The system can be operated with the controls or the trackball module. The procedures in this operator’s guide use the trackball module.

**Controls**

The color and state of the LED change according to alert status.

- **OFF**: Heater on CPU board is on.
- **Green, lighting**: Normal operation status; no alerts generated.
- **Red, flashing rapidly**: Alert not acknowledged nor rectified.
- **Red, flashing slowly**: Alert not acknowledged, but rectified.
- **Red, lighting**: SYSTEM FAIL or acknowledged but not rectified alert.

**Status LED**

Turns the system on or off. (This key may or may not control monitor on/off depending on monitor setting.)

**POWER key**

Rotates the active EBL.

**EBL1, EBL2**

Activates, deactivates respective EBL.

**Alarm Ack key**

Acknowledges alerts; silences the audio alarm.

**InstantAccess knob**

Accesses functions on the InstantAccess bar.

- **Rotate**: Selects item.
- **Push**: Confirms selection.

**ESC key**

Goes back one step in current InstantAccess bar operation.

**ALARM ACK key**

Acknowledges alerts; silences the audio alarm.

**BRILL knob**

Rotate: Adjusts the brilliance of FURUNO or Hatteland monitor.

Push: Selects a color palette.

**A/C RAIN, A/C SEA knob**

No use.

**GAIN knob**

No use.

**Rotary encoder for VRM**

Adjusts the active VRM.

**VRM1, VRM2**

Activates, deactivates respective VRM.

**UNDO key**

Undoes the last operation, when creating a route or user chart.

**RANGE key**

Selects a chart scale.

**VIEW/HIDE key**

Shows, hides EBLs, Instant Access bar, Overlay/NAV Tools box, VRMs, Route Information box.

**ACQ/ACT key**

Activates selected sleeping AIS target.

**TARGET DATA key**

Displays the detailed target data for selected TT, AIS target.

**TARGET CANCEL key**

Sleeps selected activated AIS target.

**USB port (under cover)**

Connects a USB flash drive.

**Trackball module**

Operates like a PC mouse.

**Keyboard**

A keyboard for entering alphanumeric data.

**MFD key**

Toggles operating modes.

**UND0 key**

Undoes the last operation, when creating a route or user chart.

**InstantAccess knob**

Accesses functions on the InstantAccess bar.

- **Rotate**: Selects item.
- **Push**: Confirms selection.

**VRM1, VRM2**

Activates, deactivates respective VRM.

**VIEW/HIDE key**

Shows, hides EBLs, Instant Access bar, Overlay/NAV Tools box, VRMs, Route Information box.

**ACQ/ACT key**

Activates selected sleeping AIS target.

**TARGET DATA key**

Displays the detailed target data for selected TT, AIS target.

**TARGET CANCEL key**

Sleeps selected activated AIS target.

**ESC key**

Goes back one step in current InstantAccess bar operation.
Operating mode: Selects an operating mode, ECDIS, Conning or AMS (option).

NAVIE: Selects the Voyage navigation mode.

CHARTS: Selects the Chart maintenance mode.

PLAN: Selects the Voyage planning mode.

OTHERS: Sets system in standby; plays back data (AMS off).

Chart priority: Selects which chart type to display, vector or raster, when both are available.

STD DISP: Restores IMO standard display.

Chart database: Selects the pre-defined presentations of ENC content: IMO BASE, IMO STD or IMO ALL.

User profiles, Settings menu: Manages user profiles; opens the Setting menu.

Displays the operator’s manual, ECDIS program no. and system information.

Status bar

Spinner: Rotates clockwise if the system is working properly.

Time: Time (local or UTC).

Date: Displays the date; selects the time to use, local or UTC.

How to open a drop-down list

Click button

Indicates a drop-down list.

Drop-down list

Status Bar

Click button
### Upper section (by operating mode)

#### Voyage navigation mode
- **Select:** Opens the Select Route dialog box to select the route to follow.
- **Unselect:** Stops following monitored route.
- **Move to Plan:** Switches mode to Voyage planning mode to edit route selected.
- **Route INFO:** Displays the Route Information dialog box.

#### Chart maintenance mode
- **AUTO Load:** Starts automatic installation of the chart data (CD or DVD ROM).
- **Manage Charts:** Manages chart cells (grouping, deleting, etc.).
- **Cell Status:** Shows the chart catalog to get info about charts installed in the system.
- **License:** Manages chart licenses.
- **Public Key:** Manages public keys.

