



Bridge Solution Components

for Recreational and Commercial Vessels



Custom Helm Controls

The helm control panel is a center-piece of ship electronics. From here, the captain and crew operate the vessel and its many different systems. It is arguably the most important human machine interface on board. Most bridge consoles nowadays consist of devices from numerous manufacturers, each having their own unique approach to marine controls, usually complicating overall usability. For optimal ease of use and safety during operation it is highly recommended to provide an interface with a unified approach. This is why the integrated bridge is not only a trend but the next logical step in the evolution of bridge design.

To escape the clutter encountered on many bridges today, Böning increases the level of integration of third party manufacturer equipment as much as possible. It is our goal to make bridge consoles that do not intimidate the user with its complexity but invite them to simply carry out the tasks at hand.

The panel electronics feature micro switches lasting at least a million operations. In combination with the foil embossing there is a clear tactile feedback when pressing a button. The front foil is made of polyurethane with a velvet finish which is silkscreen printed on its reverse side and bonded with milled aluminum sheet metal. It is highly durable, UV resistant, scratch proof and resists most cleaning agents,

making it perfectly suitable for indoor and outdoor use alike.

We have been supplying aluminum foil panels for over 30 years now, providing us and our suppliers with vast experience in feasibility and customer demand.

Features at a glance

- + Unified helm design
- + Simplified vessel operation
- + Less clutter from the diversity of types of equipment
- + Durable operation built to last
- + Unobtrusive design, fitting any interior style
- + Single manufacturer benefits
- + Unique custom controls - switch whatever you want
- + Integration of almost every third party system



Mechanical Integration

When equipping ships with navigation, monitoring and control systems, there are hardly any projects supplied by a single manufacturer. There will most certainly be various different brands present on the bridge. Each of these brands will have their own design language to distinguish themselves in the market. Unfortunately, these differentiations do not help creating easy to use and visually pleasing bridge layouts.

To enhance the consistent appearance of the helm panel, it is highly desirable to reduce the variety of panel faces. To achieve this, we are integrating the equipment into the surrounding panel as much as possible. When installing third party equipment, you can choose from three levels of integration, depending on the design of the given device.



Universal Operation Panel

AHD-USP is the basic building block for custom control panels. With its 8 or 15 freely programmable microswitch buttons, it is capable of switching virtually anything.

The necessary contacts to control the target system are connected to a data station that communicates with the operation panel via CAN bus.

Each button is assigned a channel in the system configuration and can be defined to trigger simple on/off or more complex commands. Its buttons can also display status changes of a connected system by lighting up or even changing color. The illumination color can be set as desired and changed globally on-screen or directly on the panel. To eliminate glare at night, panel brightness is dimmed automatically.



Seamless Integration

The Universal Operation Panel (AHD-USP) is invisibly installed and connected below the custom panel.



Insert Option

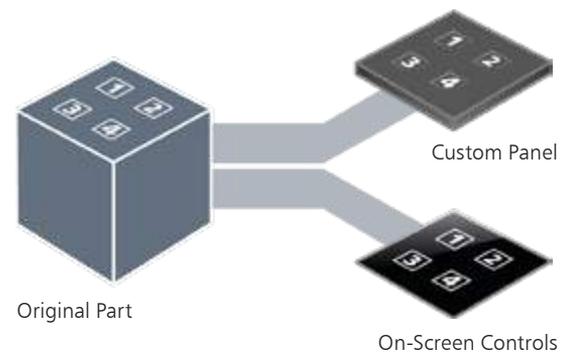
AHD-USP is also available as an insert part that is physically separate from the rest of the foil panel. This method increases serviceability and offers a much easier upgrade procedure in case changes need to be made over the course of a ship's life.

Interface Integration

To make the most out of your ship's equipment, it is highly beneficial to use its data not only for itself but for the entire monitoring and control system. This way, your ship ideally becomes fully interconnected and its use much more user-friendly and secure.

