

# HELM MASTER<sup>EX</sup>



RELIABILITY  STARTS HERE



# THE NEXT GENERATION IN DIGITAL BOAT CONTROL IS HERE

Yamaha has once again taken marine technology to the next level, with an industry-first and game changing Yamaha Helm Master<sup>®</sup> EX boat control system.

Helm Master<sup>®</sup> EX is a fully integrated boat control system that makes navigating and getting to your destination easier, and once you arrive, gives a whole new level of control to precisely manoeuvre your craft to exactly where and how you want it.





**INDUSTRY-FIRST**  
INTEGRATED BOAT CONTROL SYSTEM



**Never before has a single outboard engine been paired with a joystick control, delivering exceptional versatility and innovation.**

In twin, triple and quad engine applications the new Helm Master® EX excels even further with seamlessly integrated multi engine control.



No longer do you have to install multiple third-party devices such as steering and control systems, autopilot navigation and additional heavy batteries - nor the hassles that comes with complex integration systems.

With Yamaha's Helm Master® EX, you get all of the benefits of these systems and more, in a simple, clean and fully integrated, plug-and-play system. And because every component has been designed, engineered and manufactured by Yamaha, it works seamlessly together to deliver the ultimate in reliability, durability and performance.

Whether you're a beginner or seasoned expert, Helm Master® EX guarantees to make your fishing and boating experience easier, more enjoyable and productive.

By delivering effortless control over your boat, you get to spend more time on the spots where the fish are biting and less time setting up, anchoring or trying to fine tune your boat position.

**Helm Master® EX - turning every fisherman into an expert.**

# KEY FEATURES

Built-in SetPoint® functions are a key feature of the Helm Master® EX system. These functions provide a range of position-hold and drift modes for advanced vessel control, once you have reached your desired location.



## FISHPOINT®

**KEEPS POSITION**  
Single Engine & Multi Engine

FishPoint® works to maintain the boat's position. Simply identify your chosen fishing location and hit the FishPoint® button. Helm Master® EX then takes over using minimal engine RPM and the digital steering to hold your position.

To fine tune the fishing position the vessel location can be adjusted in 1.5, 3 or 6 metre increments (preset in the gauge) with a tap of the joystick forward, reverse or to either side.

FishPoint® is perfect for stationary fishing below the boat.



## DRIFTPOINT®

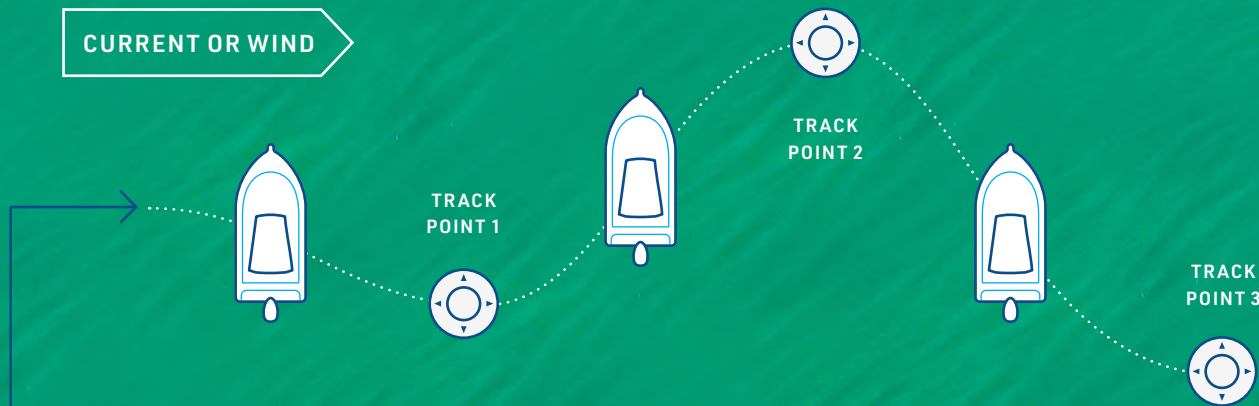
**KEEPS HEADING**  
Single Engine & Multi Engine

DriftPoint® allows you to keep your bow pointed in a set direction while allowing you to naturally drift via the prevailing current and/or wind.

One twist of the joystick moves your boat's bow heading angle by 1 degree, while a twist and hold moves it by 5 degrees, with additional twists up to 50 degrees.

DriftPoint® is great for drift-fishing a reef or watching a sunset from the stern.

\*SetPoint® features require the complete Helm Master® EX system.



## DRIFTPoint® TRACK

**KEEPS HEADING**  
Single Engine & Multi Engine

DriftPoint® Track allows you to maintain your bow heading, while drifting along a set track (route) of waypoints that you have plotted using your compatible Multifunction Display. The boat will drift and use forward and reverse thrust to follow the predetermined route.

This is handy when trying to follow a specific depth contour or for keeping a certain distance from shore or underwater objects like reefs and wrecks.



## STAYPOINT®

**KEEPS POSITION & HEADING**  
Multi Engines Configuration Only

StayPoint® "marks" your position and heading, while maintaining the spot within 3 metres (ideal conditions) or 23 metres (high winds/currents). This is handy when waiting to dock or refuel.

