

IMPORTANT: THE AUTOPILOT SHOULD NOT BE LEFT SOLELY IN CHARGE OF THE VESSEL AND AN ADEQUATE WATCH SHOULD BE MAINTAINED AT ALL TIMES. IT IS STRONGLY RECOMMENDED THAT THE AUTOPILOT SHOULD NOT BE USED WHILE NAVIGATING IN RESTRICTED WATERWAYS AS WATER CURRENTS, WIND CHANGES OR RADIO TRANSMITTER INTERFERENCE CAN ENDANGER YOUR OWN OR OTHER VESSELS.

Initial Operational Settings Without Rudder Feedback

The initial set up of the AP47C is done once the system installation is complete and power has been connected to the AP47C display control.

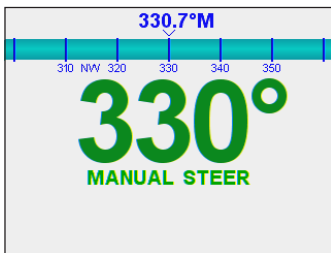


Figure 1:- Main Screen

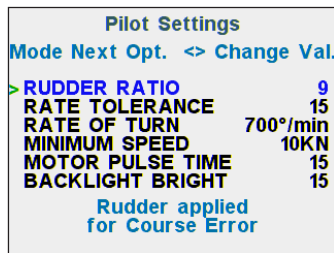


Figure 2:- Pilot Settings



Figure 3:- Install Options

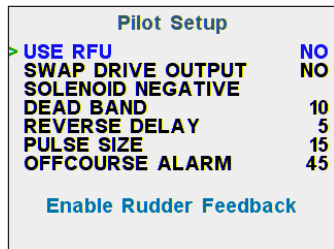


Figure 4:- Pilot Setup

To Adjust Settings:

- Go to **MANUAL** mode (Figure 1)
- Press **MODE** button, Pilot Settings will appear (Figure 2).
- Press **MODE** button again to select each next option on this screen.
- Press ► to increase a settings value
- Press ◀ to decrease a settings value
- While in the Pilot Settings screen, to enter the Install Options menu (Figure 3) press both **MODE & AUTO** buttons simultaneously.
- Press ◀ or ► to select between items, or change values.
- Press **AUTO** to enter or to edit a value.
- Once a value has been changed, press **AUTO** again to save.
- Press **MODE** continuously until system returns to **MANUAL** mode.

PILOT SETTINGS

Rudder Ratio (Default = 9)

Controls the amount the Pilot drives the rudder for a given off-course angle. A higher value will give more rudder movement, so larger vessels with slower rudders may require a higher setting.

Rate Tolerance (Default = 15)

Adjusts how much the pilot drives the rudder at a given rate of turn. This setting limits rudder movements until a minimum 'Rate of Turn' is detected. Increasing the Rate Tolerance too high can cause vessel wandering.

Rate of Turn (Default = 700°/min)

This limits the max turn speed of the vessel. Reduce this to reduce the angle of attack for getting to the target heading.

Minimum Speed (Default = 3.0kn)

When the vessel is below this set speed and in Auto or GPS mode, the AP47C will revert back to Manual mode. (GPS SOG required)

Motor Pulse Time (Default = 15)

The more responsive the vessel is to rudder movements, the lower this setting should be. Usually, for larger boats with low rudder speed, a longer pulse is required to drive the motor.

Backlight Bright (Default = 15 / DAY MODE)

This setting is useful for adjusting screen brightness and can be used to switch between day / night modes for low lit areas.

PILOT SETUP

Use RFU (Default = No)

Turn OFF if no RFU is connected.

Dead Band (Default = 10)

Increase this to reduce rudder hunting.

Reverse Delay (Default = 5)

This delay helps reduce shock load on the rudder drive train, as it controls the time between rudder direction changes (eg. Port to Starboard or Starboard to Port changes)

Pulse Size

Refer to motor pulse time setting above.

Off Course Alarm

Sets the minimum amount of off course error before the system indicates (audible & visual) an 'Off Course' alarm.

