 3D charts, radar, and fishfinder in native resolutions up to 1280 x 1024 (G170 and G190 displays only). Plus video cameras and on board entertainment are delivered with eye-popping, high definition clarity.

## NINE VIDEO INPUT PORTS

Each G-Series marine display features unmatched video input options, including 3 VGA, 2 DVI, 3 composite video and 1 S-Video input port. Direct access softkeys on the display provide easy access to each video input. Alternatively, the G-Series keyboard offers remote control of each display's video input source.

## DIMENSIONS



Dimensions - in (mm)

Display	A	B	C	D	E
G120 - 12"	13 (330)	11.18 (284)	12.08 (307)	10.10 (257)	4.64 (118)
G150 - 15"	14.97 (380)	12.39 (315)	14.07 (357)	11.50 (292)	4.64 (118)
G170 - 17"	16.34 (415)	14.10 (358)	15.51 (394)	13.19 (335)	3.94 (100)
G190 - 19"	17.87 (454)	15.31 (389)	17 (432)	14.41 (366)	3.94 (100)



### PERFORMANCE AND POWER

- The central intelligence core of every G-Series network
- Powerful processor for blazing speed and performance
- SeaTalk<sup>hs</sup> network integration supports multiple GPM400 processors
- Two DVI/VGA video output ports
- Built-in shock resistant hard drive, pre-loaded with ready-to-go Navionics Platinum charts (no unlock codes required)
- 3,000 Waypoints
- 45,000 trackpoint memory with 15 independent track memories

### THE GPM400

Each G-Series system begins with a GPM400 processor module. Engineered for extremes, the rugged GPM400 is equipped with a powerful processor that is ten times faster than previous generation Raymarine navigation devices. Plus the GPM400 features an on board video graphics accelerator for super fast screen redraws and amazing video performance.



GPM400 with the optional RS125 GPS sensor

### PRE-LOADED CHARTS

The GPM400 features a high capacity, shock resistant hard drive pre-loaded with highly detailed Navionics Platinum charts for all of North America.\* The extensive database of Platinum charts provides professional quality vector charts with 3D underwater views and terrain topography. Powerful chart layering controls enable transparent overlay of aerial photos on both 2D and 3D charts, creating all new ways of visualizing chart information. Platinum charts also offer point and click access to enhanced ports and services, panoramic port photos and animated tides and current displays.

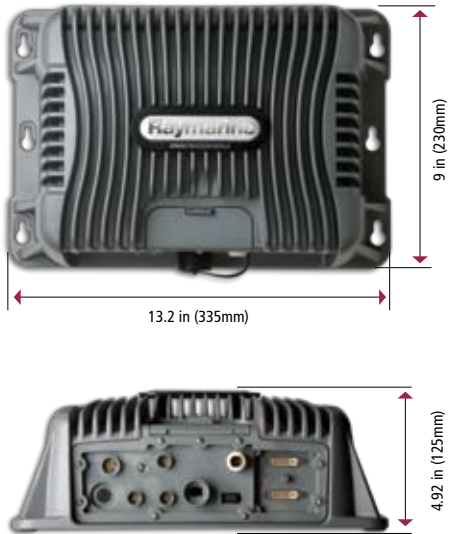
### ENHANCED SAFETY

G-Series further improves the captain's situational awareness with radar and chart overlays of MARPA and AIS target tracking. Video displays of remote cameras assist with docking and navigation. Raymarine LifeTag integration uses wireless technology to transform the G-Series into a man overboard monitoring system.

### MULTIFUNCTION NAVIGATION

The GPM400 enables the creation of multiple user customized navigation pages. A simple press of the page key puts the captain in command of radar, 3D chartplotter, fishfinder, engine data, instrumentation, satellite weather and video.

### DIMENSIONS



\*GPM400 versions pre-loaded charts for Europe and the southern hemisphere are also available.