The vessel can move in 1.5, 3 or 6 metre increments (preset in the gauge) with a tap of the joystick forward, reverse or to either side.

One twist of the joystick will move the bow heading angle by 1 degree, while a twist and hold will move it by 5 degrees, with additional twists up to 50 degrees.



## AUTOPILOT

**NAVIGATION SYSTEM**  
Single Engine & Multi Engine

Another innovative feature of the Helm Master® EX system is the integration of Yamaha's all-new Autopilot system - making getting to your destination easier, more direct and efficient.

With the simple push of a button or a few taps on your compatible Multifunction Display, you can quickly plot out your journey, sit back and let the Helm Master® EX Autopilot and Digital Steering do the rest.



# HELM MASTER EX SYSTEM

Helm Master<sup>®</sup> EX allows you to customise your boating control set-up to suit your personal preferences, budget and boating needs.



Helm Master EX is available across Yamaha's Digital Electronic Control (DEC) outboard range from F150 to XT0450<sup>^</sup> and can be installed in single, double, triple and quad outboard applications.

The system consists of four primary application levels and has been designed to be fully expandable and customisable to suit your needs. This means you can install the complete Helm Master<sup>®</sup> EX system, or start with the Digital Electronic Controls and Digital Steering, and add additional components over time, allowing you to reap the benefits that come with each component upgrade.

As the whole system has been designed and manufactured by Yamaha, using a plug-and-play approach, each component is easy and quick to install and comes with none of the inherent problems that occur when trying to integrate complex third-party electronic devices from different manufacturers.

<sup>^</sup>See p.21 for further detail.



Compatible with F150 to XT0450<sup>^</sup> Digital Electronic Control (DEC) outboards.



# HELM MASTER® EX APPLICATION LEVELS



Each application level delivers additional functionality and user benefits. You can choose to install the complete system or add application components over time.

FULL SYSTEM

FUNCTION	FULL SYSTEM			
	LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4
Single Lever	●	●	●	●
Speed Control	●	●	●	●
Trim Assist	●	●	●	●
Centre Engine	●	●	●	●
Neutral Hold	●	●	●	●
Pattern Shift	●	●	●	●
Adjustable/Variable Lock-to-Lock		●	●	●
Adjustable/Variable Steering Friction		●		
Heading Hold			●	●
Course Hold			●	●
Track Point (with Compatible Multifunction Display)			●	●
Pattern Steer (Zig Zag, Spiral, Williamson Turn & Pattern Search)			●	●
Autopilot with Waypoint Arrival and Joystick Control				●
SetPoint® Features (FishPoint®, DriftPoint® & StayPoint®)				●
Full Joystick Manoeuvrability				●
Variable Speed Bow Thruster Integration Capability*				●

\* With compatible third-party equipment. Not included with Helm Master EX.



**HELM  
MASTER®  
EX SYSTEM  
– FULLY  
EXPANDABLE**

You can install the complete system or choose to upgrade each component over time, to suit your changing needs and budget.





## KEY FEATURES INCLUDE:

- Push button up and down Speed Control.
- Pattern Shift mode which automatically places the engine in and out of gear for slower-than-idle-speed trolling, for perfect lure presentation.
- Neutral Hold allows the operator to increase engine RPM while in neutral for engine warm up or to generate additional charge for the batteries.
- Trim Assist automatically trims the outboard to the operator's pre-set levels, at chosen engine speeds, making operation easier.
- Station Selector allows you to switch between multiple helms and/or additional Joystick Station.
- Single Lever allows you to control multiple outboards using a single throttle handle, when using a twin handle control.
- Centre Engine(s) allows you to select the centre engine/s only, for when trolling or in no-wake zones, for triple and quad engine applications.
- All Start/Stop and Power buttons are integrated into the control. ^
- Throttle Friction Adjustment allows you to customise the amount of pressure required to move the throttle handle.

^ Multi-engine applications continue to use multi-engine start/stop panels for each individual engine.

## DIGITAL ELECTRONIC CONTROL

Completely redesigned with greater ergonomic comfort and capabilities, the Digital Electronic Control is available in single handle, or twin handle for twin - through to quad-engine installations.



# LEVEL 1

## DIGITAL ELECTRONIC CONTROL



### CL5 TOUCHSCREEN DISPLAY

The low profile Yamaha Command Link® CL5 touchscreen display is small in size but big on information, features and capability.

Its sophisticated, modern design features intuitive operation and matches the latest boat console trends, while its compact size leaves more room on the console for other electronics. The CL5 is suitable for all of Yamaha's Electronic Fuel Injected engines and can monitor up to four outboards.

It is also the control centre for all of the Helm Master® EX functions including Autopilot, SetPoint®, steering and other adjustments.



## ELECTRONIC KEY SWITCH (OPTIONAL)

The back-lit engine Start and Stop switch panels offer a slim, space-saving, push-button design and modern look. These new panels take up very little space, allowing more room for other electronic equipment.



