Helm Master EX is the first product launched under Yamaha’s CommandBlue™ philosophy. CommandBlue represents Yamaha’s commitment to move engineering development into the realm of the customer, ultimately delivering products that are easier to use and create greater satisfaction and confidence on the water.

Yamaha’s Next Generation Integrated Boat Control System

*Multiple levels of control now available to a wider range of boaters*

Introducing the next generation of Yamaha’s Helm Master integrated boat control system, Helm Master EX. Helm Master EX offers boaters customizable, integrated boat control with more ease and convenience than ever before. Available for single through quad applications, Helm Master EX brings ultimate boat control and fishability to a wider variety of boaters.

We’ve taken all the benefits of the original Helm Master system and improved upon them. Helm Master EX has:

- Re-designed joystick with new smooth-shifting software and control capabilities
- Effortless autopilot that can be adjusted with the joystick
- Precise digital electric steering that can be added to any DEC-capable Yamaha outboard (except 3.3liter F250 and F350A models)
- New digital electronic control box
- Sharp looks and design

Also new, Helm Master EX (or its properly configured system components) can be installed by the boat builder at the factory or by dealers when re-powering customer boats at the dealership. This allows boaters flexibility in tailoring their Helm Master EX system to their specific desires.
HELM MASTER EX and Component Systems*

<table>
<thead>
<tr>
<th>FUNCTION</th>
<th>HELM MASTER EX*</th>
<th>AUTOPILOT</th>
<th>DES</th>
<th>DEC</th>
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<tbody>
<tr>
<td>Single Lever</td>
<td>✓</td>
<td>✓</td>
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<tr>
<td>NEW Speed Control</td>
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<tr>
<td>NEW Trim Assist**</td>
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<td>Neutral Hold (Formerly “Free Throttle”)</td>
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<td>NEW Pattern Shift</td>
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<td>NEW Course Hold</td>
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<tr>
<td>NEW Track Point</td>
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<tr>
<td>NEW Pattern Steer</td>
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<tr>
<td>NEW Autopilot with Waypoint Arrival and Joystick Adjustability</td>
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<tr>
<td>NEW SetPoint Suite Features</td>
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<tr>
<td>NEW Full Joystick Maneuverability</td>
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</tbody>
</table>

*DES system must contain DEC system. Yamaha Autopilot system must contain DES and DEC systems. Helm Master EX must contain Yamaha Autopilot, DES, and DEC systems.
**Now activated on gauge

WHAT’S NEW

- Binnacle DEC control box (single or twin handle w/ identically sized base)
- Bolt-on Digital Electric Steering (DES)
- Available, smaller, non-tilt Helm Unit
- Autopilot
- Joystick (w/ new single joy function and DriftPoint® Track)
- New Electronic Key Switch (EKS)
- Keyless ignition fob (works with EKS)
- Five-inch Touchscreen Display (CL5) – works with all DEC and Command Link-compatible outboards (F20 and up)
- Touchscreen integration with Garmin® Multi-functional Displays (MFDs)
- Integration with Raymarine® AXIOM® XL MFDs using remote
- Updated Analog Gauge Interface - now for use with Helm Master EX
HELM MASTER EX - BENEFITS

- Enhanced joystick maneuverability with smooth, quiet, precise operation, new single-function buttons, and new features like DriftPoint Track
- Convenient Yamaha Autopilot features like course and heading hold, Track Point (NAV along waypoints), and two types of pattern steer that seamlessly integrate with Speed Control and Pattern Shift
- Increased comfort, control, and convenience with joystick-adjustability that allows fine tuning of Yamaha Autopilot and SetPoint without leaving current mode – ease of use and more capability
- Incredibly fast and responsive Digital Electric Steering (DES) means precise control with an uncluttered bilge (and can now be added to any current and most previous DEC-capable Yamaha outboard models)
- Totally redesigned Digital Electronic Control (DEC) for ergonomic comfort and ease of use – all functions previously on the Helm Master control are now standard on all Helm Master EX system configurations
- Suits a wide variety of boats/applications – fits all current Yamaha DEC outboards and back-fits most for a wide range of re-power flexibility
- Yamaha PowerMatched® Limited Warranty applies to all components within the system

THE HELM MASTER EX SYSTEM

Completely new with modern styling, premium feel and ergonomics, the Yamaha Helm Master EX system features an all-new joystick with new software. It offers smoother shifting and single-function buttons for easy operator understanding. The new Helm Master EX joystick also allows fine tuning of autopilot (both speed and direction) and positioning adjustments within SetPoint, without leaving the individual mode.