## UNMATCHED RADAR TECHNOLOGY

- Delivers twice the performance of conventional analog radar systems using Super HD Digital adaptive radar receiver technology
- Unique Super HD Digital signal processing reduces the effective antenna beam width, effectively boosting the radar antenna size and delivering unprecedented detail and target separation
- Available in 4 or 12kW configurations
- Auto modes for harbor, coastal, offshore and buoy
- Dual range mode for short and long range target tracking simultaneously
- Multi level color radar with 256 colors and four color palette options
- Track up to 25 targets with MARPA target tracking
- SeaTalk<sup>hs</sup> network compatible with support for dual networked radar antennas

## SUPER HD DIGITAL™ RADAR

More than just an evolution in radar technology, Super HD Digital radar from Raymarine is a quantum leap into the future of marine radar. Using highly advanced digital signal processing, Super HD Digital radars surpass conventional radar systems with incredibly detailed target resolution and fully automatic operation.



## SMARTER RADAR

Super HD Digital radar has much greater dynamic range than conventional radar. This dramatic increase in dynamic range enables the digital receiver to acquire and process vast amounts of echo information that is normally lost by conventional analog radar systems. Super HD Digital technology then uses a powerful processor to intelligently isolate and identify true radar targets, while simultaneously eliminating unwanted sea clutter. The result is a dramatically clearer radar display.

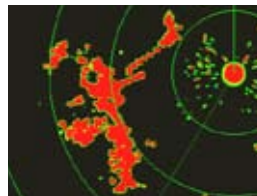
## PRECISION TARGETING

Target separation is also greatly improved, thanks to Super HD Digital processing algorithms that effectively reduce the digital radar's horizontal beam width, delivering an incredibly precise display of radar targets and land mass shapes.

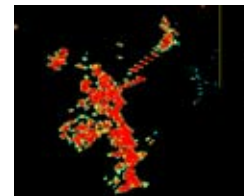
## FULLY AUTOMATIC

Best of all, Super HD Digital radar technology is fully automatic and requires virtually no operator intervention. Settings for gain, sea clutter and tuning are automatically adjusted by the digital receiver on every range scale, leaving the captain to focus on target tracking and navigation instead of radar tuning.

## SEE THE SUPER HD DIGITAL DIFFERENCE



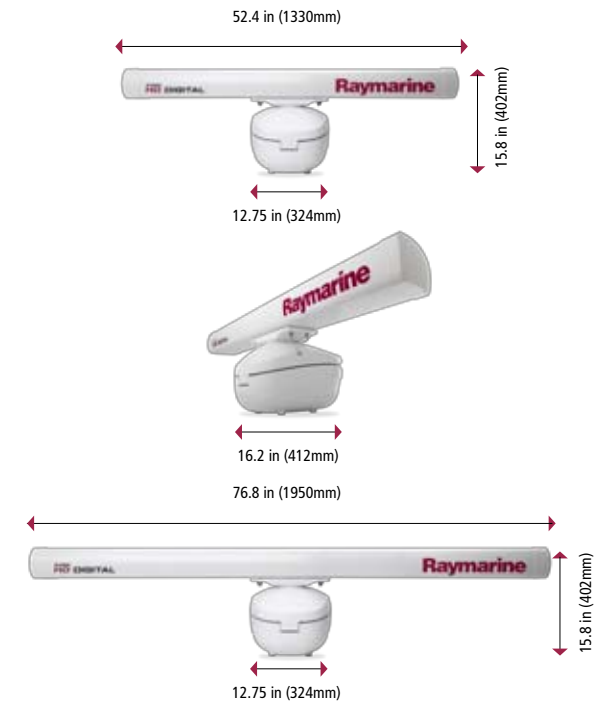
Traditional analog radars see the targets



Super HD Digital radar eliminates noise and bring targets into clear focus

**SUPER HD DIGITAL**

## DIMENSIONS





## HIGH POWER HD DIGITAL™

- Engineered for the serious sport fisherman
- 3 kilowatts of depth penetrating power
- 4 independent digital sonar transceivers
- 200, 50, 38, and 28 kHz operation
- Patented Raymarine HD Digital™ signal processing technology
- SeaTalk<sup>hs</sup> network port

## THE DSM400

As the ultimate weapon in the hunt for fish, the DSM400 delivers the power and performance serious offshore anglers demand. Operating at 1, 2 or a mighty 3 kilowatts of transmitting power, the DSM400 takes our patented HD Digital technology to whole new level.