KEYLESS REMOTE

## KEYLESS REMOTE

The buoyant wireless keyless remote (push-button) allows for keyless start/stop push-button ignition. It also serves as the on/off device for Yamaha's Y-COP<sup>®</sup> anti-theft system.

It allows for one-touch starting while at the helm and can unlock/lock ignition from up to five metres away.

The keyless remote floats and is water resistant for up to five minutes. Two remotes are provided with each Helm Master<sup>®</sup> EX Electronic Key Switch panel (not available with other Yamaha switch panels).

### SAFETY LANYARD SWITCH



### SINGLE OUTBOARD SWITCH



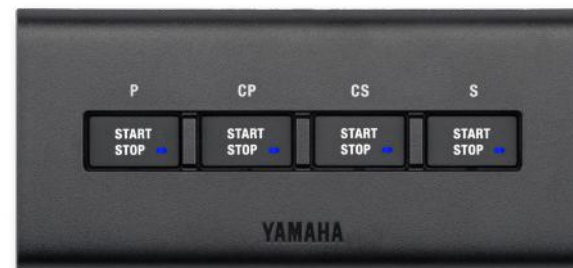
### TWIN OUTBOARD SWITCH



### TRIPLE OUTBOARD SWITCH



### QUAD OUTBOARD SWITCH





## LEVEL 2 DIGITAL STEERING

Level 2 of the Helm Master® EX system sees the addition of Yamaha's plug-and-play Digital Steering. This system takes marine steering to the next level with extreme smoothness, technical smarts and precision.

Yamaha's latest range of high-horsepower Digital Electronic Control (DEC) outboards offer built-in Digital Electric Steering (F250 - XT450) or Electro-Hydraulic Steering (F150 - F200) integrated within the transom bracket.

There is also the option of bolt-on Digital Electric Steering that is compatible with previous generation DEC engines.



### BETTER PERFORMING

Yamaha's digital steering system is smoother, faster and has zero lag time - in comparison to hydraulic and cable steering systems - delivering an overall more enjoyable piloting experience.



### SMART LOCK-TO-LOCK

You can set the lock-to-lock wheel rotation, via the CL5 gauge, to constant or variable, with the latter using the engines RPM to deliver finer control at high speeds and more responsive control at low speeds.



### SMART STEERING FRICTION

You can adjust the steering friction for a heavier or lighter feel to suit your personal preference and the prevailing conditions. In addition, the system also automatically adjusts the friction based on the outboards RPM, ensuring improved control at all speeds.



Bolt-On Digital Electric Steering Unit.



## LESS BATTERY POWER

Digital Steering only uses current when in operation (on demand), which means it is not constantly drawing amps like conventional power steering pumps. This gives you more net battery power to run other electronic devices.



## MORE AVAILABLE SPACE

Yamaha's Digital Electric Steering and Electro-Hydraulic Steering systems, have no external pumps, valves or hoses, freeing up space in the bilge area at the back of the boat and upfront under the console.

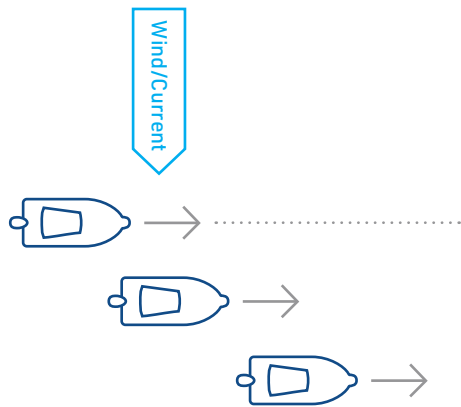


## QUICKER AND CHEAPER TO INSTALL

This plug-and-play system is easy and quick to install, saving on installation time and costs. There is no need to install pumps, valves and hoses, nor the ongoing maintenance costs that come with other steering systems.

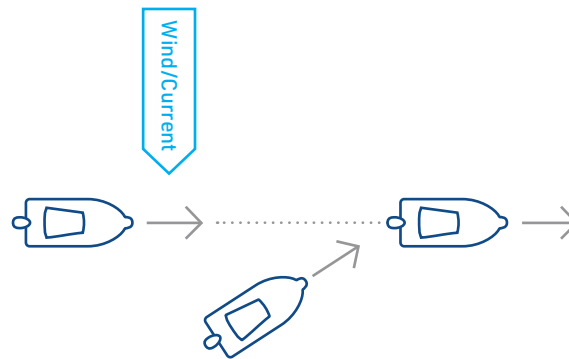


# LEVEL 3 AUTOPILOT



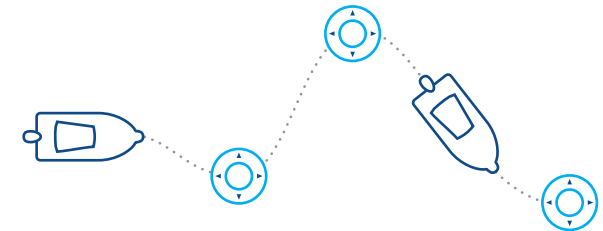
## HEADING HOLD

With the push of a button, Heading Hold allows you to automatically maintain a set compass heading (e.g. due North), while allowing your boat to drift with the prevailing currents and wind.



