

Case Study

Digital Signage Solutions for Istanbul Bus Stop (MANO842)

Digital Signage Solutions for Smart Bus Stop

Today the bus stop has become “smart” as well; it tells you where the bus you are waiting for is and how much longer you need to wait. What’s more, some bus stops even offer free Wi-Fi, free USB charging points, and interactive displays on the wall, and they are powered by self-supply renewable energy.

The city of Istanbul has made great strides in becoming a smart city in recent years; among them, comprehensive intelligent transportation solutions such as solar-powered smart bus stops are the top priority. The smart bus stop is not just a place waiting for the bus anymore; it turns multipurpose and levels up the life quality for citizens. The touch display on the wall enables passengers or passersby to reach all local information such as traffic news, headlines, or tourist information. Benefiting from the advertising LCD display, the outdoor ADs can bring additional income for clients, especially during popular events.

Challenges

The customer, Valen Information and Media Technologies Co. Ltd. was looking for an Intel® based Mini-ITX motherboard to build digital signage solutions for the Istanbul bus stop. The digital signage solution adopted in the smart bus station is designed with an advertising LCD panel and an interactive touchscreen. To run the two features the meanwhile, the motherboard must have a competent computing capability and come with a low-power Intel® CPU with a clock speed of at least 2.0 GHz. The industrial motherboard is expected to support multiple display outputs for integration flexibility with multiple displays. The motherboard also has to be cost-effective and stable since the application is outdoor and under various weather conditions.

About Valen Information and Media Technologies Co. Ltd

Valen Information and Media Technologies Co. Ltd., located in Turkey, has found in 2009. As a hardware value-added distributor for system integrators, its business covers data center management, industrial computing, and digital signage.

[Visit the Website](#)

Main Requirements

Cost-effective Mini-ITX Motherboard

- Onboard low power Intel® processor
- A processor base frequency of 2.0 GHz
- Diverse display output choices
- Excellent graphics performance
- 12 VDC or STD ATX input
- Rich I/O connectivity
- Fanless and noise-free operation

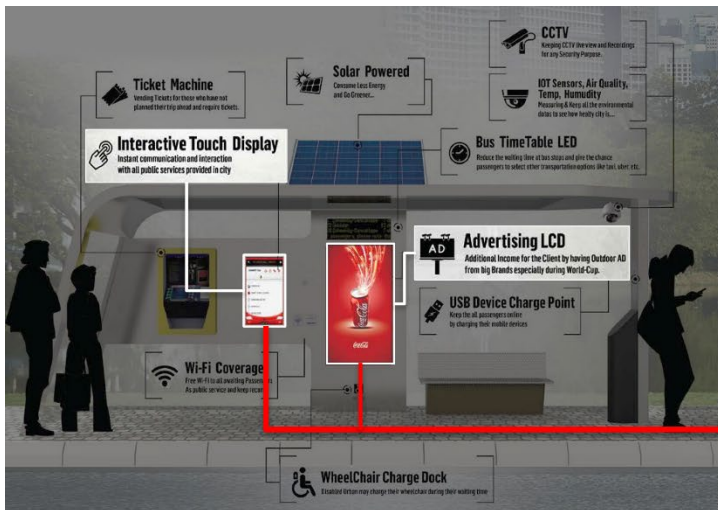
Axiomtek's MANO842 empowers digital signage in constraint space

Axiomtek has proposed its **MANO842** – a Mini-ITX motherboard powered by the quad-core Intel® Celeron® J1900 processor with Intel® HD Graphics, delivering outstanding computing and graphics performance at a competitive price. The MANO842 supports a dual-view display through the VGA, HDMI and LVDS. It utilizes high bandwidth DDR3L-1333 SO-DIMM with up to 8 GB of system memory and has a rich set of I/O features such as six COM ports, one USB 3.0 port and five USB 2.0 ports for easy system integration. It is equipped with one SATA-300 and one mSATA for storage. To ensure reliable operation, it has a wide range of operating temperatures of 0°C ~ +60°C. More than that, it has one PCIe x1 and one Mini-PCIe for expansion. The MANO842 is a low-power motherboard that accepts two kinds of power input, a 12V single voltage DC power or STD ATX, which makes the deployment more flexible. The compact Mini-ITX mainboard can be widely applied in infotainment, kiosk, entertainment, digital signage, and more.



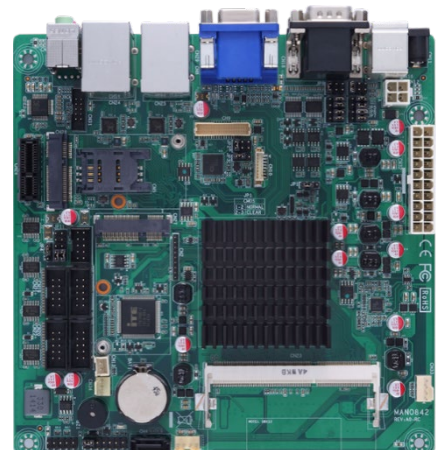
Application: The MANO842 enables real-time services and digital advertisement

Valen has taken the advantage of MANO842's dual-view capability to integrate it into the smart bus stop to support both the interactive touch screen and signage display; the interactive touch display can provide passengers and passersby with real-time information such as live bus arrival information, live weather or promoting local events; meanwhile, the motherboard has been used as a digital signage player to display advertisements which the video sources come from the cloud and stored in the board for regular rotation to maximize the exposure and potential profit.



System Configurations: MANO842

- Intel® Celeron® processor J1900 2.0 GHz (code name: Bay Trail)
- One DDR3L-1333 SO-DIMM, up to 8GB of system memory
- One PCIe x1 and one Mini-PCIe
- One USB 3.0 and five USB 2.0 ports
- One SATA-300 and one mSATA slots
- Six COM ports
- 12 VDC and ATX
- VGA/HDMI/LVDS with dual-view supported



*For detailed specifications, please visit www.axiomtek.com or go to

Products > Industrial & Embedded Motherboards>Mini ITX Motherboard> for [MANO842](http://www.axiomtek.com)

Why Axiomtek

The customer is very satisfied with the MANO842 and successfully developed the digital signage solutions for the smart bus stop project. The Istanbul public transport authority has been renewing the bus stops and the smart bus stop is expected to expand to other cities in the future.

“We are now facing the most difficult time of inventory scheduling; at the same time, the balance between cost performance and excellent performance is also one of the biggest struggles. Thanks to Axiomtek’s MANO842, the Mini-ITX board meets all the requirements. Besides achieving on-time delivery, the most impressive thing in this cooperation is that Axiomtek can provide the weekly inventory reports and update the latest status. We are honored to reserve the inventory for our customers and complete the project schedule on time,” said Volkan Dogan, Operation Manager of Valen Information and Media Technologies.

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.

Axiomtek is a Member of the Intel IoT® Solutions Alliance. A global ecosystem of more than 800 industry leaders, the Alliance offers its members unique access to Intel technology, expertise, and go-to-market support—accelerating the deployment of best-in-class solutions.