

Rugged Tablet EM-I22K assists rivers and lakes surveying



Challenge

In order to find out the basic situation of my country's rivers and lakes, and grasp the current situation of water resources development, utilization and protection, the water conservancy census team needs to collect data on the area, depth and height of rivers and lakes. Facing the ever-expanding measurement scope, the census team chose an unmanned surveying and mapping vessel that integrates a variety of data acquisition devices to replace manual boating to the center of the lake for detection. As an electronic device that assists surveyors to view and record data on the shore, in addition to being in a humid, hot and dusty field environment for a long time, it also faces the risk of being dropped into the water. These all place a high standard on the robustness of the device.

Solution

The I22K rugged tablet is an ideal tool to help surveyors work efficiently. It combines high speed, versatility and long battery life, while its robust design is also made for harsh environments. I22K is designed to MIL-STD 810G and IP65-rated, the durable construction with reinforced chassis can handle bumps on the road, drops on the ground, and intrusion of dust and water.

Benefits

The ruggedness of the I22K tablet from the inside out allows surveyors to use it in any weather condition, combined with its 12.2-inch capacitive touchscreen that is still clearly visible in outdoor environments for easy viewing and manipulation of maps and charts. Thanks to the hot-swappable battery, the surveyor can easily replace the backup battery without shutting down the device application, allowing work and data collection to continue seamlessly.



EM-I22K
Rugged Tablet PC

Challenge

Traditional river mapping has relied on manual surveys in shallow areas using RTK equipment, or in kayaks and boats to the middle of the Lakes. Launching was dangerous for surveyors, and in turbulent waters, kayaks and boats were difficult to secure, resulting in inefficiencies that hampered the rapid progress of the project. To this end, the census team chose to use the unmanned ship integrated survey system to replace the traditional manual measurement. The surveyors only need to dispatch the unmanned surveying ship on the shore and read the data returned by it to complete the surveying work. The humid air conditions on the shore and the unbearable heat from the midday sun, as well as the variable weather outdoors, threaten the electronic equipment used to assist surveyors in reading and recording data. Most of the ordinary mobile electronic devices have not received special reinforcement treatment, and their durability and stability are difficult to adapt to the harsh on-site environment. Therefore, the frequent failures caused the on-site operation to be unable to proceed smoothly, and the project schedule was forced to extend. In addition, due to the long-term exposure to the outdoors, a sunlight-readable display, a small size that is easy to carry, and a sufficiently powerful battery have become necessary conditions to measure whether a device meets the needs of use.



With these requirements in mind, the water census team set its sights on the market for rugged data-collection tablets, which can operate all day in wet conditions.

Solution

While looking for the most reliable rugged tablet, the water conservancy census team found the EM-I22K. The I22K is a fully portable data acquisition tablet with an IP65 rating and ruggedness tested according to MIL-STD-810G US military standard to withstand dust, water, accidental drops and an operating temperature of up to 60 degrees Celsius (140 degrees Fahrenheit), its excellent extreme environmental resilience meets the expectations of the census team.

In the integrated survey operation of the unmanned ship, the unmanned ship equipped with GNSS navigation and various data collection equipment needs to rely on the surveyor to use RTK equipment to guide the remote route on the shore to complete the survey operation. The emergence of the I22K tablet solves the problem that surveyors cannot intuitively obtain the traveling situation of the unmanned ship and the detection data. EM-I22K tablet connected to a RTK device through the RS485 network port, and use its vivid display screen to provide image feedback of the information and data returned by the unmanned ship in the first time, which is convenient for surveyors to adjust task instructions and analysis datas on site.

The 12.2-inch capacitive touch screen of the I22K tablet has sensors that automatically detect environmental changes, providing an effective guarantee for clear display in bright sunlight. Even in

the face of high noon light, inspectors can quickly and easily perform measurement tasks with detailed real-time analysis on their screen. There is a potential fall crisis on the slippery river bank, which is undoubtedly a severe test for ordinary equipment, but it is not a problem for I22K. Its reliability saves unnecessary worry time for surveyors.

While sturdy and durable, the I22K Tablet is also very portable. Its lightweight body that can be held for a long time without any burden provides strong mobility for outdoor surveying and mapping workers.

Benefits

As a data logger and field computer to help surveyors work efficiently, the I22K Portable Rugged Tablet has powerful processing performance, as well as a large storage capacity of 128 GB and 4 GB of DDR3 RAM, always providing surveyors with a seamless Field work experience. The WINDOWS 10 system I22K runs is perfectly compatible with surveying and mapping software, which facilitates detailed real-time analysis of data for staff. Its rich interfaces that are stably connected to MTK equipment bring real-time visualization of the measured water depth data, allowing surveyors to quickly perform all routine surveying tasks, plan routes for unmanned surveying vessels, and keep detailed data records.



Not only is the I22K powerful enough to allow surveyors to work reliably, efficiently

and independently, but it also has reliable technology to successfully perform tasks in the harsh environment of the field. It is completely impervious to dust and water through a specially reinforced body, and can withstand extreme temperatures, constant strong vibrations, and challenging outdoor environments. Its screen made of ultra-hardened glass is wear-resistant and can withstand the huge impact of falling, and the touch area and numeric keypad are large enough to make data display and input easy. In addition to the practical large display, the long-lasting battery life is also the guarantee that the I22K tablet allows surveyors to carry out their survey work faster and more efficiently. Its hot-swappable design eliminates the inconvenience of outdoor charging, allowing work and data collection to proceed seamlessly.