NEW JOYSTICK CONTROL FOR SINGLE ENGINE APPLICATIONS

Previously available only for multiple engines, Helm Master EX is now also available for single Yamaha DEC outboard installations. That means joystick maneuverability for single engine boats!

NOTE: The joystick is the same part as used on multi-engine systems, however the StayPoint button is non-functional and the ability to move the boat straight sideways via joystick command is not available in single engine Helm Master EX applications.
SINGLE-ENGINE JOYSTICK CAPABILITIES INCLUDE:

- FishPoint Bow
- FishPoint Stern
- DriftPoint
- DriftPoint Track
- Heading Hold
- Course Hold
- Track Point (autopilot)
- Pattern Steer
- Joystick Adjustability
- Directional Control

By simultaneously controlling shift, throttle and steering in one easy-to-use joystick, Helm Master EX for single engines provides advanced low-speed maneuverability, as well as a host of SetPoint modes useful for fishing or general boating enjoyment.

AUTOPILOT

Yamaha's new autopilot offers a host of customer amenities and benefits, and is a required installation for the full Helm Master EX system. It includes a small panel on the console, a heading sensor under the console, an antenna above the boat, and a control unit. Yamaha autopilot provides many convenient features for boat control and operation, and serves as the gateway to new features and benefits.

BENEFITS INCLUDE:

- Single-touch, useful convenience features like heading hold, course hold, pattern steer and heading/course adjustability
  - Heading Hold – automatically maintains set compass heading, but allows for drift. Can also be used in reverse pattern shift as necessary for back-trolling at slower-than-idle speeds
  - Course Hold – keeps course, even under current and/or wind
  - Pattern Steer – allows boaters to select one of two pre-set steering patterns (zigzag or expanding circle) without having to set waypoints. Speed Control and Pattern Shift (very slow trolling) are available to use while in Pattern Steer mode
- Track Point pilots automatically along an operator-input set of waypoints (route). Easy manual override for operator-commanded change of direction
- Seamless integration with Speed Control, Trim Assist, and other Helm Master EX functions/modes
Waypoint Arrival provides automatic deceleration when approaching the final waypoint (route) and automatically puts the outboards into neutral upon arrival. Helm Master EX can also engage one of the pre-selected SetPoint functions at the place where the operator returns the controls to the neutral position, if selected. (See Helm Master EX Operator’s Manual for additional information on exact sequence and set up – requires joystick and joystick software.)

**NOTE:** Boat deceleration and stopping characteristics may differ between MFD manufacturers. Boat may pass by final waypoint in some situations during Waypoint Arrival. Operator attention is necessary at all times when approaching a final waypoint.

**DIGITAL ELECTRIC STEERING**

Yamaha’s Digital Electric Steering (DES) - similar to that built in to every XTO Offshore - can now be added to any current Yamaha DEC-controlled outboard* for single through quad installations. Since there are no conventional steering pumps, hoses, or wiring, Yamaha DES offers a clean, more spacious bilge. There are also no valves, hoses, or control units, and no need for fluid filling, purging, bleeding, or clean-up resulting from these. Boaters will love the smooth, precise action, too.

*Except 3.3L F250 DEC or F350A models
BENEFITS INCLUDE:

- **Incredible speed and precision.** Electric power steering is very responsive and requires very little effort to operate.

- **Greater vessel control.** Zero lag time, while new variable lock-to-lock settings (four-nine rotations) and adjustable steering friction (100 – 200 percent) become available automatically based on outboard rpm. Boaters can then choose to select heavier steering load manually (for example in heavy seas) or can set the DES system to not use auto-increase/decrease features.