## COURSE HOLD

With a push of a button, Course Hold allows you to keep your course, with the system automatically adjusting the boat back on course if it is impacted by current and/or wind. This is handy if your aiming to travel the shortest route to a specific location.

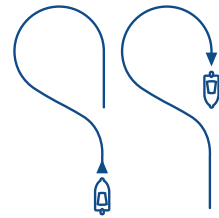


## TRACK POINT

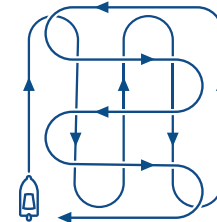
Track Point allows you to pilot your boat automatically along a set of waypoints that you have plotted into your compatible Multifunction Display. This is handy for following set depth contours, channel markers, navigation beacons, a shoreline or other structures.

Level 3 of the Helm Master EX system introduces Yamaha's all-new Autopilot. This system provides a number of built-in single-touch functions that makes navigating and getting to your destination easier and quicker.

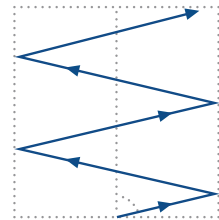
The system includes a slimline eight-button panel which goes on the console, a heading sensor which sits under the console and an antenna above the boat.



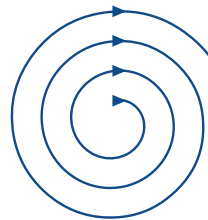
WILLIAMSON TURN



PATTERN SEARCH



ZIGZAG



SPIRAL



## WAYPOINT ARRIVAL

Provides automatic deceleration when approaching the set destination. You can also choose to engage one of the SetPoint® functions automatically (available with the Joystick System) as you return the throttle to the neutral position, on arrival. This function is only available through a compatible Multifunction Display.

## PATTERN STEER

Another feature of the Autopilot is Pattern Steer, which allows you to select one of four preset adjustable steering patterns, without having to set waypoints on a Multifunction Display. You can engage Speed Adjust and Pattern Shift (very slow trolling) while in Pattern Steer mode.

## SYSTEM INTEGRATION

Autopilot seamlessly integrates with Speed Control, Trim Assist, the joystick and other Helm Master® EX functions.



# LEVEL 4 FULL MANOEUVRABILITY JOYSTICK

Level 4 is the premium level of the Helm Master<sup>®</sup> EX system, with the addition of Yamaha's full manoeuvrability joystick control system.

This stylish and ergonomic controller provides simultaneous control over shift, throttle and steering, in one easy-to-use joystick application. It can also be used in conjunction with many of the built-in Helm Master<sup>®</sup> EX SetPoint<sup>®</sup> positioning modes (FishPoint<sup>®</sup>, DriftPoint<sup>®</sup> and StayPoint<sup>®</sup>) and Autopilot, for maximum control over your vessel.



## SETPPOINT<sup>®</sup> FUNCTIONS

The joystick gives you additional control over your vessel when in FishPoint<sup>®</sup>, DriftPoint<sup>®</sup> and StayPoint<sup>®</sup> modes. More info about each feature is on pages 3 and 4.



FISHPOINT<sup>®</sup>  
(BOW & STERN)



DRIFTPOINT<sup>®</sup>



DRIFTPOINT<sup>®</sup>  
TRACK



STAYPOINT<sup>®</sup>

(Only available in twin, triple and quad outboard applications)

## CUSTOMISE YOUR CONSOLE

As with the Digital Electronic Control, the joystick comes in either a black or traditional chrome trim. You can also customise your console further with access to 9 LED lighting colour options.





## ADJUSTABILITY THRUST & STEERING ADJUSTMENT

While in Joystick, Fishpoint® or DriftPoint® modes, you can increase or decrease the maximum thrust level available to the system, to suit the prevailing conditions. You can also adjust the joystick steering sensitivity when Autopilot is active.

\* StayPoint® automatically selects the thrust level.

## FULL MANOEUVRABILITY

The joystick delivers precise low speed control when approaching a dock, launching and retrieving off a trailer or coming up to a beacon, wreck or other physical structure.

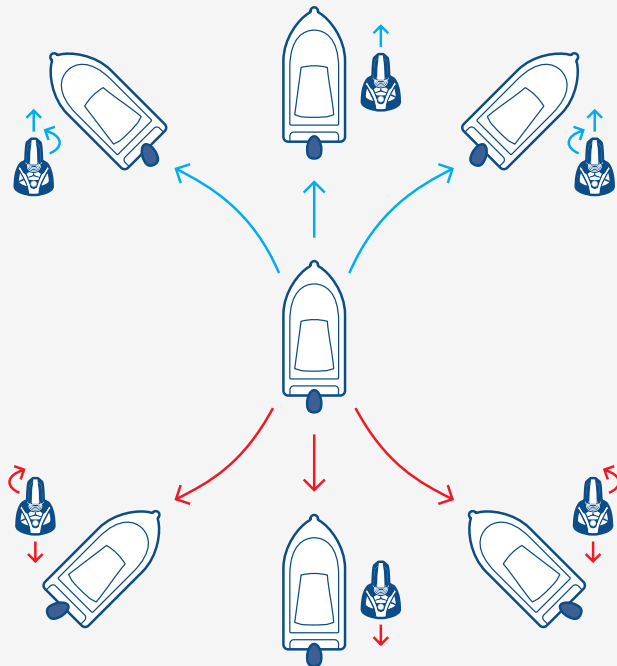
Simply push the joystick to move forward, pull the joystick to reverse and twist the joystick to turn. With twin, triple and quad outboard applications, you also have the ability to move the joystick from side-to-side for precise lateral movements and twist for turning on the spot, for even greater control over your vessel.

