



DFI

DFI High Performance Fanless Panel PC Transforms Public Bus Services and Enhances Transportation Efficiency in Rural Areas

Overview

For a long time, residents of the remote and mountainous Fuxing District of Taoyuan City, Taiwan have faced hardships with public transportation. Its complicated landscape and sparse population made it difficult for public transportation and taxi services to maintain operations. The previously existing buses were incompetent and inefficient at providing the necessary services to all residents in the area. Villagers in the Sibunaw Tribe and Sawuazhi Tribe would spend an excessive amount of time getting from place to place in order to meet their daily life needs.

DFI, partnered with MaxWin Technology, has successfully implemented its VP070-M8M Fanless Panel PC into what is called "Blissful Bus". For over a year now, Blissful Bus has provided residents of Fuxing District with a management and reservation system, resulting in more routes, increased efficiency, and convenience for both drivers and passengers.

Region: **Fuxing District,
Taoyuan City, Taiwan**

Industry: **Transportation**

Application: **Bus service
management system**

Solution: **VP070-M8M
Fanless Panel PC**

Challenges



Lack of Transportation

Residents in remotely located tribes didn't have access to transportation or would have to waste a significant amount of time getting to designated stations. Fuxing district needed transportation services that could endure rough environments and bumpy roads, as well as provide transportation to and from remote tribes.



Passenger Bus Service System

Blissful Bus drivers required a system and interface that was high quality and easily managed so that they could provide services efficiently and on time to all residents in Fuxing District. In the past, drivers would have difficulties with directions and had to make unnecessary detours, which also increased wait time for passengers.



Reservation Service

A reservation service with extra bus routes and stations was crucial for the passengers living in more remote locations. This would not only reduce wait times for passengers, but also for the drivers who would know which passengers were getting on or off at each station.

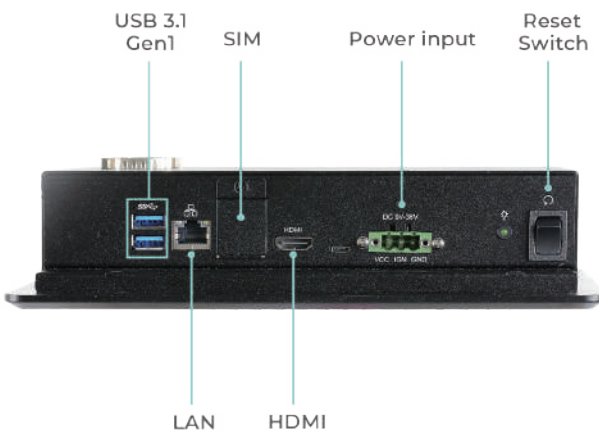
Solution

DFI's VP070-M8M equipped with ARM processor is the most energy-efficient All-in-One PC served as driver HMI with significantly longer battery life and high resolution TFT LCD display with capacitive touch. IP65 rated protection, wide operating temperature range, and anti-vibration ensure the system can withstand the bumpy, mountainous environment. Power management features include a wide power input range, surge protection, and smart ignition power control. The built-in IMU sensor helps to monitor driver behavior for improved safety. 4G, Wi-Fi, and GPS, as well as rich I/O and built-in SIM card/SD card are provided for flexible connectivity and expandability.

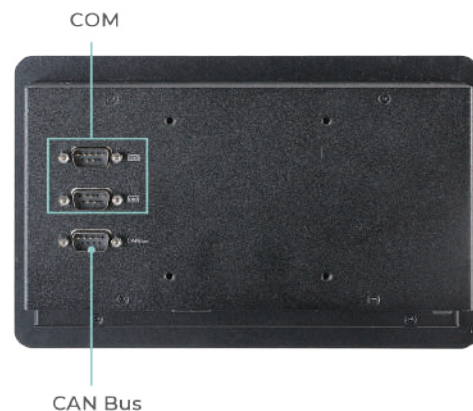
VP070-M8M



■ Front View



■ Bottom View



■ Back View

VP070-M8M KEY FEATURES



ARM-Based System

Support Android 9.0 and Linux Yocto 2.5



Application Focus

In-Vehicle Driver HMI



IP Rating

IP65 Front Panel Protection



Smart Power Ignition Control

Power delay and protection time setting



Rich I/O Connectivity

1 GbE, 2 COM, 1 CAN Bus, 2 USB 3.1 Gen1, 1 HDMI



6-axis IMU Sensor

3 accelerometer + 3 gyroscope

Result

Residents of Fuxing District now have access to bus transportation that is convenient and highly efficient, with 6 fixed-point stations and a reservation system that provides them with additional stations where they can be picked up. Passengers can easily book their ride in advance through the website, the Line App, or by phone. Bus drivers only go to these flexible stops if reservations have been made, reducing unnecessary travel time. The

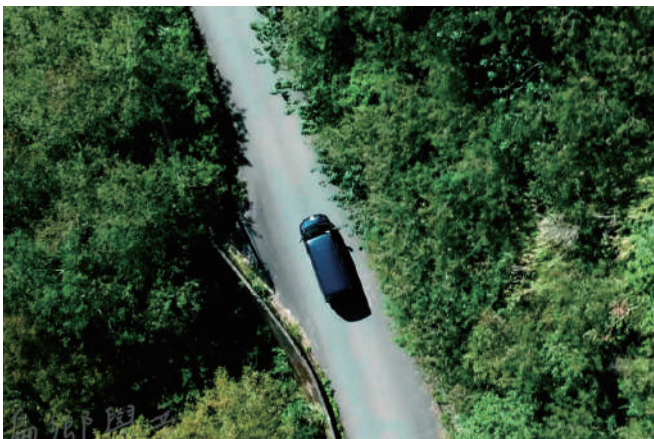


VP070-M8M provides drivers with clear directions and passenger information so that they can easily accomplish their daily routes and get the passengers to their designated locations safely and punctually. Drivers have reported that the interface is easy to operate and has a high-quality visual display with a user-friendly layout. They can view all the information that they need easily and quickly so that they can focus on driving and safely getting the passengers where they need to be. Blissful Bus now makes an average of 1,200 trips each month, which is a 50% increase compared to the past.



Conclusion

Bus operations are much more efficient, convenient, and safe for both drivers and passengers with the user-friendly HMI and easy-to-manage VP070-M8M. Blissful Bus has significantly improved the lives of the residents in Fuxing District. Residents that live in remote tribes can now reserve their rides in advance and have access to flexible stops near their homes. Traveling for work, school, or daily needs has become convenient and less time consuming, which means residents can now spend more time on what really matters to them. The number of daily passengers continues to grow, and driver and passenger feedback have been very positive.



DFI

Founded in 1981, DFI is a global leading provider of high-performance computing technology across multiple embedded industries. With its innovative design and premium quality management system, DFI's industrial-grade solutions enable customers to optimize their equipment and ensure high reliability, long-term life cycle, and 24/7 durability in a breadth of markets including factory automation, medical, gaming, transportation, smart energy, defense, and intelligent retail.

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