### Lower section

#### Chart Legend
- **Chart 1:** Provides overview of ECDIS chart symbols.
- **Report:** Records user/position events to the event log; accesses various logs.
- **MOB:** Marks man overboard position.
- **Sync Config:** Selects ECDIS units to synchronize.
- **Sync Status:** Displays sync status; does sync status functions.
- **Reconvert:** Reconverts outdated SENC charts to the corresponding current ones.

#### Voyage planning mode
- **Report:** See reports on waypoints and voyage planning related routes and user charts.
- **Route:** Creates a route (see page 5).
- **User Chart:** Creates a user chart (see page 7).
- **Guide Box:** Provides range and bearing information between the last waypoint and the cursor position when creating a route.

#### Guide Box
- **Select:** Opens the Select Route dialog box to select the route to follow.
- **Unselect:** Stops following monitored route.
- **Move to Plan:** Switches mode to Voyage planning mode to edit route selected.
- **Route INFO:** Displays the Route Information dialog box.

#### Guide Box
- **Select:** Opens the Select Route dialog box to select the route to follow.
- **Unselect:** Stops following monitored route.
- **Move to Plan:** Switches mode to Voyage planning mode to edit route selected.
- **Route INFO:** Displays the Route Information dialog box.

### Set:
- **Two DISP:** Splits the screen in two, horizontally or vertically.
- **AIO:** Displays Admiralty Information Overlay.
- **Status:** Shows or hides the Track Control Status window.
- **GoAW*, GoSEA**: Activates respective autopilot steering mode.
- **Sync Status:** Displays sync status; does sync status functions.

### Instant Access Bar
- **Select:** Opens the Select Route dialog box to select the route to follow.
- **Unselect:** Stops following monitored route.
- **Move to Plan:** Switches mode to Voyage planning mode to edit route selected.
- **Route INFO:** Displays the Route Information dialog box.

---

*Not shown with Autopilot FAP-2000.*
How to create a route

1. Click [New].
2. Click a position to mark a waypoint.
3. Continue entering waypoints.
4. At last waypoint, right-click and select [Finish].
5. Enter name for route.
6. Click [OK].
7. Click [Save].
8. Click [OK].

Plan

WPT1
201.5°
2137.2NM

WPT2
106.9°
1748.5NM

WPT3
25.8°
1470.2NM

WPT4
309.0°
971.4NM

WPT5
161.4°
353.3NM

WPT6
201.5°
2137.2NM

Continue entering waypoints.
How to select a route to navigate

1. Select NAUI mode; right click [Route].
2. Click [Select Route].
3. Select a route.
4. Click [Open].

How to view route waypoint information

1. Select NAUI mode; right click [Route].
2. Click [Route Info].
3. Click [Waypoints] tab.

How to delete a route

1. Check route(s) to delete.
2. Click [Delete].

To stop navigating a route:

NAV1 ➔ Route ➔ Un select
How to create a user chart

Click object to draw.

**Tidal:**
- Predicted
- Current

**Line:**
- Coast
- Route
- Nav
- Depth

**Clearing Line:**
- NMT
- NLT

**Area**

**Circle**

**Label**
- Label
- Point

How to draw a line:
1. Click
2. Click
3. Click
4. Right click; select [Finish].

How to draw a circle:
1. Click
2. Move cursor; double click.

How to draw an area:
1. Click
2. Click
3. Click
4. Right click; select [Finish].

Example objects

Right click to open options.

Enter name for user chart.

Click [Save].

Click [Save].
How to select objects to display in user chart

1. Click [Mariner] tab.
2. Check item(s).
3. Click [Save].

How to link a user chart to a route

1. Click [User Chart] tab.
2. Select user chart to link. (Multiple selections possible.)
3. Click.
4. Click [Save].

How to delete objects from a user chart

- **Circle or area**
  - Right click
  - Select [Delete]

- **Point on a line**
  - Right click the point
  - Select [DeletePoint]

How to delete user charts

1. Check chart(s) to delete.
2. Click [Delete].
How to control visibility of chart objects

**Basic Setting**
Control basic chart settings

**Chart Objects**
Control chart objects

**Symbol DISP**
Control navigational features

**DISP**  **SET**

**Chart Operations**

- **Basic Setting**
  - **SET**
  - **DISP**
  - **Symbol DISP**

- **Control chart objects**
  - **DISP**  **SET**

- **Control navigational features**
  - **Symbol DISP**
How to set safety contours and chart alerts

Set safety contour here.

Click to select chart alert type:
Red ( ): Audio+visual indications
Orange ( ): Visual indication
Yellow ( ): No indication

How to find chart object information (ENC chart)

Select an object.

