RFID Vehicle Tire Management Solutions

One：Device Introduction

Tag：

Introduction

- 860-960 MHz frequency range for worldwide application.
- 0～2m read range when mounted on the tire .
- Flexible construction to withstand tire deformation in the total lifetime of the tire.
- Mounted on the inner side-wall of the tire.
- Tag protocol is EPC class 1 generation 2, with 96bits EPC and 512bits user memory.
- Can read and write data into tag's user memory bank.
- The factory programmed tag identification number is unique to prevent cloning.

Features

1．UHF RFID Tire tag，accord with EPC Class1 Gen2/ISO18000-6C
2．The tag survives the high temperatures encountered in the tire retreading process and is sturdy enough to remain operational throughout the operating life of the tire.
3．The tag has finished thousands of kilometers actual road test, did not lead to potential tire defects.

Specification

Specification	▼
Model	TT-020 Tire Tag
Performance Index	
Protocol	EPC class 1 generation 2/ISO 18000-6C
Frequency	860—960MHZ
Read distance	0-2m
Memory	96bits EPC,512bits user memory
Read/write	Can read/write data into the tag
Unique ID	The factory programmed tag identification number is unique to prevent cloning.
Installation	mounted inner side of the tire
Dimension	110mm*55mm*3mm
Weight	8.5g

Installation method

1. Check the general area where the patch will stick.
2. Cleaning the surface of the inner liner in the area where the patch will stick.
3. Removing molded-in features such as ridges (strias) or texture ("alligator skin")
4. Marking the exact location where the patch will stick
5. The distance between the patch center and the lip of the bead will be 105 – 115 mm
6. Applying Vulcanizing Cement and allowing the solvent to dry
7. Applying the patch to the prepared inner liner and applying pressure ("stitching it down") to assure intimate contact.
8. There will be no bubbles under neath the patch
9. The patch will be tightly adhered to the tire all the way around its periphery.
10. Waiting for appropriate time and make the adhesive system vulcanization (depending on temperature).
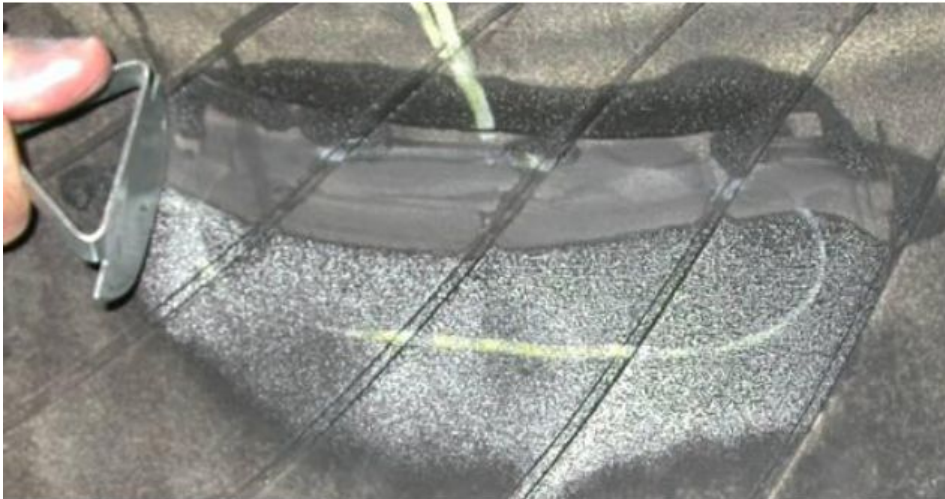
Figure steps

1. Applying cleaner fluid to the marking area

Applying cleaner fluid to the outlined area

2. Remove contaminants on the surface with a scraper

Using a scraper to remove contaminants on the surface

3. Buffing the marking area to achieve a smooth surface with grinding wheel

Buffing outlined area to achieve a smooth with Grinding Wheel

4. Remove buffing dust with a brass-bristle brush and cleaner

Using a brass-bristle brush and cleaner to remove buffing dust from the buffed area.

5. Brushing the glue in the cleaned area and the gray surface of the patch tag

Brushing the cement both into the cleaned area and the surface of the gray gum on the patch.