Main Screens Explained

MANUAL MODE

See Figure 5

- The system will always start up in **MANUAL** mode
- If **AUTO** or **GPS** mode is active, press **AUTO** to return to Manual Mode
- The system can now be used as a JOG controller;
 - To drive the rudder to PORT press ◀
 - To drive the rudder to STBD press ▶

AUTO MODE

See Figure 6

- To enter AUTO mode, press the **AUTO** button once. To set a desired course to steer / target heading, press ◀ or ▶ buttons to increase or decrease
- To disengage AUTO mode, press **AUTO** again to return to Manual Mode.
- Only 'Pilot Settings' can be accessed in this mode, by pressing **MODE** button.

GPS MODE

See Figure 7

- To enter GPS mode, press both **MODE & AUTO** buttons simultaneously.
- Before enabling this mode, ensure your GPS system has an active waypoint, cursor or route.
- The vessel will change course to steer at the maximum rate of turn set, so it is recommended to ensure the vessel is heading towards the first GPS target at a suitable speed before enabling.
- To disengage GPS mode, press **AUTO** to return to Manual Mode.
- To DODGE an obstacle while in GPS Mode Press;
 - ◀ To dodge by steering the vessel to PORT
 - ▶ To dodge by steering the vessel to STBD

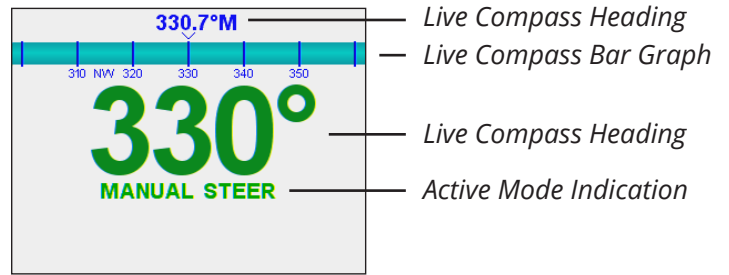


Figure 5

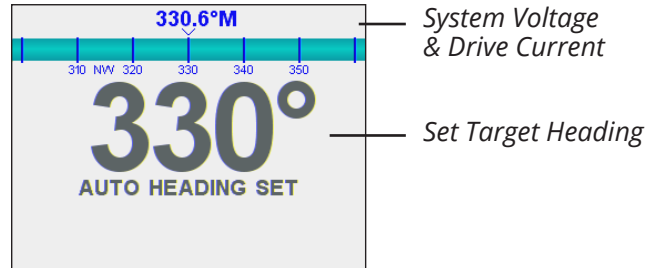


Figure 6

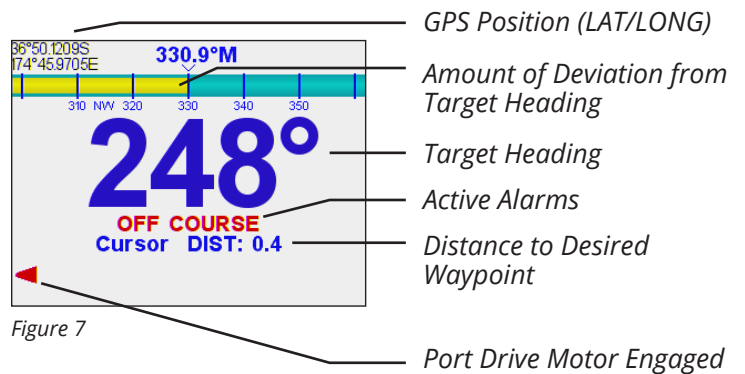


Figure 7

Example screen layout and visual indications.

Refer to Figure 7 - GPS mode screen above:

- The top blue bar is a compass bar graph, and the numbers above it indicate the vessel current heading.
- The yellow bar represents the amount of off course error, i.e. the difference between the set course, and the actual heading.
- The large blue numbers represent the course to steer which is currently 248°.
- There is an 'Off Course' Alarm indicated since the heading difference is larger than the off course alarm setting.
- On the top left of screen, the vessels current Lat/Long is displayed and on the right side the vessels battery voltage and drive current is indicated.

NOTE: The system must be interfaced to a GPS generating NMEA 0183 data output.

The GPS will also require configuration to ensure correct sentences and settings are suitable. Refer to the User Manual for further information.

NOTE: When NO RFU is used, the Rudder Angle will not be indicated on the bottom of the screen.