## MULTIPLE STATIONS

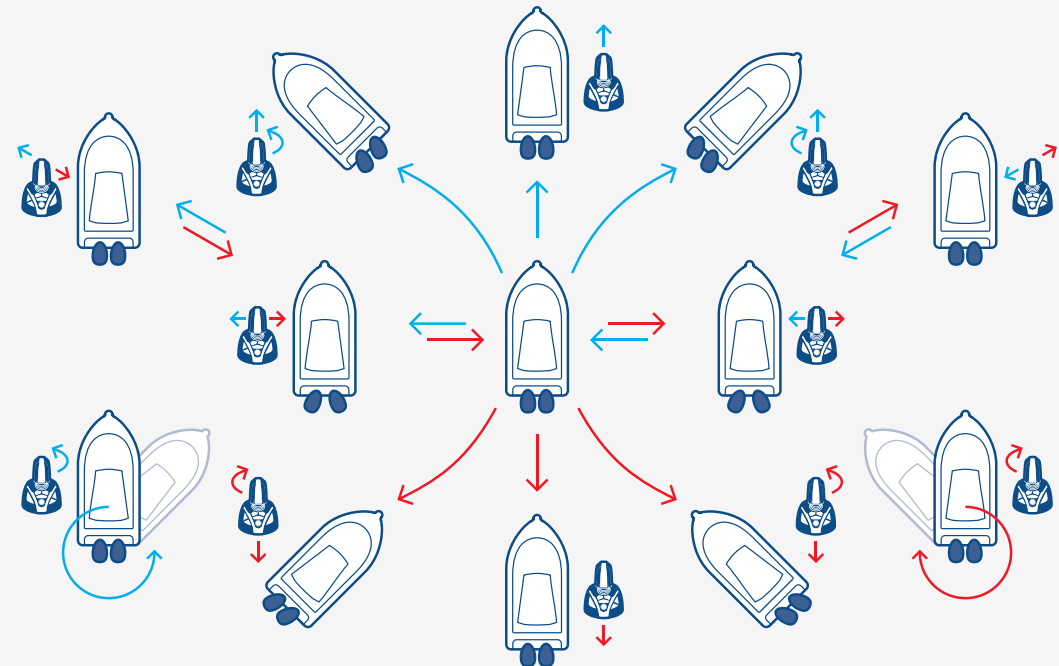
A Second Station can be added to vessels that have more than one helm.

A separate Joystick Station, which includes a CL5 gauge or Multifunction Display, can also be added for additional boat manoeuvring and positioning capabilities.

### SINGLE ENGINE APPLICATION



### TWIN/TRIPLE/QUAD ENGINE APPLICATION

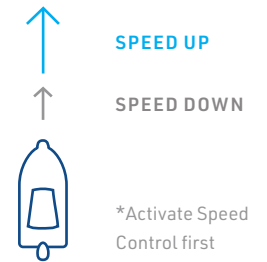
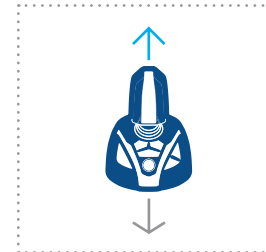




# LEVEL 4 FULL MANOEUVRABILITY JOYSTICK

## SPEED ADJUST

You can adjust the speed up or down, by RPM or by GPS speed over ground (operator-selected via display), in preset increments, by pushing the joystick forward (increase speed) or backward (reduce speed). This feature is available during normal operation and when using Autopilot, by activating the Speed Control on the Digital Electronic Control.



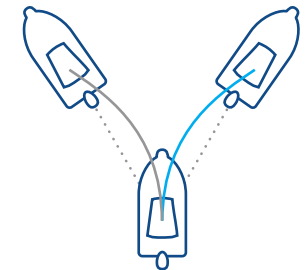
## AUTOPILOT INTEGRATION

The joystick system also works in with the Autopilot to provide additional speed, direction and positioning control.



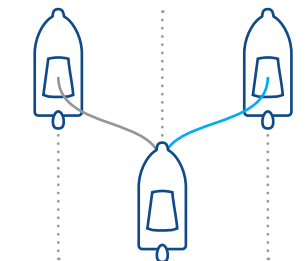
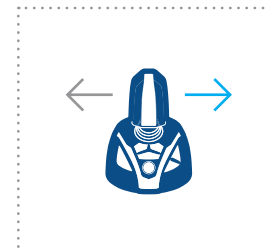
## HEADING ADJUST

While using the Heading Hold feature in Autopilot, you can adjust the heading by twisting the joystick handle once for a one-degree adjustment or twist and hold the joystick until it beeps, for a 5 degree adjustment. You can continue this up to 50 degrees, by twisting and holding the joystick repeatedly.