For certain systems it may be useful using an on-screen representation instead of the original controls to help improve the helm's layout and improve the system's usability. The physical controls can be installed nearby providing a failsafe backup to the virtual controls.

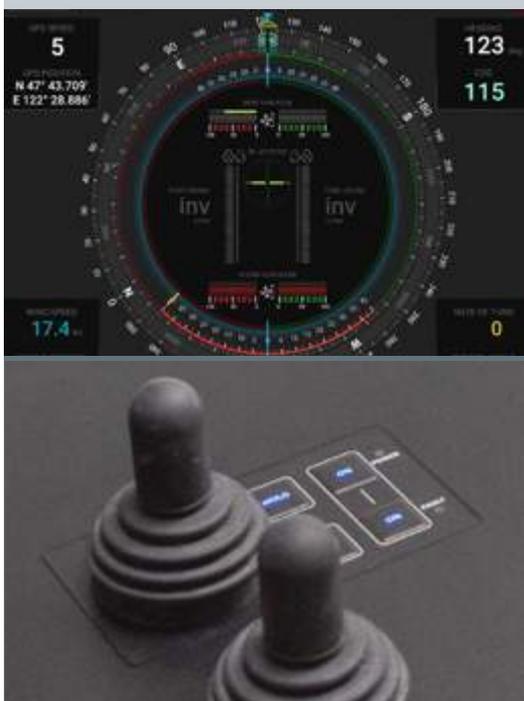
Böning strives to integrate as many third party devices as possible to cater to the customer's requirements. However, with the variety of manufacturers in the market, it is not unlikely to encounter unfamiliar technology. In this case, we will thoroughly investigate to find a solution.



Anchors



Bow and Stern Thruster



CCTV Cameras

Complete package supply -
Cameras, Control and Monitoring

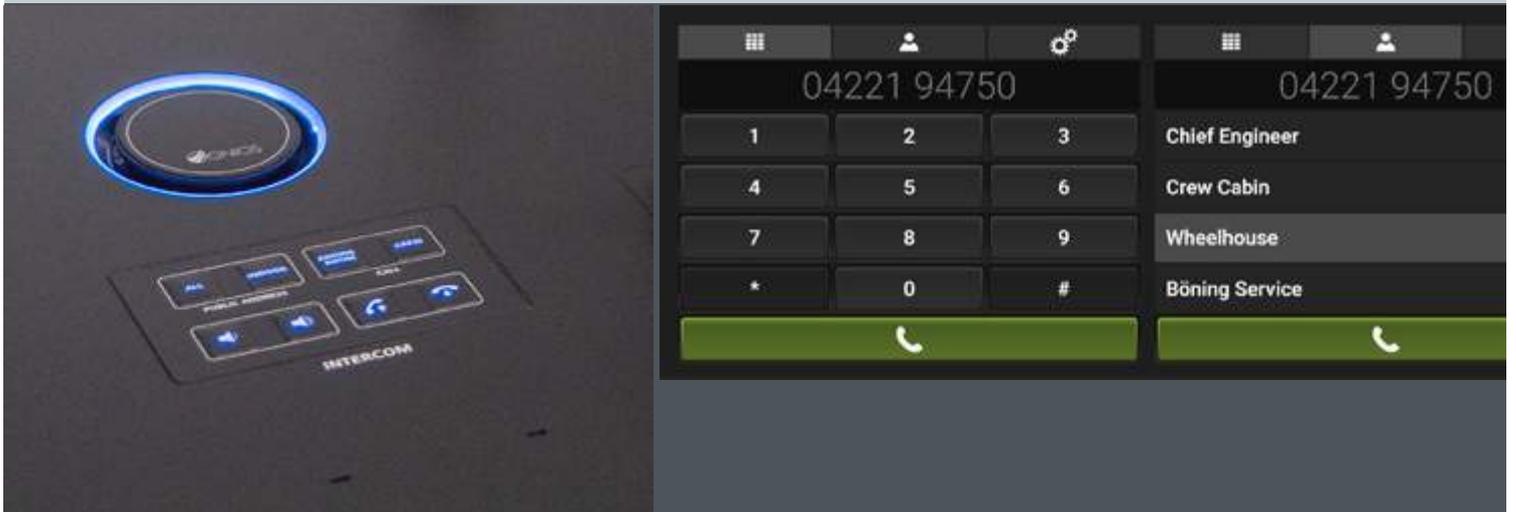


ECDIS / Radar

Use a physical or virtual keyboard on any screen.



