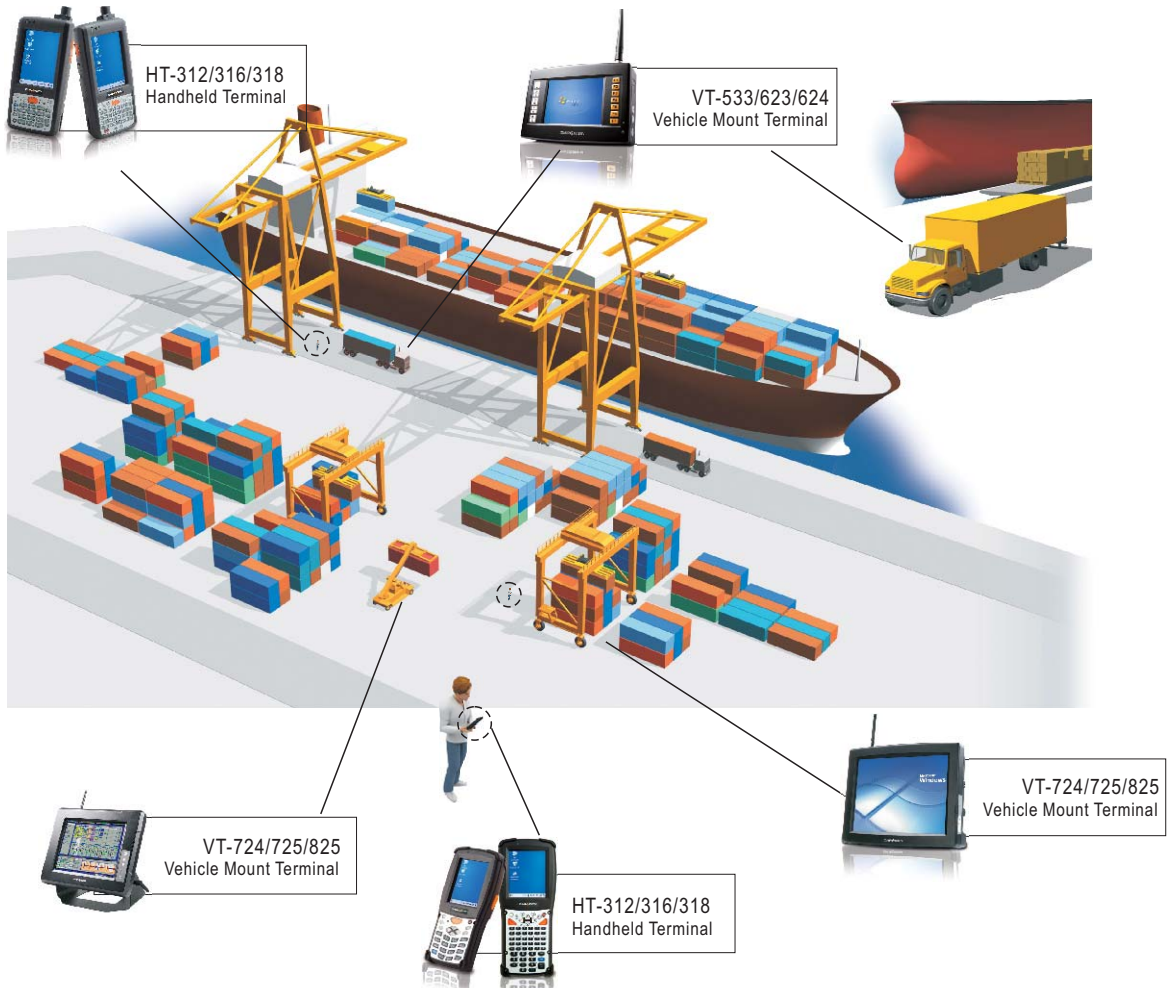


# Harbor & Wharf Wireless Solution

## ► Solution Summary

With the economic globalization and integration of international market, the dock and harbor is becoming the distribution center for large-scale freight, where hundreds of large cargo ship, thousands of large containers, and ten thousand of people transfer here everyday. How to ensure the safety of transportation and cargo in such a complex environment is becoming the problem that a harbor manager concerns most. Nowadays, It is common to use 2.4G wireless technology and computer technology to manage harbor container operation, especially the large-scale container terminal that cannot work without the support of computer IMS. The advanced degree of harbor IMS has become one of the important factors that restrict the harbor capacity. With Darveen VT-725/825 Wireless Vehicle Mount Terminal, the central control system is able to send the information of containers to be loaded through the Internet to vehicle mount terminal in the waiting trucks. The truck drivers will deliver the containers to be under the appointed bridge crane according to terminal instructions, and send a message back to the central control system upon completion. In this way, the central control system can realize real-time monitoring towards bridge crane and truck operations, and reasonably allocate the resources to avoid the improper assignment of truck and bridge crane, decreasing the task assigning level, shortening the time of message passed, reducing the errors, and increasing the container capacity.