## COURSE ADJUST

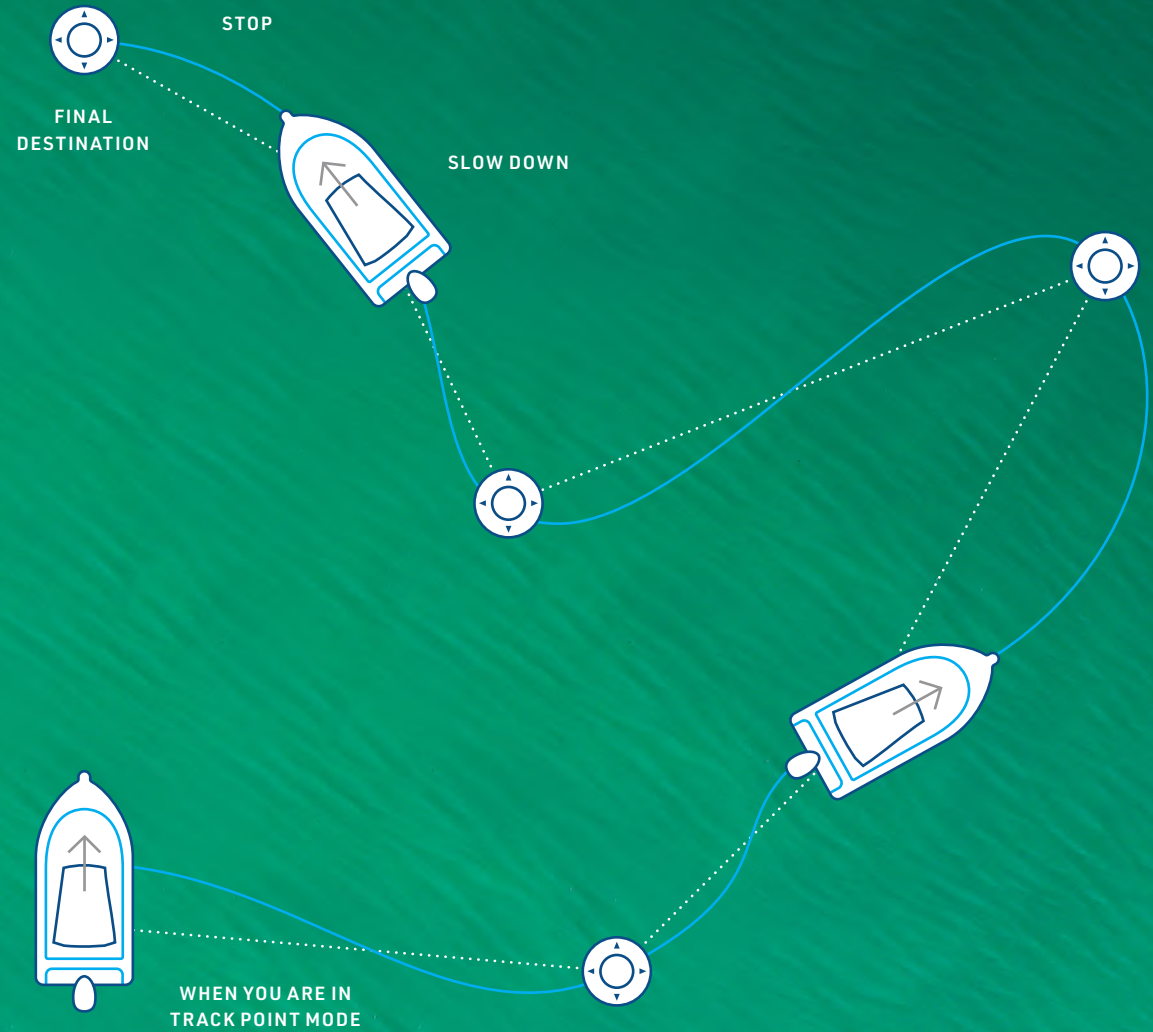
While using the Course Hold feature in Autopilot, you can adjust your course heading by twisting the joystick (same as Heading Adjust), or offset your course parallel by moving the joystick sideways (3 metre, 6 metre, 15 metre intervals, preselected through the display)



## WAYPOINT ARRIVAL WITH SETPOINT®

The operator can select what the Autopilot does on approach to the final waypoint:

- Alert the skipper to the arrival at the waypoint.
- Automatically decelerate, alert the operator to move the control handle to neutral, the boat will then enter the preselected SetPoint® mode (i.e. FishPoint®, DriftPoint® or StayPoint®)
- Automatically decelerate, alert the skipper to the arrival at the waypoint and await further skipper input.