Intercom Systems



Lights



Navlights

Complete package supply - Lights, Control and Monitoring



Screens

Control screens from any manufacturer with a central input device and distribute all video sources freely between them. Additionally, control their brightness levels globally or individually.



Searchlights

Complete package supply - Searchlights, Control and Monitoring

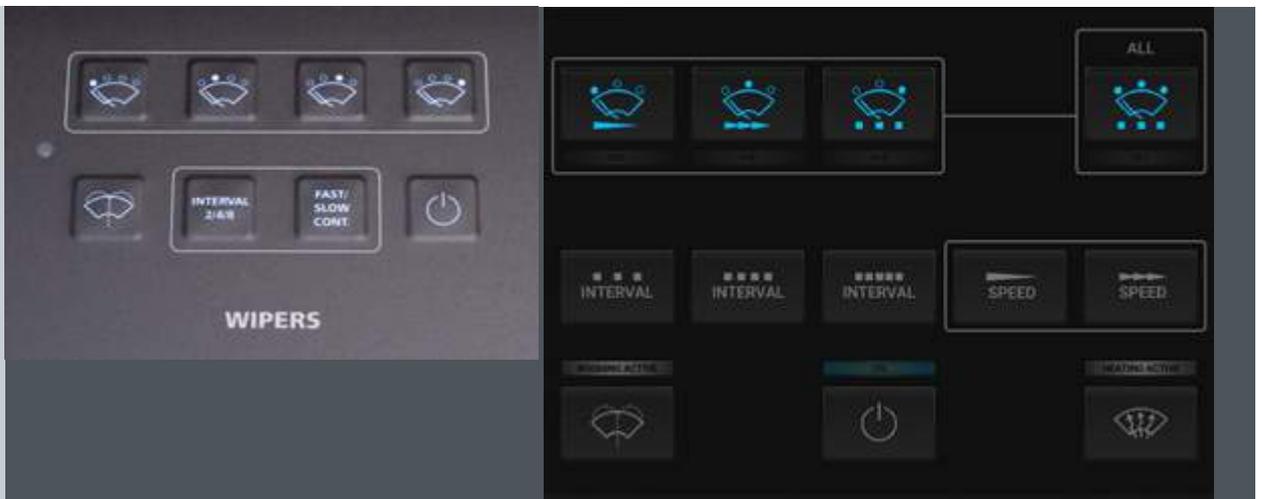


VHF Radio

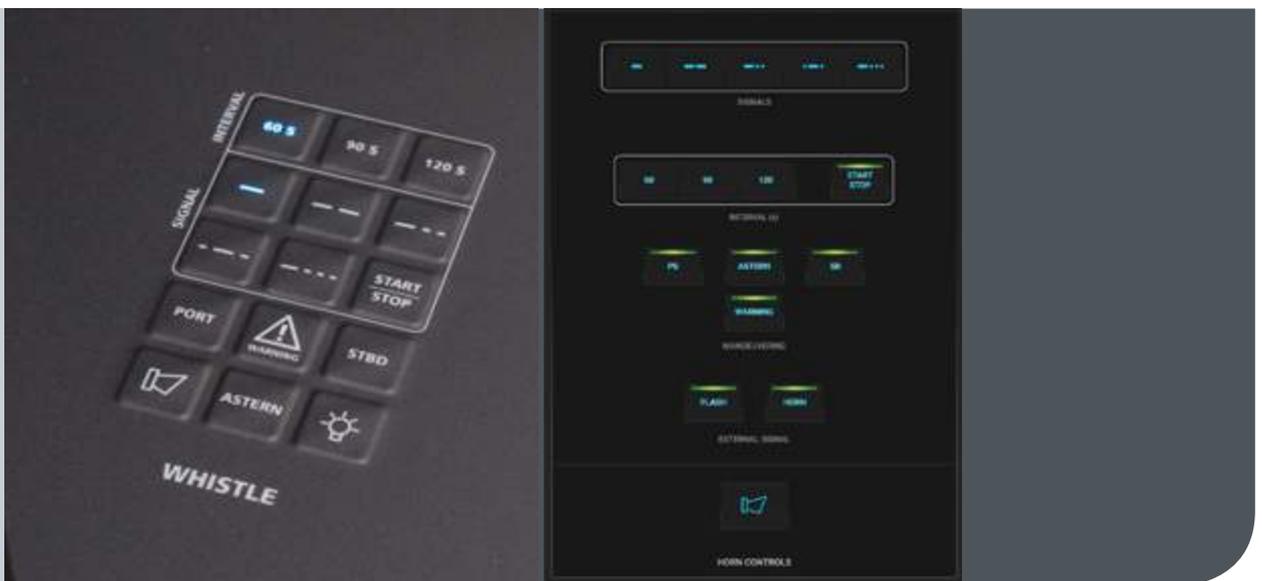
The on-screen and panel versions both offer the full functionality of the original VHF base.