Click [Object INFO].

Right click.

Select [Object INFO].

How to manually insert a "new" chart object

Put cursor on location where to enter object then click.

Click [Add].

Select object from Drawing type.

Click [Planning] tab.

Click to select chart alert type: Red ( ): Audio+visual indications Orange ( ): Visual indication Yellow ( ): No indication

How to set Display date and Approved until dates

Click [Approve All].

Click [Commit].

Select object from Drawing type.

Set display date.

Put cursor on location where to enter object then click.
How to find target info

Click a target to show its information.

**TT/AIS Operations**

**How to set up TT and AIS on the TT/AIS page in Overlay/NAV Tools box**

- Shows, hides TT display.
- Shows, hides AIS display.
- Enables, disables TT/AIS CPA/TCPA alarm.
- Sets TT/AIS lost target alarm conditions.
- Select past position point interval (time).
- Selects reference for TT/AIS past position display.

**TT symbols (main)**

<table>
<thead>
<tr>
<th>Symbol (Color)</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Green)</td>
<td>Past position marker</td>
</tr>
<tr>
<td>(Green)</td>
<td>Target under acquisition</td>
</tr>
<tr>
<td>(Green)</td>
<td>Acquired target</td>
</tr>
</tbody>
</table>

**AIS symbols (main)**

<table>
<thead>
<tr>
<th>Symbol (Color)</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Green)</td>
<td>Past position marker</td>
</tr>
<tr>
<td>(Green)</td>
<td>Sleeping AIS target</td>
</tr>
<tr>
<td>(Green)</td>
<td>Activated AIS target</td>
</tr>
</tbody>
</table>

**How to set up TT and AIS on the TT/AIS page in Overlay/NAV Tools box**

- Sets TT/AIS vector time.
- Selects TT/AIS vector reference.
- Sets CPA and TCPA conditions for TT/AIS CPA/TCPA alarm.
- Sets conditions for automatic activation of AIS targets whose CPA is within CPA/TCPA setting.
- Check to select radar echo source also as TT source.
- Set reference position in TTM sentence to CCRP or antenna.

**Vector**

- (ex. TT)

- (ex. AIS)
TT/AIS Operations (con’t)

Open the menu, select TT/AIS Setting and then Setting.1 or Setting.2 as appropriate.

**AIS filter, how to sleep all AIS targets, auto activation of AIS targets by CPA**

Filters AIS targets by target category.
Filters AIS targets by range, speed. Sleeps all activated AIS targets.
Sets the conditions to activate an AIS target when its CPA is within the CPA alarm setting.

**AIS and TT lost target filters**

Sets the conditions for the AIS lost target filter.
Sets the conditions for the TT lost target filter.

Radar Overlay

Activates, deactivates the radar overlay.
Adjusts the picture gain.
Sets the degree of transparency for the overlay.
Sets the item to display when a chart object and a radar echo share the same position.
Selects the antenna to feed the radar echo data.
Status of the radar echo data, “OK” or “No Data”.

Alert Icons and Their Meanings

<table>
<thead>
<tr>
<th>Icon</th>
<th>Alert priority: Alarm</th>
<th>Alert state</th>
<th>Icon description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1" alt="Alert Icon" /></td>
<td>Not acknowledged, Not rectified</td>
<td>Red triangle with black loudspeaker in center of triangle. Flashing every 0.5 s.</td>
<td></td>
</tr>
<tr>
<td><img src="image2" alt="Alert Icon" /></td>
<td>Not acknowledged, Not rectified</td>
<td>Red triangle with crossed out black loudspeaker in center of triangle. Flashing every 0.5 s.</td>
<td></td>
</tr>
<tr>
<td><img src="image3" alt="Alert Icon" /></td>
<td>Acknowledged, Not rectified</td>
<td>Red triangle with black exclamation point in center of triangle.</td>
<td></td>
</tr>
<tr>
<td><img src="image4" alt="Alert Icon" /></td>
<td>Not acknowledged, Rectified</td>
<td>Red triangle with black check mark in center of triangle. Lights 3 s, off 1 s, repeat.</td>
<td></td>
</tr>
</tbody>
</table>

Alert priority: Warning

Alert priority: Caution

<table>
<thead>
<tr>
<th>Icon</th>
<th>Alert priority: Caution</th>
<th>Alert state</th>
<th>Icon description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image5" alt="Alert Icon" /></td>
<td>Caution</td>
<td>Steadily displayed yellow square with black exclamation point in center of square.</td>
<td></td>
</tr>
</tbody>
</table>