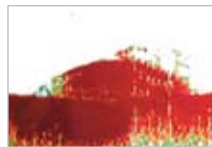


## FULLY AUTOMATIC

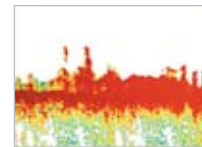
With the DSM400 you can enjoy truly hands-free operation. Adaptive HD Digital technology automatically adjusts sonar parameters to changing sea conditions, virtually eliminating clutter and precisely targeting fish and bottom structure with unprecedented clarity. The DSM400 also provides auto adaptive control of sensitivity, ping rate and transmit power.

## TARGET FISH

Thanks to HD Digital technology, experienced anglers can easily identify individual species of fish and their habitat at a glance. The adaptive digital receiver of the DSM400 enables anglers to easily distinguish bait fish from larger species. When combined with the G-Series display, bottom structure and target detail are delivered in native resolutions up to 1280 x 1024 pixels.



The analog fishfinder "sees" the wreck, but the image lacks detail



Raymarine HD Digital fishfinder brings the wreck into clear focus.

## HIGH PERFORMANCE TRANSDUCERS

For maximum performance a wide range of professional grade transducers are available for the DSM400. Choose external mount or high performance in-hull transducers. In-hull transducers help eliminate cavitation and turbulence for improved performance at high speeds. Optional speed and temperature sensors are also available.



## DIMENSIONS





## VIDEO AT YOUR COMMAND

- Integrated video observation system for monitoring docking, engine room and crew cameras
- View four video streams simultaneously from any display on the system
- SeaTalk<sup>hs</sup> networking eliminates the need to route multiple video signal cables and cumbersome switches throughout the system
- Two GVM400 video modules can be added to the network for up to eight video streams on the network

## GVM400 VIDEO MODULE

The GVM400 video module integrates video monitoring seamlessly across the G-Series system using SeaTalk<sup>hs</sup> networking protocol. The GVM400 features 4 composite video inputs for marine cameras or other on board video sources. Video signals are converted by the GVM400 to network protocol allowing multiple G-Series navigation stations to access every on board video source simultaneously.



## MARINE CAMERAS

Raymarine marine cameras and the GVM400 transform G-Series into a powerful on board video observation system. Improve docking safety by monitoring blind spots or keep track of the engine room and crew from the helm. From the fly bridge to the salon, monitor any on board activity, or use multiple cameras for a total view of your vessel and surroundings. Choose the marinated CAM100 for exterior applications or the CAM50 dome camera for interior video monitoring. Both CAM50 and CAM100 are available in "Reverse image" models for rear view and engine room applications.



CAM50 or CAM50 Reverse Image  
interior dome camera

CAM100 or CAM100 Reverse Image  
marinated day/night camera

## DIMENSIONS





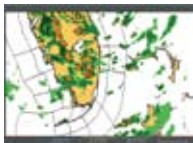
## SIRIUS MARINE WEATHER

Add the SR100 SIRIUS receiver to the G-Series system to track storms, receive weather alerts and view animated weather radar using SIRIUS Satellite Radio's Marine Weather service. In addition to the latest weather reports, SIRIUS Marine Weather provides highly detailed Sea Surface Temperature data overlaid in color on the weather map.

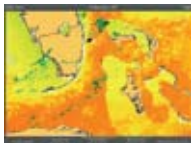
## SIRIUS AUDIO

In addition to weather, the optional SR100 receiver offers SIRIUS Satellite Radio channel tuning directly through the G-Series navigation system. Enjoy over 130 channels of original satellite radio programming including commercial free music, sports, news, talk and more.

\*A monthly subscription to Sirius Marine Weather and/or Radio is required



NowRad® Weather Radar



Sea Surface Temperature



On screen SIRIUS satellite radio tuner controls



## INSTRUMENT & ENGINE INTEGRATION

Keep track of engine performance with G-Series virtual engine instruments application. Using NMEA 2000\* protocol, G-Series displays can network with electronic engine instrument systems.