Wipers



Whistle



Unlimited Options

These examples are neither the limit or exhaustive but ever expanding with nearly every project.

Project Workflow

The project begins with the overall system schematic, defining the scope of the control and monitoring tasks.

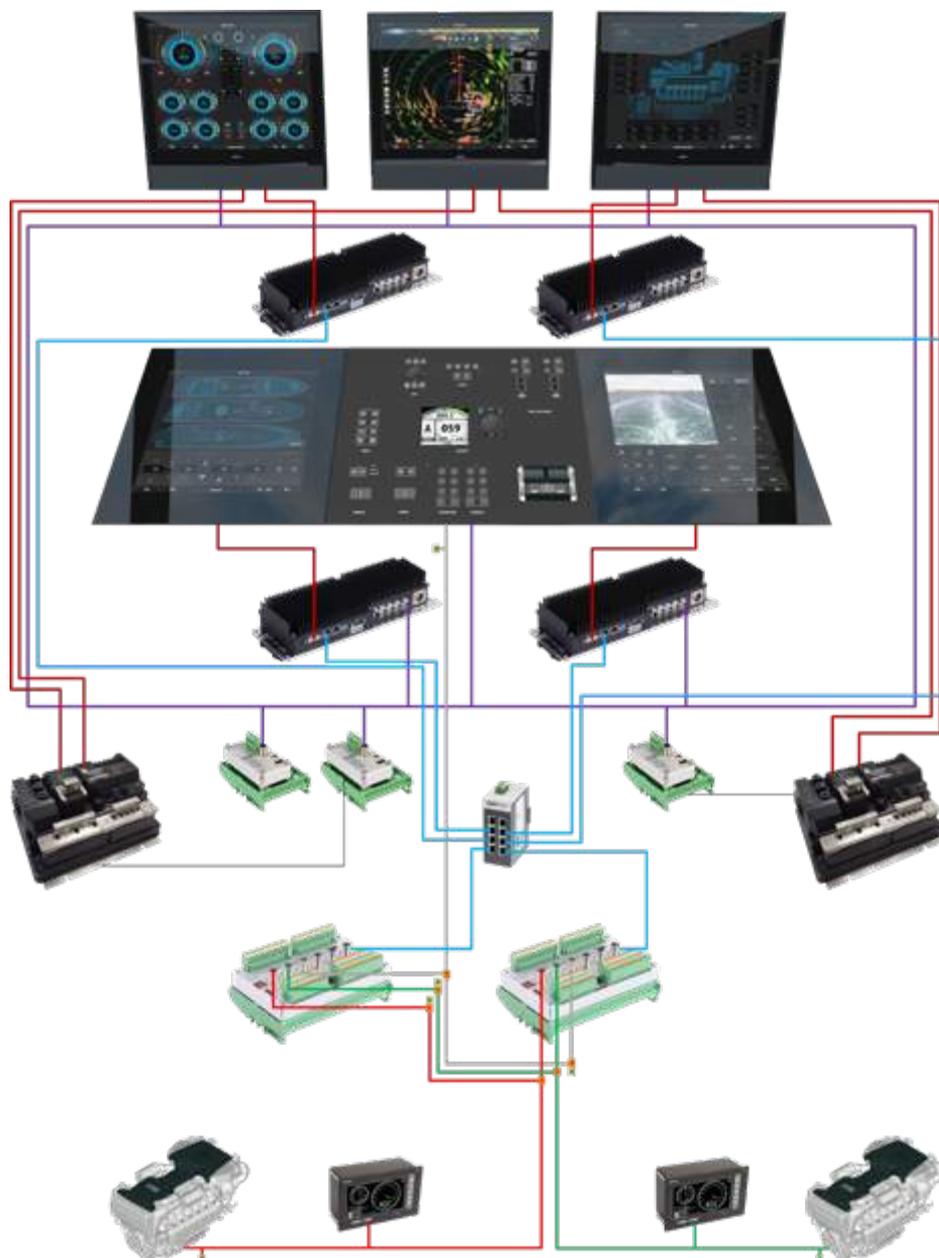
With a sketch and a list of equipment to be implemented, the design department creates concept drawings for the customer to better envision the panel in its environment.

