



Case Study

HMI for Yacht Control and Monitoring System

Critical Roles of HMI in Yacht

An HMI (Human-Machine Interface) is crucial to yachts as it integrates data from various sensors and systems such as radar, weather, and environmental information which could influence the safety of the cruise. For crew members, the HMI is their first access to monitor the ship and navigate. A reliable HMI is indispensable.

Challenges

The customer, based in Istanbul, Turkey, specializes in providing cutting-edge engineering service solutions for the naval and commercial yacht market. Its expertise lies in Human Machine Interface (HMI), system integration, data collection, and data analysis. The customer was looking for a 12-inch all-in-one touch panel PC for its HMI systems in collaboration with a superyacht builder. It should feature a PCI Express Mini Card slot for wireless connectivity to the database. With limited space, it had to be lightweight, support panel mount, and have a superior price/performance ratio compared to existing solutions.

Main Requirements

- High brightness 12" display with resistive touchscreen
- Low-power Intel® Celeron® processor
- One PCI Express Mini Card slot for Wi-Fi
- Supports panel mount
- Super slim and ultra-lightweight design

The touch panel PC with bright clarity fits in the cabin

Axiomtek's local distributor in Turkey, [Arval Automation and Imaging Technology](#), has recommended the GOT5120T-845, a 12.1-inch fanless touch panel computer powered by the Intel® Celeron® processor N3060. It features an SVGA TFT LCD display with a resistive touchscreen. The brightness reaches 500 nits, making it comfortably viewable under the sunshine. The system is both IP65 and NEMA 4 rated, which can prevent splash of water. With two PCI Express Mini Card slots and a built-in WLAN antenna, it enables various wireless network connections, adaptable to LAN/GPRS/GPS/4G by simply plugging in a wireless LAN card.

Application

GOT5120T-845 collects data from various sources for monitoring and enhanced safety

The GOT5120T-845 serves as an HMI for comprehensive data collection, control, and monitoring of the yacht. Users can effortlessly oversee and manage the yacht through the HMI. It enables the crew to monitor and control various systems such as navigation, engine performance, and electrical systems through a single interface, enhancing operational efficiency. Integrated with automation systems, the HMI can manage tasks such as autopilot navigation and route planning, reducing crew workload. Additionally, it provides real-time information on weather conditions, potential hazards, and security threats, ensuring the safety of the yacht and its passengers. Overall, it improves operational efficiency and safety during the cruise.



System Configurations of the GOT5120T-845

- 12.1" SVGA TFT LCD display with resistive touchscreen
- Intel® Celeron® processor N3060 onboard (code name: Braswell)
- One DDR3L-1600 MHz SO-DIMM for up to 4GB of memory
- 64GB SSD for storage
- Two PCI Express Mini Card slots for wireless connection
- Two GbE LAN, four USB, and two COM ports
- Windows® 10 Pro operating system
- Supports panel mount

Why Axiomtek

As one of the innovative leaders in the IPC industry, Axiomtek provides touch panel computers in different materials and designs to meet different demands across industries. They fully satisfy motion control, data acquisition and visualization needs.

“We extend our sincere gratitude to Axiomtek and local partner Arval for their exceptional service. Their timely delivery of high-quality products has been instrumental in our project's success. The outstanding technical support and customer service have surpassed our expectations, reinforcing our confidence in Axiomtek as a trusted partner,” said the engineer of the customer.

About Axiomtek Co., Ltd.

Axiomtek has experienced extraordinary growth in the past 30 years because of our people, our years of learning which resulted in our tremendous industry experience, and our desire to deliver well-rounded, easy-to-integrate solutions to our customers. These factors have influenced us to invest in a growing team of engineers including software, hardware, firmware, and application engineers. For the next few decades, our success will be determined by our ability to lead with unique technologies for AIoT and serve our key markets with innovatively designed solution packages of hardware and software – coupled with unmatched engineering and value-added services that will help lessen the challenges faced by our systems integrator, OEM and ODM customers and prospects alike. We will continue to enlist more technology partners and increase

collaborations with our growing ecosystem who are leaders in their fields. With such alliances, we will create synergy and better deliver solutions, value, and the expertise our customers need.