- User defined displays of tachometer, voltage, oil pressure, fuel, temperature, trim tabs and generator.
- Support for both single, twin or triple engines



\* NMEA 2000 certification pending

## CUSTOM DATA DISPLAYS

G-Series instrument displays can be customized with multiple combinations of graphical, digital and analog displays.



## AIS TARGET TRACKING

AIS (Automatic Identification System) enables the wireless exchange of navigation status between vessels and shore-side traffic monitoring centers. Using the optional AIS250 receiver module, the G-Series system graphically overlays AIS targets in both chartplotter and radar modes.

- AIS target tracking enhances your situational awareness by monitoring a target's name, course, speed, and navigation status
- Reconcile AIS targets with radar targets for added safety
- Optional Raymarine AIS250 receiver monitors both class A and B AIS broadcasts



Overlay AIS targets with radar contacts on Raymarine multifunction navigation displays



View detailed AIS vessel data reports



## G-SERIES KEYBOARD

POWER	
Nominal supply voltage	12 V DC (From SeaTalk <sup>®</sup> bus) 9 V to 16 V DC operating voltage
Power consumption	1.5 W(standby)
ENVIRONMENTAL	
Operating Temperature	-15°C to 55°C (5°F to 131°F)
Non-operating temperature	-25°C to 70°C (-13°F to 158°F)
Relative humidity limit:	95%
Water protection:	Waterproof to CFR-46 standard
GENERAL	
Dimensions	Width = 297 mm (11.69 in) Height = 98 mm (3.86 in) Depth = 46 mm (1.81 in)
Weight	0.65 kg (1.43 lb)
Data connections	SeaTalk <sup>®</sup> , SeaTalk <sup>®</sup> RF (requires wireless upgrade kit and separate basestation)
Approvals	CE: • EN60945, EN300-440-2 FCC: • CFR47 PART 15 Other • IC-RSS-210



## SUPER HD DIGITAL MARINE RADAR

POWER	
Voltage	10.7 – 44 volts range for 12V, 24V, 32V systems
Power consumption (typical) watts	4kW: 46W, 12kW: TBD, Standby: 4kW: 9.2W, 12kW: TBD
ENVIRONMENTAL:	
Operating temperature range	-10°C to +55°C
Non-operating temperature range	-20°C to +70°C
Waterproofing standard	IPX6
GENERAL	
Scanner power and type	4kW HD Digital, 4kW Super HD Digital, 12kW Super HD Digital
Antenna Size	4' or 6'
Scanner cable length	15m standard (5m, 10m & 25m option)
Pedestal Weight	56.4 lbs( 29.5kg)
TRANSMITTER/RECEIVER	
Max range scale	72nm
Pulse length/PRF Settings	8
Beam width horizontal	4' antenna 1.75° / 6' antenna 1.15°
Effective beam width with Super HD Digital	<1°
Beam width vertical -3dB	25°
Antenna side lobes (inside 10°)	<<21dB
Antenna side lobes (outside 10°)	<<30dB
Rotation rate	24rpm
Receiver bandwidth	Matched digital filter for each pulse length
Number of displayed video levels	256 (8-bit)



## GPM400 PROCESSOR MODULE

POWER	
Voltage	12 V / 24 VDC, 10.7 V to 32 V DC operating range
Power consumption	5 A @ 12 V/ 2.5 A @ 24 V
ENVIRONMENTAL	
Operating Temperature	-15°C to 55°C (5°F to 131°F)
Non-operating temperature	-25°C to 70°C (-13°F to 158°F)
Relative humidity limit:	80%
Water protection:	Drip resistant when mounted vertically
GENERAL	
Dimensions:	Width = 335 mm (13.19 in) Height =230 mm (9.06 in) Depth = 125 mm (4.92 in)
Weight	6.5 kg (14.33 lb)
Data connections	NMEA 0183 (x2), SeaTalk, SeaTalk <sup>®</sup> , SeaTalk <sup>®</sup> RS, Compact flash, USB for software upgrade only
Video	DVI x 2 (Optional VGA adaptor available)
Audio	Stereo line out (rated 1 V rms)
SeaTalk/alarm power output	250 mA at 12 V
CE approvals	Conforms to: 89/336/EEC as amended by 92/31/EEC, EN60945:2002