These concepts are checked and adjusted to the customer's requirements until formal and technical approval can be issued.

At the same time, technical clarification of any given interfaces to third party equipment and all functionalities must be achieved to be able to proceed to the production stage.

Concept Stage

- + Technical clarification of:
 - Functions and implementation
 - Interfaces to third party devices
- + Design
 - Helm Panel Layout
 - Panel foil icons and texts
 - Wheelhouse interior visualization





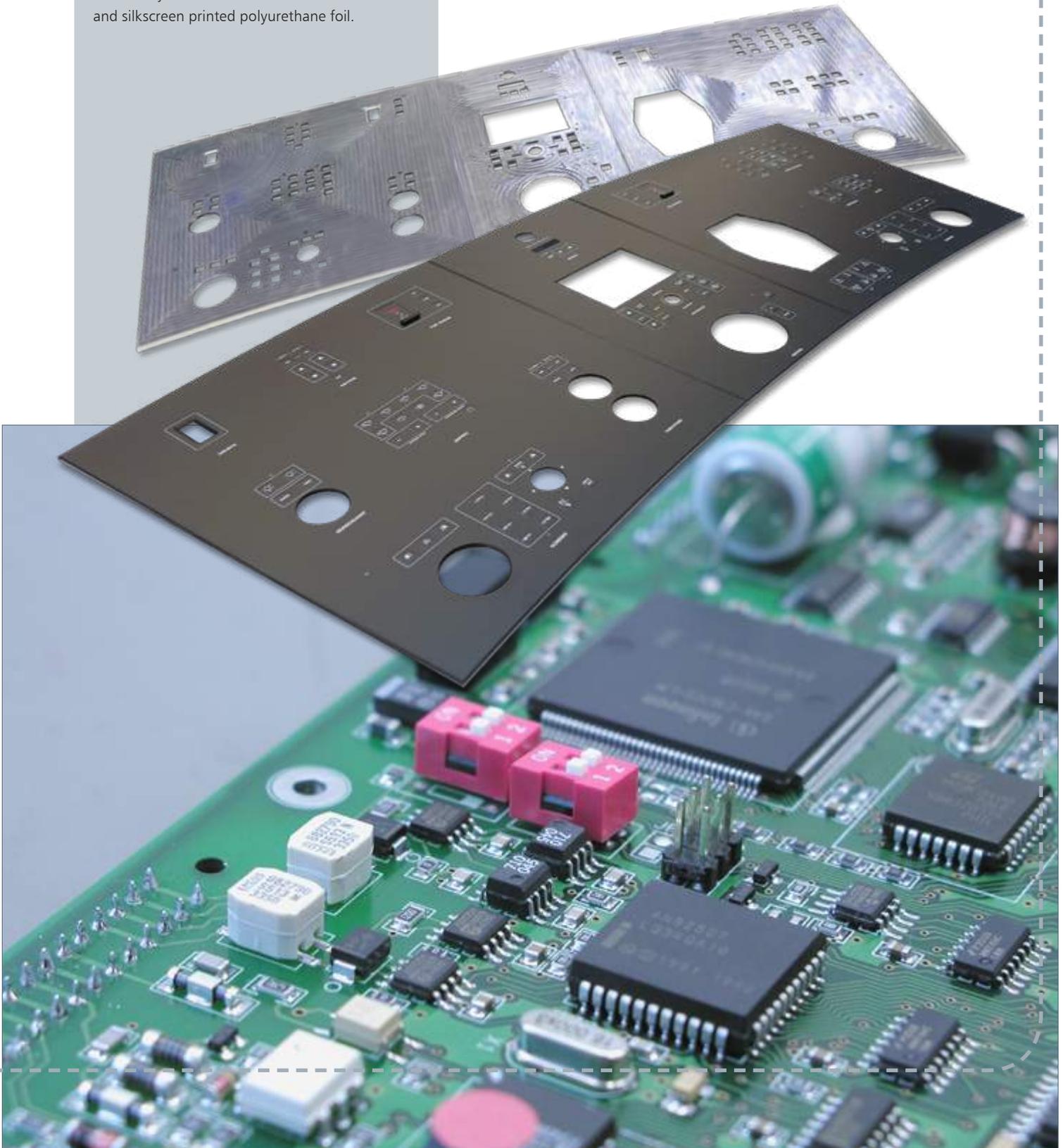
Based on the customer's technical drawings of the wheel-house, the design team creates proposals for the helm layout that convey realistic impressions of the finished project.



Production

Following approval, the electronic and mechanical hardware is manufactured.

The supporting panels are made from aluminum sheets that are anodized after milling. Afterwards they are bonded with the embossed and silkscreen printed polyurethane foil.





When all electronic components are installed and wired properly, they are flashed with the previously generated configuration data and tested thoroughly before being shipped and commissioned by the integrator, the yard or by our own technicians.



Projects

Integrated Bridge

The most prominent example of Böning Helm Consoles to date - the Integrated Bridge. The experience of a major company in navigation and communication systems for IMO vessels and the powerful Böning ship automation system combined brought a new megayacht bridge system to life.

This bridge system integrates Böning automation information and controls with many sophisticated navigation systems. Controls are divided between physical buttons

on the helm panel for those functionalities that need to be directly at hand and virtual buttons on the screens for everything that is less time critical in its use. The bridge features a unified control concept, allowing the captain to control navigation devices and monitoring pages with the same trackball. The radar and ECDIS control keyboards are also available as on-screen keyboards.

Backup Furuno radar/ECDIS keyboards in drawers

Custom Helm Panel

Furuno Doppler Sonar, Echosounder and Remote Display

32" Furuno Screens

19" Ultrawide Touchscreen

19" Touchscreen



- ① Furuno VHF Remote Station
- ② Integration Bypass Switch
- ③ Ognios Intercom
- ④ Fwd and Aft Searchlights
- ⑤ Anchor Controls
- ⑥ Screen Controls with Scrollwheel Trackball
- ⑦ Wiper Controls