- **Additional space in the bilge and under the console.** No pumps or conventional steering-related rigging means new-found room in the bilge area. A new smaller, no-tilt helm is also now available to save space under the console(s).

- **More net battery charging power.** Increased available net charging power over hydraulic systems. The system is not constantly drawing amps like some conventional power steering pumps. This offers the potential for more charging amps to help power on-board electronics.

**DIGITAL ELECTRONIC CONTROL and KEYLESS IGNITION**

The all-new Helm Master EX DEC control boxes have been redesigned with a sleek new look, greater ergonomic comfort and new capabilities. The user can access the features with individual buttons. In addition to its great feel and precision, the all-new Helm Master EX control is available to boaters who may not want the full Helm Master EX suite of capabilities.

Helm Master EX DEC controls are available in single-handle, or twin handle for twin- through quad-engine installations. In both instances, the base of the control is the same. New, single-function buttons are back-lit, easy to read in both day or night conditions, and simplify operation.
NEW DEC CONTROLS INCLUDE:

• Speed Control (includes automatic Pattern Shift mode for slower-than-idle-speed trolling)
• Neutral Hold (formerly Free Throttle)
• Station Selector
• Single Lever*
• Center Engine(s)*
• All Engine Trim
• Individual Engine Trim*
• Shift Detent (new for DEC-only equipped boats)
• Throttle Friction Adjustment
*Twin handle controls only.

NOTE: Trim Assist is now easily controlled through whatever display configuration is selected.
**ELECTRONIC KEY SWITCHES (EKS)**

All new back-lit switch panels offer a slim, space-saving, push-button design and modern look. These new panels save critical dash space (i.e. a small “All Start” panel can be mounted on the console on multi-engine installs, while the required individual outboard push-button start panel can be located in a less useable and/or noticeable location). This leaves space for more equipment, and the modern look of the panels can help the aesthetic appeal of the console.

![EKS panel](image)

**KEY FOB AND KEYLESS IGNITION**

A buoyant wireless fob (push-button) allows use of keyless start/stop push-button ignition panels. It also serves as the on/off device for Y-COP® functionality (anti-theft), enabling ignition and the fuel-injection system of the outboards. An under-dash mounted wireless receiver automatically connects with the fob to allow one-touch starting while at the helm (maximum distance approximately 32 inches – less with an aluminum console). The fob can manually unlock/lock ignition from up to 15 feet away.

If necessary, such as in the case of loss, the operator can unlock the system using a four-digit code assigned at the factory or one chosen by the operator. Additionally, the battery-operated fob self-monitors its battery level and audibly alerts the operator when the battery is low. It floats, and is water resistant for immersion for five minutes at a depth of 10cm (approximately 4 inches). Two fobs are provided with each Electronic Key Switch (EKS) kit, and up to four more can be programmed into the system.

**NOTE:** Y-COP, as a separate function, can be installed on any Yamaha mechanical and Command Link® compatible outboard down to the F20, and DEC-only installations using a conventional key switch (single and twin). In single or twin installations using the new Helm Master EX DEC control with current 6X6 key switches, the push-button ignition function is not available.
SETPOINT® MODES

All SetPoint modes have been modified for the Helm Master EX system, increasing effectiveness while providing smoother operation.

- **SetPoint®**
  - Collective term for suite of Yamaha position-hold modes
- **StayPoint®**
  - Seeks to automatically maintain both boat heading and position (not applicable to Helm Master EX Single Maneuverability system). Automatically uses up to Thrust Level 5 as needed to maintain position
- **FishPoint®**
  - Seeks to automatically maintain boat position only (not heading) using minimal rpm for fishing
  - Can set boat ahead (FishPoint Bow) or astern (FishPoint Stern) to prevailing current/wind
  - Automatically resets to Thrust Level 1 each time FishPoint is activated
- **DriftPoint®**
  - Seeks to maintain heading (only) while allowing natural drift via prevailing current/wind
  - Automatically resets to Thrust Level 1 each time DriftPoint is activated
- **DriftPoint® Track**
  - Seeks to maintain heading while drifting along a track (route) of operator-selected waypoints
  - Automatically resets to Thrust Level 1 each time DriftPoint Track is activated

