Case Study

Axiomtek realizes telemedicine by panel PC to optimize intensive care

(ITC150WM)

Remote Solutions in ICU

In today's labor shortages, telemedicine can be the key to medical care. The remote patient monitoring solution helps the medical staff monitor patient status at any time away from the patient room and facilitates real-time communication. When necessary, nurses can take immediate medical action. Especially in the Intensive Care Units (ICU), where patients are more critically ill and need thorough special care and attention, a reliable monitoring system can save lives.

Furthermore, today telemedicine has tremendous potential in the market. It's not only used within the hospitals but also crucial for the patients in the rural areas. Now Axiomtek and AVer Information have made the headway together.

Challenges

The remote patient monitoring solution provided by the customer, AVer Information, requires a fanless all-in-one touch panel PC for the ICU. It needs high-performance computing that can simultaneously operate Nursing Information System (NIS), Electronic Medical Record (EMR) and remotely control PTZ cameras to see patients from the monitor. To ensure patient safety and carefully monitor the patients' status, this high-quality touch panel system should also support one-time video transfer and data processing with low latency.

Main Requirements

- High performance Intel® Core™ and Intel® Celeron® processors
- Fanless operation and slim bezel design
- Projected Capacitive (PCAP) touch screen
- Supports AVer's PTZ Cameras

Solution

Axiomtek's ITC150WM changes the traditional way we see the doctor

Axiomtek has proposed its **ITC150WM**, a 15.6" full-HD modular touch panel PC with a swappable signage computer module which is based on the newest Intel® Smart Display Module (Intel® SDM) architecture. The swappable design makes the system maintenance easier for in-field replacement and upgrade. It can be powered by the Intel® Pentium® processor N4200 or Celeron® processor N3350 with the Intel® UHD Graphics 505/500 chipset. It has three USB 3.0 ports for connection to the PTZ cameras. This SDM300-S or SDM500-L based touch panel PC features one 4GB or 8G LPDDR4 memory onboard; the former has an onboard 64GB eMMC, while the latter provides one M.2 Key M 2242 slot and one M.2 Key B 2280 slot. The ITC150WM has a 16:9 aspect ratio and the slim bezel keeps the thickness under 40 mm.
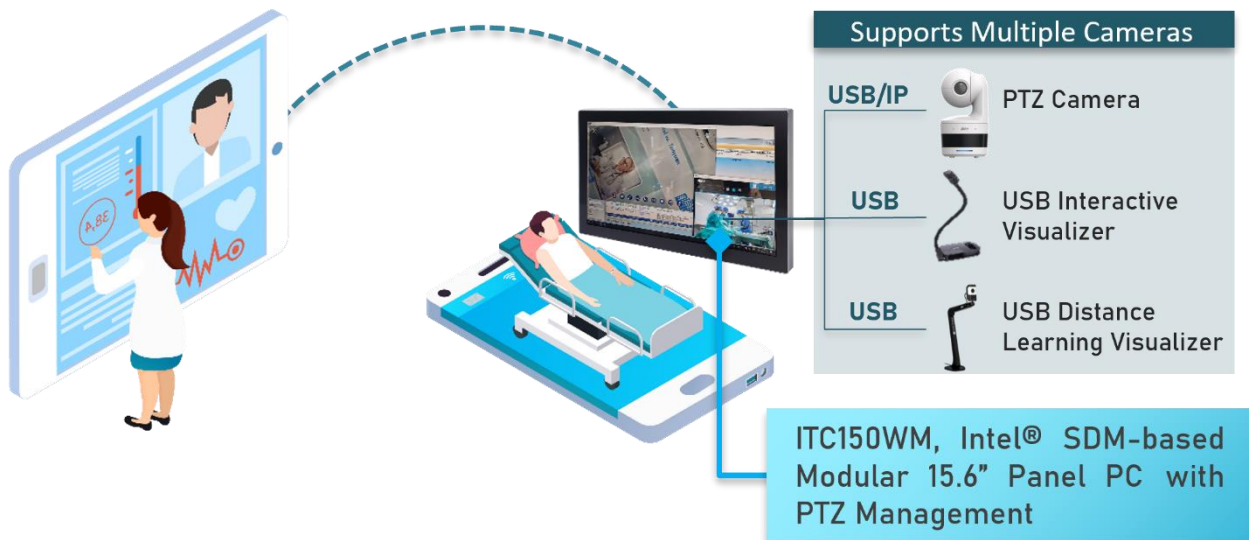
Application

Axiomtek's ITC150WM integrates both hardware and software to perfect the solution

The customer has utilized Axiomtek's ITC150WM to build the patient monitoring system. While operating the Electronic Medical Record and Nursing Information System on the panel PC, the nurse can use the PTZ cameras to monitor, communicate and record the patient's status without entering the ICU. All in all, the patient monitor platform ITC150WM, which is a multifunctional and dynamic display, brings excellent usability and compatibility to telehealth setups altogether with AVer's PTZ Management software and PTZ cameras, which offer hospitals up to 30X optical zoom and 4K resolutions for unprecedented virtual care.

System Configurations

Supports Multiple Cameras

USB/IP — PTZ Camera

USB — USB Interactive Visualizer

USB — USB Distance Learning Visualizer

ITC150WM, Intel® SDM-based Modular 15.6" Panel PC with PTZ Management

ITC150WM - System Configurations

- 15.6-inch full HD TFT LCD
- SDM300S with dual-core Intel® Pentium® processor N4200
- Onboard 4GB LPDDR4 2400 MHz
- One 64GB eMMC onboard
- One LAN, three USB 3.0, and two USB 2.0
- Aspect ratio: 16:9; brightness: 300 nits
- Slim bezel shape under 40 mm thickness
- Projected capacity touch supported, 10-point touch
- Swappable Intel® SDM CPU card design for easy maintenance and easy upgrade

*For detailed specifications, please visit www.axiomtek.com or go to Products > Industrial Panel PCs > Touch Panel PC & Monitor > Modular Panel PC for ITC150WM

Why Axiomtek

Axiomtek's product has great capability and quality that meet AVer's demand. With this collaboration, AVer can release useful and competitive solutions to medical providers.

"The brand awareness and reliable quality bring a strong alliance between Axiomtek and AVer. Since the healthcare opportunities take time to spec into the tender, the flexibility in solution strategy adjustment is important to both parties. With Axiomtek's experiences in medical imaging, we successfully launched the telehealth patient monitor solution in 2021," said Stanley Cheng, VP of Integrated Presentation and Education Business Unit of AVer.

About AVer Information
AVer Information is a leading developer and manufacturer of education technology and visual collaboration solutions. It has a diverse product portfolio, from visualizers and mobile device charge carts, PTZ and AI auto-tracking cameras, to HD video conferencing systems and conference cameras.

About Axiomtek
Axiomtek is a leading design and manufacturing company in the industrial computer and embedded field. Since our inception, Axiomtek has successfully gained worldwide recognition for our innovative designs and outstanding customer satisfaction. Axiomtek has experienced extraordinary growth in the past 30 years because of the desire to deliver well-rounded, easy-to-integrate solutions to our customers. 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.