

IVOLVE ARTICLE : Site Installations: Why Quality Matters

The quality of your site equipment installation can have a direct impact on the performance of your iVolve system.

This article is the first in a series of articles that highlight WHY installation issues are important, HOW they can benefit your organisation and, more importantly, WHAT you can do to improve the quality of your installation.

A key driver for performance is the quality standards followed during installation. A poor installation results in poor performance of the equipment. By getting the installation right the first time, you will not only ensure the best performance of the iVolve system, you will also save in ongoing hardware maintenance.

Get it right the first time and save rework and frustration.

Based on our extensive experience of equipment in the field, iVolve has developed a series of simple installation standards and processes for installers to follow that address issues at all stages of the installation. From pre-installation checks, through the installation process, to recommended post-installation checks, and ongoing maintenance.

These documents are designed to help ensure flawless operation of our systems on both mobile fleet and stationary plant equipment, and consider issues such as:

- Appropriate installation tools and techniques.
- Installer experience, skills and prerequisite knowledge.
- Hardware locations – for *Nexis* modules, *Adam* devices (switch and/or serial device), Wi-Fi and GPS antennas, and operator displays.
- Cabling/wiring issues – including cable and connector quality, cable routing and connector terminations.



ARTICLE 1:

HARDWARE LOCATIONS

The following sections outline some practical considerations to take into account when installing iVolve equipment.

Nexis:

An installer must always carefully consider the location of the Nexis device as the system operation can be influenced by factors including:

- Wiring – difficult-to-access power, difficult or no access to on-board OEM system, causing intermittent operations of the system;
- Antenna/GPS cables – connecting to modules at improper angles can cause pulling, pushing, pressure on the connectors, which can result in sub-par connectivity and limited or no GPS signal.
- Maintenance – ease of access for maintenance personnel to repair, replace or restart/reconfigure the Nexis module.
- Obstructions – such as rags, gloves, magazines on the top or sides of the Nexis device can cause poor ventilation and result in overheating. The images in Figure 1 show a real world example of the contrast between an existing Nexis location (on the left hand side) and a better Nexis location (on the right hand side) in the electrical compartment of a CAT 793D.

The ideal installation location is an easily accessible position where the antenna cables can connect to



Figure 1: Nexis locations

the Nexis module with minimal or no strain, with a readily available power connection and an easily accessible OEM VIMS on-board system.

Adam Devices:

The Adam devices should be installed close to the Nexis module for ease of connection, away from any obstructions and easy access to on-board VDC power (Figure 2).



Figure 2: Adam devices

Wi-Fi and GPS Antennas

The location of the Wi-Fi antennas are important so the system can effectively communicate with other vehicles and transmit data back to the server efficiently.

The location of the antennas for each vehicle determines both the quality of the signal strength as well as durability.

The following example shows an installation that damaged the Wi-Fi antenna on a dozer:



Figure 3: Wi-Fi Antenna damage

Simple changes such as locating the antenna in an ideal position helps prevent costly damage to the



Figure 4: Ideal antenna mounting

equipment (Figure 4). GPS antennas must have clear sky access to perform effectively. The following image shows an installation where the antenna is obscured by the mirror plate using poor quality connectors (Figure 5).



Figure 5: Poor GPS antenna mounting

Again, simple changes such as identifying the best possible installation location to ensure full visibility of the sky - and is not subject to falling rocks or other obstacles - can help prevent costly equipment damage (Figure 6).



Figure 6: GPS visibility

iVolve Display

You must exercise caution when selecting the installation location for operator displays. OH&S regulations require operators to have clear views from all windows and to avoid distractions.

During installation it is also imperative that the display connectors are secured to avoid accidental damage. iVolve recommends securing the connector under the operator console (Figure 7).

Figure 7: Operator display mounting



CONCLUSION

The practical consideration of equipment location during installation as outlined in this article is one of the factors influencing the performance of your iVolve system and ensuring the durability of equipment.

Think Quality & Practicality: Do it right the first time.

The next article will cover the use of installation checklists and the importance of inspecting each installation to ensure completeness -either by an iVolve technician or an iVolve Certified Installer. Adequate checks will greatly improve the quality of your installations, and set your system on the right track for optimal performance.

“Quality only happens when you care enough to do things best.”

For further information on iVolve installation guidelines, contact info@ivolve.com or head to the website www.ivolve.com.