JOYSTICK ADJUSTABILITY

- **Speed (in Autopilot only)**
  - Up or down, by rpm or by GPS speed over ground (operator-selected via display), in preset increments, by pushing joystick forward (up speed) or backward (down speed)
- **Heading***
  - Rotate handle once for one degree or hold until beep for 5 degree heading adjustment (stackable up to 50 degrees by twisting and holding)
- **Course***
  - Change course by rotating same as heading, or offset course parallel by moving joystick sideways (10-foot, 20-foot, 50-foot intervals as pre-selected selected by operator through display)

- **Repositioning in SetPoint Modes (StayPoint, DriftPoint, DriftPoint Track, FishPoint Bow, FishPoint Stern)**
  - Move 5 feet, 10 feet, or 20 feet per movement of joystick forward, reverse, or either side (interval pre-selected by operator via display) without leaving the mode
  - Move boat heading 1 degree with a short twist or 5 degrees with one long twist of the joystick. Hold the joystick in the twisted position to “stack” 5-degree increments of movement, up to 50 degrees total
- **+/- button**
  - Level can be adjusted from Level 1 (lowest, least system effort) to Level 5 (highest, most system effort)
  - Joystick thrust
  - Steering sensitivity/effort to maintain operator-selected A/P input

*These joystick adjustments are stackable up to 10x if no longer than a three-second delay between inputs.
**ENHANCED SETPOINT FEATURES**

**Waypoint Arrival with SetPoint**
The operator can select what the autopilot does when reaching its final waypoint: do nothing, decelerate and automatically place the engines into neutral at the waypoint, or decelerate to the waypoint, automatically place the engines in neutral, and then enter a SetPoint mode pre-selected by the operator at the exact point at which the operator returns the controls to the neutral position. Two beeps from the display inform the operator the final waypoint has been reached and to return the control handle position to neutral. Immediately upon doing so, the boat will enter the pre-selected mode (i.e. FishPoint, DriftPoint, etc.).

**NEW DISPLAY OPTIONS**

**CL5 COLOR TOUCHSCREEN DISPLAY**
An all-new, thin Yamaha CL5 touchscreen is small in size but big on information and ability. 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 equipment. Plus, it’s fully compatible with all previous DEC applications and Command Link- compatible mechanical control outboards (F20 and up).

**NOTE:** Boat deceleration and stopping characteristics may differ between MFD manufacturers. Boat may pass by final waypoint in some situations during Waypoint Arrival. Operator attention is necessary at all times when approaching a final waypoint.
**CL7 MULTI-FUNCTIONAL DISPLAY (MFD)**

Like the all-new CL5, the CL7 automatically displays Yamaha autopilot as well as other outboard and boat information based on the system configuration at the time of power-up. However, the Yamaha CL7 is a compact, fully functional MFD with many additional features and capabilities well beyond the operation and monitoring of Helm Master EX.

**MFD INTERFACE (MFDI) – GARMIN®**

Allows direct connection and display of system information, and use of touchscreen capabilities, on the following Garmin® MFD models:

- GPSMAP® 74xx/7600 series (J1939 compatible)
- GPSMAP® 8400/8600 Series
- GPSMAP® 8700 Black Box
- GPSMAP® 7x2/9x2/12x2 PLUS Series
MFD INTERFACE (MFDI) – OTHER MANUFACTURERS
(currently Raymarine® only)
Allows connection and display of system information on various manufacturers’ compatible MFD models. Selection and input is achieved through a buoyant handheld controller that can be retained on the console via a holster provided with the unit.

Raymarine® is an approved manufacturer for its Axiom™ XL model MFDs.

OPTIONS AND ACCESSORIES

NEW ANALOG GAUGE INTERFACE (AGI)

Flexibility - Although not technically part of the Helm Master EX system, the AGI has been updated to allow use of analog gauges with the all-digital Helm Master EX system offering greater flexibility.