- ⑧ Engine Controls
Start / Stop with emergency stop
buttons under lid
- ⑨ Fwd and Aft Thruster Controls
- ⑩ Fingerprint Scanner
Unlock panel operation
- ⑪ Furuno FAP-3000 Autopilot
- ⑫ Kwant Mini Wheel Rudder

- ⑬ Whistle Controls
- ⑭ Kwant Throttle Lever
and Propulsion Controls
- ⑮ Screen Controls
Power on/off screens and PCs, adjust
brightness levels
- ⑯ Lights / Navlights Controls
- ⑰ Furuno BNWAS Reset Knob



71m Motor Yacht Custom Helm



Sleek and Smart Integration for an Italian 71m Super Yacht

Numerous third party devices needed to be integrated in this project with a helm console spanning close to 5 metres.

Two or more crew members can work simultaneously alongside the captain, with radar and chart keyboard controls neatly integrated into the console surface. Next to these, 19" touchscreen displays offer a multitude of control options on both port and

starboard side of the helm. One trackball on each side controls any device on any screen. The helm panel itself is backlit with RGB LEDs to appear in any desired color.

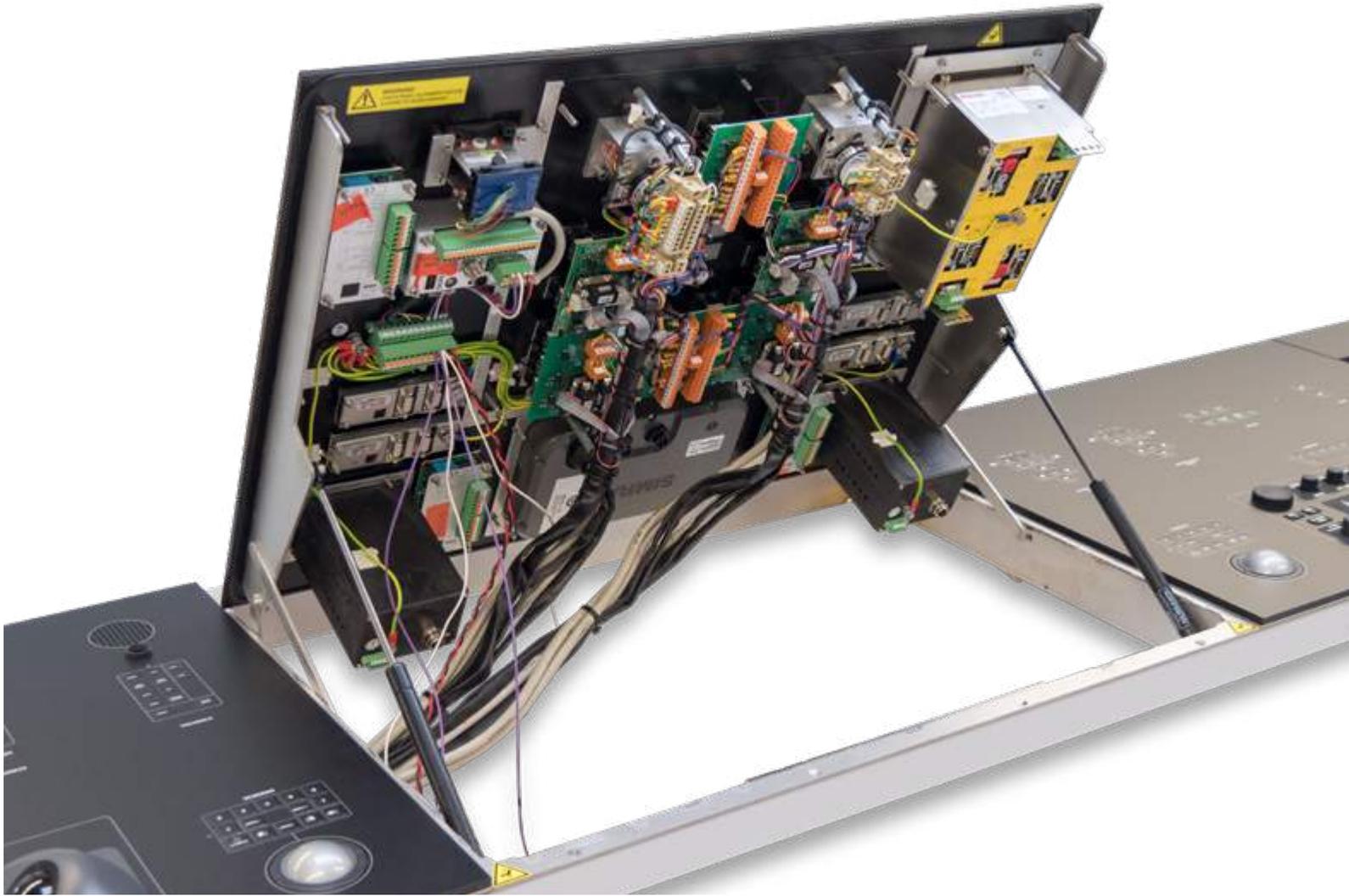
Every panel is hinged and supported by hydraulic struts for easy serviceability. Third party devices are all rear mounted to achieve the most unobtrusive look.