## Main Features



- ▶ 10.4" TFT LCD with touchscreen
- ▶ Rugged aluminum enclosure and fanless design
- ▶ IP65 dustproof and waterproof seals
- ▶ Enhanced shock and vibration resistance
- ▶ Stable and wide range 9-58Vdc input
- ▶ Wide range -20~60°C operating temperature
- ▶ Flexible expansion capability for IEEE 802.11b/g, GSM/GPRS, CDMA, 3G, GPS
- ▶ VESA standard for flexible mounting kits

## ▶ Wireless Vehicle Terminals Role in Harbor & Wharf Management

### Why introduce wireless vehicle terminal in harbor & wharf management?

1) In harbor, wharf and freight yard, it is unable to lay cable on large-scale crane, transportation road and the cargo access channel, and the use of walkie-talkie to report freight lot and cargo number would easily produce errors. On the contrary, the use of Wireless LAN enables cargo conditions and data to be sent directly to computer for processing, which greatly enhance the working efficiency and service quality, avoiding unnecessary errors.

2) Due to the complex geographic location and the special functions of wharf, it is inconvenient to use traditional network. However, the Wireless LAN is of high mobility, strong confidentiality and anti-interference performance, and easy maintenance that it is advisable to use wireless LAN in the event that the position is changed frequently, in all kinds of accidents, as well as in the places where wired network is inconvenient.

3) Harbor equipment, such as factory bridge, flow engine, or cart, is operated beside the sea with damp and corrosive air for a long time, while in winter the lowest temperature would come to below freezing point. Realizing stable data exchange in such a bad climate environment and under serious shake asks for high requirements on wireless products. Darveen Wireless Vehicle Terminal supports 12 V, 24 V, and 48 V DC input; 802.11a/b/g, GPS, GPRS, CDMA, and GSM wireless interface; WinCE. NET and XP Embedded operating system; and is compatible with Windows 98/2000/XP and Linux Operating Systems. It meets IP65 dust-proof and waterproof standards, as well as VESA standard with easy installation. The features of die-cast aluminium shell and non-fan design satisfy harbor's demand on wireless vehicle terminal.

### How to introduce wireless vehicle terminal into harbor and wharf management?

1) When loading containers, the central control system will send the information of containers to be loaded through the Internet to vehicle terminal on the waiting trucks.

2) The truck drivers will deliver the containers to be under the appointed bridge crane according to the terminal instructions.

3) After a task, truck drivers send finished messages back to central control system, and wait for the next task.



## Main Features



- ▶ Anti-Shock and vibration Standard according to MIL810F
- ▶ Rugged aluminum enclosure and fanless design
- ▶ Full IP65 Dust/Water Proof Enclosures
- ▶ VESA standard for flexible mounting kits
- ▶ Wide Range 9 to 36V DC Input Acceptable

## ▶ Features and Advantages

### Remote Information Communication

It is revealed in the information communication between control room and the scene cargo operators, such as arranging scene operations with equipment on storage area, deploying container, arranging cargo cart to pick up containers, fixing container placing position, directing tally clerks at vessel's side to unload, etc.

### Remote Data Process

The wharf data process is usually provided for the scene tally clerks to send real-time information back to management control system in the storage area with the purpose of updating operation data and benefiting the implementation of relevant operations. For example, tally clerks in storage area confirm the real time position of containers in regular time, and send it back to management control system, and then the people in central control system is able to go on operating the position conveniently.

## ▶ Benefit Evaluation

In the whole wharf covered with the solutions, employee can get required command and data at any time when the operating command is sent from dispatching center to vehicle terminal or handheld terminal. This instructs the implement of reasonable operation of factory bridge, flow engine, and cart, which greatly improves the efficiency of loading, unloading, concentration of containers, container port operation and transportation, providing perfect network base for digital harbor construction.

## ▶ Our customers

- ▶ Yantian International Container Terminals
- ▶ Guangzhou Nansha Port
- ▶ Chiwan Container Terminal Co., Ltd.
- ▶ Shekou Container Terminal
- ▶ and Tianjin Port Container Terminal
- ▶ Fuzhou Newport International
- ▶ Shanghai Waigaoqiao Port
- ▶ Shanghai International Port
- ▶ Dalian Container Terminal