\* Waypoint Arrival is only available with a compatible Multifunction Display. Boat deceleration and stopping characteristics may differ between Multifunction Display manufacturers. The boat may pass by the final waypoint in some situations during Waypoint Arrival. Operator attention is required when approaching the final waypoint.



# LEVEL 4 FULL MANOEUVRABILITY JOYSTICK

## + INTEGRATED BOW THRUSTER

Helm Master EX steps up to a whole new level when paired with the integrated bow thruster - perfect for today's larger boats that require additional control.

Available for twin and triple engine configurations, this fully integrated system helps boaters of all levels quickly gain more confidence over the control of their vessel, delivering a more enjoyable boating experience.

When activated, the integrated bow thruster works in concert with the Helm Master EX joystick to enhance the lateral movement and pivoting of the vessel, automatically engaging the variable speed bow thruster to match the operator's input.

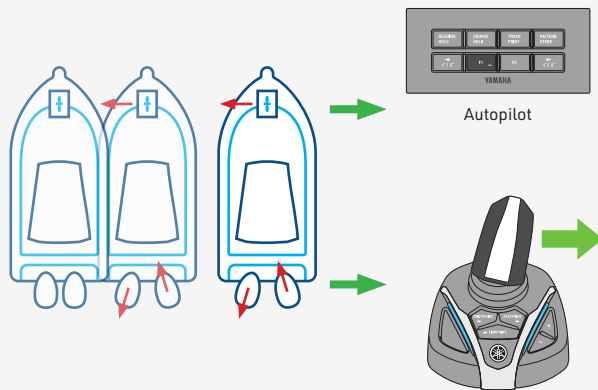
The bow thruster compliments Helm Master EX SetPoint® functions (StayPoint®, FishPoint®, DriftPoint® and DriftPoint Track), as well as helping to keep the boat on track when using the Autopilot functions.

The operator can selectively activate this feature to integrate power and operation of both the bow thruster and Helm Master EX system through the joystick. Alternatively, you can operate the bow thruster control independently, simply by using the conventional bow thruster controls at any time.

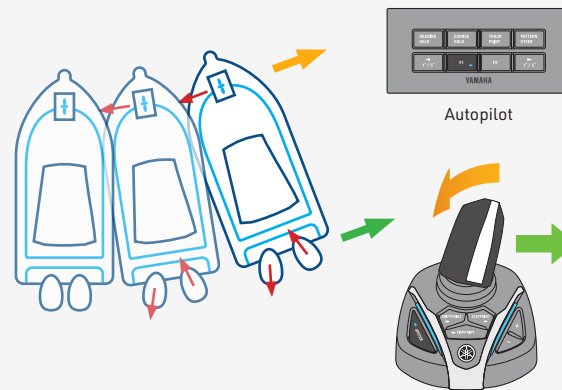


The integrated bow thruster is installed by the boat builder during the new boat build.

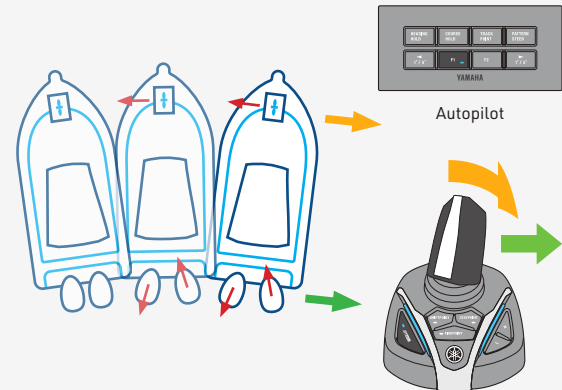
### LATERAL MOVEMENT



### BOW PIVOT



### STERN PIVOT





# HELM MASTER EX

## COMPATIBLE OUTBOARDS

The Helm Master<sup>®</sup> EX system can be retrofitted to all Digital Electronic Control (DEC) engines from F150 up to XT0450.\*

Please discuss with your Yamaha dealer to confirm the system is suitable for your application.

\* Excludes first generation V8 F350, V8 F300, 3.3L DEC F250 and F150, F175 & F200 (with integrated hydraulic steering) models.