- ① General Alarm Panel
- ② Whistle Controls
- ③ Public Address with Microphone
- ④ Talkback Panel with Mic and Speaker
- ⑤ Aventics Emergency Operation Panel

- ⑥ Aventics Control Panel (under foil)
- ⑦ AHD-EST Emergency Stop Panel
- ⑧ Simrad AP70
- ⑨ AHD-SLP V2 Searchlight Controls
- ⑩ AHD-USP Wiper Controls
- ⑪ AHD-USP Mast Controls
- ⑫ Screen Controls
Trackball / Rotary Pushbutton

- ⑬ Aventics Throttle Lever
- ⑭ Rolls-Royce Propulsion Panel
- ⑮ Thruster Joystick Panel
- ⑯ Integrated Furuno
RCU-024 ECDIS Keyboard



27m Motor Yacht Helm



A very compact custom panel packed with functionalities. Not only were we able to provide the panel itself but also every monitor for navigation and monitoring including the customer specific visualisation for this extravagant custom yacht.

Highlights include full controls for three Rolls Royce waterjets with digital positioning joystick and an integrated 10" Rolls Royce control screen. Engine start and stop commands are issued by three AHD-EOP with transponder technology.

The panel's backlight features fully adjustable RGB color automatically matching the background color set in the visualization on screen.

50m Motor Yacht Helm



50m fast displacement yacht from Italy with a foil and glass bridge. 19" flat touch screens, Rolls Royce equipment and integrated Sperry autopilot and repeater compass. 24" screens ahead for navigation and monitoring.

36m Motor Yacht Helm and Flybridge



A 36m yacht from the Netherlands with contemporary design on the outside and a clean, professional approach on the inside.

Wheelhouse panel highlights include a fingerprint and keycard reader for engine operation clearance, dual VHF stations and flush mounted Furuno Inmarsat and Navtex receiver displays.

The flybridge panel offers a choice selection of functionalities in a rugged and watertight fashion including watch alarm switch, engine operation, tiller and thrusters operation.

In addition to these helm panels we also supplied a comprehensive alarm and monitoring system for this yacht.



165' Motor Yacht Flybridge Refit



Original State



3D Concept



Final Solution

A refit project on a fast Italian 165' yacht. An overhaul of the existing flybridge console was required to match the desired overall appearance.

The panel features all components needed to make this a complete second helm on the flybridge. Various parts from the original yacht had to be reused and integrated along with the new equipment.

52m Superyacht Helm



A modern 52m steel superyacht from Italy with an innovative approach to helm layout. Controls are almost exclusively virtual on the various touchscreens with only the most important ones still available as physical interfaces.

Console space is divided into three modules, featuring rear mounted 32" displays on center and port modules and a Böning 19" ultrawide touchscreen on each for control and monitoring.

to be continued...

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