## DSM400 DIGITAL SOUNDER MODULE

POWER	
Voltage	10.7–32 VDC (for 12 or 24 VDC systems)
ENVIRONMENTAL	
Waterproof	IPX7
Humidity	Up to 95% at 35°C non-condensing
Storage Temperature	-20°C to +70°C
Operating Temperature	-10°C to +50°C
Mounting	8 keyholed mounting tabs (Mount below deck but NOT in engine compartment)
GENERAL	
Connectors	7 connectors: Depth transducer (x2), Depth transducer ID (x2), Speed/temp transducer, Power, RJ-45 SeaTalk <sup>®</sup> RS
Weight	27 lbs (12.25 kg)
SONAR SPECIFICATIONS	
Power Output	1, 2, 3 kW
Frequency	28, 38, 50, 200 kHz
Receiver Type	Patented HD Digital receiver
Pulse Length	100 µsec to 4 msec
INTERFACES	
Network	SeaTalk <sup>®</sup> RS



## GVM400 VIDEO MODULE

POWER	
Voltage	12 V / 24 V DC 10.7 V to 32 V DC operating voltage range
Power consumption	650 mA @ 12 V 330 mA @ 24 V
ENVIRONMENTAL	
Operating Temperature	-15°C to 55°C (5°F to 131°F)
Non-operating temperature	-25°C to 70°C (-13°F to 158°F)
Relative humidity limit:	80%
Water protection:	Drip resistant when mounted vertically
GENERAL	
Dimensions	Width = 237 mm (9.33 in) Height = 170 mm (6.69 in) Depth = 56 mm (2.20 in)
Weight	0.8 kg (1.76 lb)
Data connections	SeaTalk <sup>®</sup> RS
Video inputs	Inputs 1-3: Composite video (PAL 626 Line, NTSC 525 Line) Input 4: S-Video or Composite video
Audio inputs	Stereo audio line in (rated 1 V rms) (associated with Input 4 (S-Video or composite))
CE approvals	Conforms to: 89/336/EEC as amended by 92/31/EEC, EN60945:2002



## MARINE DISPLAYS

POWER	
Voltage	Operates on 12V and 24V systems
Power consumption	G120/G150 – 4 amps at 12V, 2 amps at 24V. G170 / G190 – 7.7 amps at 12V DC, 3.6 amps at 24V DC
ENVIRONMENTAL	
Operating Temperature	(-10°C to + 50°C), (14°F to 122°F)
Non-operating temperature	(-20°C to + 70°C), (-4°F to 158°F)
Waterproof Standard	Fascia waterproof to IPX6 standards when console mounted. Suitable for external console mounting only
GENERAL	
Display Size (diagonal)	G120: 12" / G150: 15" / G170: 17" / G190: 19"
Mounting methods	Flush mount only
Display Brightness	G120 - >1,000 cd/m <sup>2</sup> , G150 - >1,000 cd/m <sup>2</sup> G170 - >1,000 cd/m <sup>2</sup> , G190 - >850 cd/m <sup>2</sup>
Display Resolution	G120/G150 – XGA (1024 x 768 pixels) G170/G190 – SXGA (1280 x 1024 pixels)
Weight	G120 – 10 lbs (4.6 kg), G150 – 12 lbs (5.8 kg) G170 – 14 lbs (6.4 kg), G190 – 16 lbs (7.3 kg)
Inputs	3 Analog VGA inputs, 2 DVI Inputs, 3 Composite Video Inputs, 1 S-Video Input
Picture in Picture	Yes - 3 stages (child, split and wide screen)
Approvals	EMC (Europe and FCC) CE marked

# G | S E R I E S

**THINK BIGGER.**

**Raymarine®**

LIT81245

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Product specifications subject to change without notice



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