	<b>XF450</b>	<b>XF425</b>	<b>F300</b>	<b>F250</b>	<b>F225</b>	<b>F200</b>	<b>F150</b>
<b>Engine Type</b>	V8 - 4 Stroke	V8 - 4 Stroke	V6 - 4 Stroke	V6 - 4 Stroke	V6 - 4 Stroke	In-Line 4 - 4 Stroke	In-Line 4 - 4 Stroke
<b>Configuration</b>	32-Valve DOHC VCT Direct-Action 60°	32-Valve DOHC VCT Direct-Action 60°	24-Valve DOHC with VCT Direct-Action 60°	24-Valve DOHC with VCT Direct-Action 60°	24-Valve DOHC with VCT Direct-Action 60°	16-Valve DOHC VCT Direct-Action	16-Valve DOHC Direct-Action
<b>Signature Grey</b>	✓	✓	✓	✓	✓	✓	✓
<b>Pearlescent White</b>	✓	✓	✓	✓		✓	✓
<b>Bore x Stroke (mm)</b>	96 x 96	96 x 96	96 x 96	96 x 96	96 x 96	96 x 96.2	96 x 96.2
<b>Displacement (cm<sup>3</sup>)</b>	5559	5559	4169	4169	4169	2785	2785
<b>Recommended Max RPM</b>	5000-6000	5000-6000	5000-6000	5000-6000	5000-6000	5000-6000	5000-6000
<b>Weight (kg)</b>	XF450XSA: 437 LXF450XSA: 437 XF450XSA2: 437 LXF450XSA2: 437 XF450USA: 448 LXF450USA: 448 XF450USA2: 448 LXF450USA2: 448	XF425XSA: 432 LXF425XSA: 432 XF425XSA2: 432 LXF425XSA2: 432 XF425USA: 443 LXF425USA: 443 XF425USA2: 443 LXF425USA2: 443	F300XSB: 288 LF300XSB: 288 F300USB: 294 LF300USB: 294	F250XSB: 288 LF250XSB: 288 F250USB: 294 LF250USB: 294	F225XCB: 263^ LF225XCB: 263^ F225UCB: 268^ LF225UCB: 268^	F200XSA: 238 LF200XSA: 238 F200XSA2: 238 LF200XSA2: 238	F150XSA: 237 LF150XSA: 237 F150XSA2: 237 LF150XSA2: 237
<b>Transom Height</b>	X: 637mm (25.1") U: 765mm (30.1")	X: 637mm (25.1") U: 765mm (30.1")	X: 643mm (25.3") U: 770mm (30.3")	X: 643mm (25.3") U: 770mm (30.3")	X: 643mm (25.3") U: 770mm (30.3")	L: 516mm (20.3") X: 643mm (25.3")	L: 516mm (20.3") X: 643mm (25.3")
<b>Steering System</b>	Digital Electric	Digital Electric	Digital Electric	Digital Electric	Bolt-On Digital Elec^	Digital Electro-Hydraulic	Digital Electro-Hydraulic
<b>Operation Method</b>	Digital Electronic Control	Digital Electronic Control	Digital Electronic Control	Digital Electronic Control	Digital Electronic Control	Digital Electronic Control	Digital Electronic Control
<b>Trim &amp; Tilt Method</b>	TotalTilt™	Power Trim & Tilt	TotalTilt™	TotalTilt™	TotalTilt™	TotalTilt™	TotalTilt™
<b>Alternator Output</b>	102A	90A	70A	70A	70A	50A	50A
<b>Gear Ratio</b>	1.79:1	1.79:1	1.75 : 1	1.75 : 1	1.75 : 1	1.86 : 1	2.00 : 1

^ Optional Bolt-On Digital Electric Steering System required.

While every effort has been made to ensure the accuracy of the information contained herein, Yamaha does not guarantee such accuracy and can't be held liable for any errors in or any reliance upon this information. This brochure is to be used as a high level product overview only. For a detailed product description, please refer to the user manual. When using the Helm Master EX system the operator must be at the helm and connected by the lanyard to the safety switch at all times. When using Autopilot and/or SetPoint modes the operator is responsible for safe navigation, and should carefully monitor the boat and surroundings at all times. The operator is responsible for confirming there are no obstacles, other craft, persons or shallow water along the route. The system should not be used when people are in the water or other boats or obstacles are nearby. The operator must be prepared to take over steering and controls at all times, incase an Autopilot or SetPoint function is released unexpectedly.

# MAKE YOUR DREAM A REALITY



- Ability to finance accessories and approved insurances
- Flexible loan terms available from 2 to 7 years
- Fixed interest rate and repayments
- Simple and convenient
- Available from your local Yamaha Dealer



- Only genuine Yamaha parts used on repairs for Yamaha powered boats
- 3 years replacement option on your new Yamaha powered boat
- Layup discount for the months your Yamaha powered boat is not used
- Up to \$5,000 cover for emergency towing assistance
- Personal effects cover up to \$1,500 per item and \$10,000 in aggregate
- New for Old on mechanical and electrical components of the motor regardless of age

To find your local Yamaha dealer visit [www.ymf.com.au](http://www.ymf.com.au)

YMF Direct Sales  
1800 123 100

To find your local Yamaha dealer visit [www.ymia.com.au](http://www.ymia.com.au)

YMI Direct Sales  
1300 794 454

Disclaimer: Finance to approved applicants. Credit criteria, fees, charges, terms and conditions apply. Yamaha Motor Finance Australia Pty Ltd ABN 29101928670 Australian Credit Licence 394553.

Please read the Product Disclosure Statement (PDS) and the Target Market Determination (TMD) available at [www.ymia.com.au](http://www.ymia.com.au) for full details on the policy coverage before you make any decisions regarding this product. If you have any queries that are not covered in the PDS, please contact your local Yamaha dealer or call 1300 794 454. Insurance issued by HDI Global Specialty SE - Australian Branch ABN 58 129 395 544, AFSL No 458776 acting through its agent Yamaha Motor Insurance Australia Pty Ltd ABN 48 603 882 980 AFSL No 497198. Information provided is general advice only and does not take into account your particular objectives, financial situation and needs.