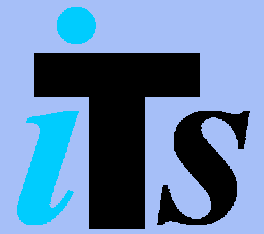


# PRODUCT DATA SHEET



## V-TRAX

### Effective Automated Steering For Reduced Equipment Operating Costs

The I.T.S. V-TRAX passive automated steering system is the cost-effective solution to automatically steer an RTG crane or Straddle Carrier along a container stack runway. V-TRAX automatically and accurately steers the container handling equipment along a virtual track as it travels along the runway. Preventing equipment and container collisions and subsequent damage, the system improves terminal safety and driver productivity, reducing driver fatigue and equipment maintenance.

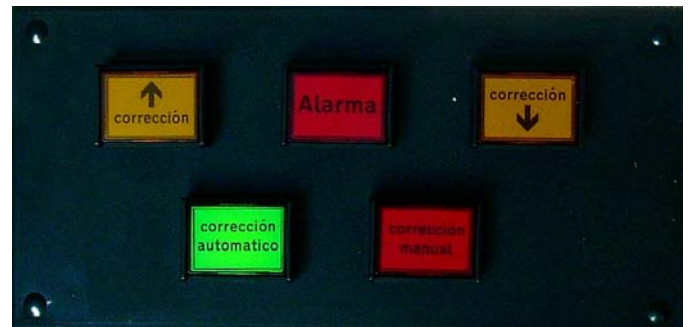


The V-TRAX system has a number of in-built safety devices to provide fail-safes to avoid collisions. The driver has full override control allowing manual steer at any time. Clear signalling and audible warnings are provided to inform and advise. At all times the driver knows what the system is doing and who is steering, V-TRAX or the driver.

Twin GPS antennas

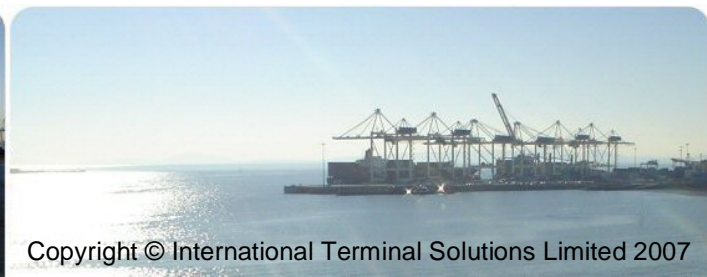


V-TRAX uses high precision Differential GPS to locate the equipment and provide both the current position and heading. V-TRAX uses a twin antenna calculation allowing the system to determine the heading even before the equipment starts to move. This provides a superior heading resolution allowing earlier steering corrections than most other systems and providing a smooth accurate motion for the equipment and driver alike.



The V-TRAX system is designed to offer the minimum invasion into the existing equipment controls, allowing a rapid installation without the risk associated with hosting the Auto Steer application on the existing equipment PLC. With years of RTG experience ITS have developed simple to use interfaces making the V-TRAX system easy to set up and configure. The runway map can be quickly and automatically uploaded to each item of equipment using an existing wireless LAN or manually using a USB memory stick if a LAN is not available.

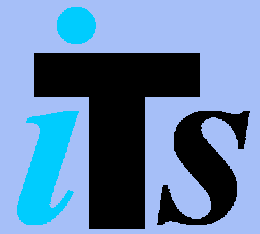
Contact us:  
Ph +44 (0)1509 236555  
[www.portautomation.com](http://www.portautomation.com)  
[portautomation@terminalsolutions.co.uk](mailto:portautomation@terminalsolutions.co.uk)





# V-TRAX

## Continued



### THE BENEFIT OF EXPERIENCE, AUTO STEERING RTGS SINCE 1988

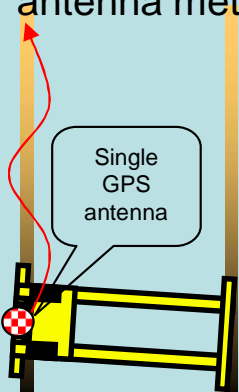
#### THE V-TRAX ADVANTAGE:

- Immediate heading information before any motion takes place.
- High accuracy in measured position, deviation, and heading.
- Measures each side of the RTG providing fast feed back on the system steering actions and reducing lag caused by frame/tyre deflection.

#### OPERATIONAL ADVANTAGES:

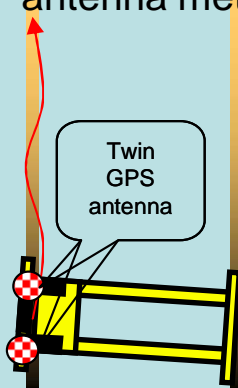
- Low maintenance, grater economy
- Smother operation reducing equipment wear
- Smother operation increasing productivity
- Improved safety, reduced accidental damage
- Reduces driver fatigue and training requirements

#### Typical other GPS antenna method



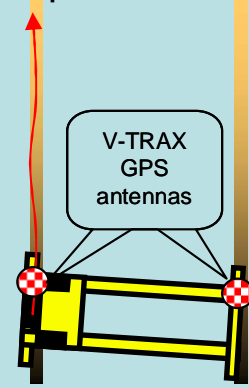
Unable to determine heading upon start-up.  
Poor resolution of angle can cause over corrections and unstable motion.  
No redundancy or system cross checking.

#### Typical other twin antenna method



Better than single antenna.  
Narrow base line limits the measured resolution.  
Placing antennas on one side causes a lag in measuring the result of steering actions.

#### V-TRAX the optimum solution



The optimum control loop.  
Provides maximum measured resolution.  
Measures the results directly from each side without lag as it slows down and speeds up to steer.  
Able to make accurate steering decisions at all times.

V-TRAX can be fully stand-alone or incorporated as part of a G-POS position location system. Designed to retrofit to existing equipment as well as install on new, the V-TRAX system is not tied to any particular crane or control package manufacturer, or owned by a competing terminal operator or stevedore. This independence gives you the freedom to select the most cost effective materials handling equipment supplier for your operation and not be compelled to stay with the same manufacturer for your future requirements. It provides you with the ability to install on any drives and control package, and ensures continuity of system supply if you elect to buy your handling equipment from multiple vendors.

Issued by:  
International Terminal Solutions Ltd  
6 Loughborough Technology Centre  
Epinal Way  
Loughborough  
LE11 3GE  
United Kingdom