6. Leave the solvent to dry5-10mintues（depend on temperature）

Allowing the solvent to dry 5min~10min after brushing the cement. (depending on temperature).
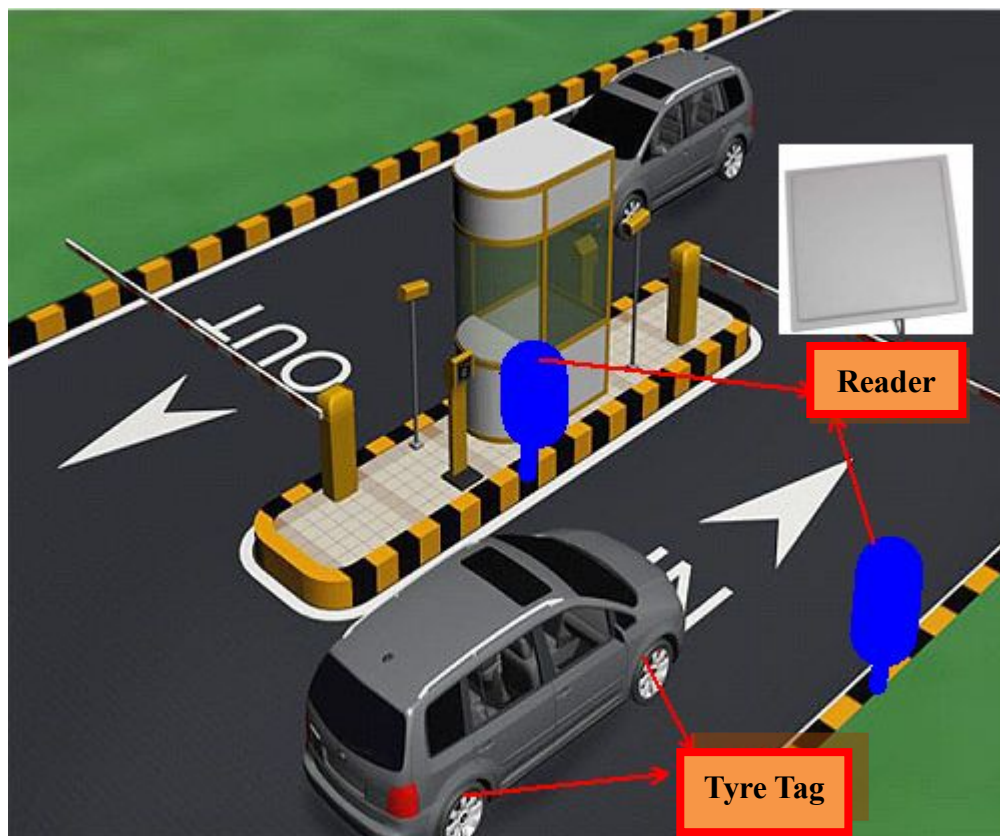
Note: do not touch the solvent and the cleaned tire surface. Loading after at least 24 hours, to make sure fully vulcanized
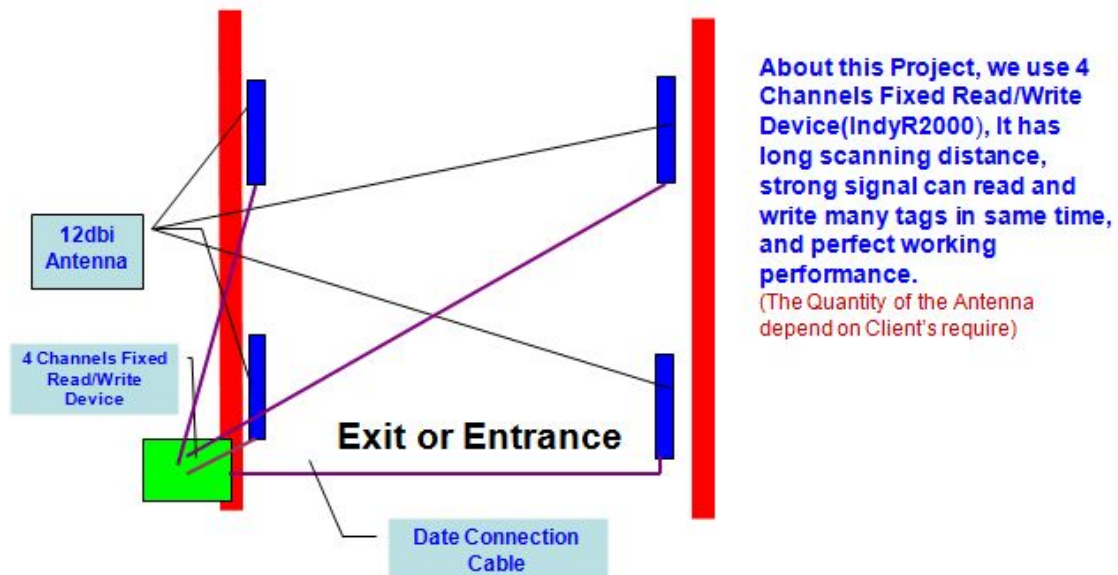
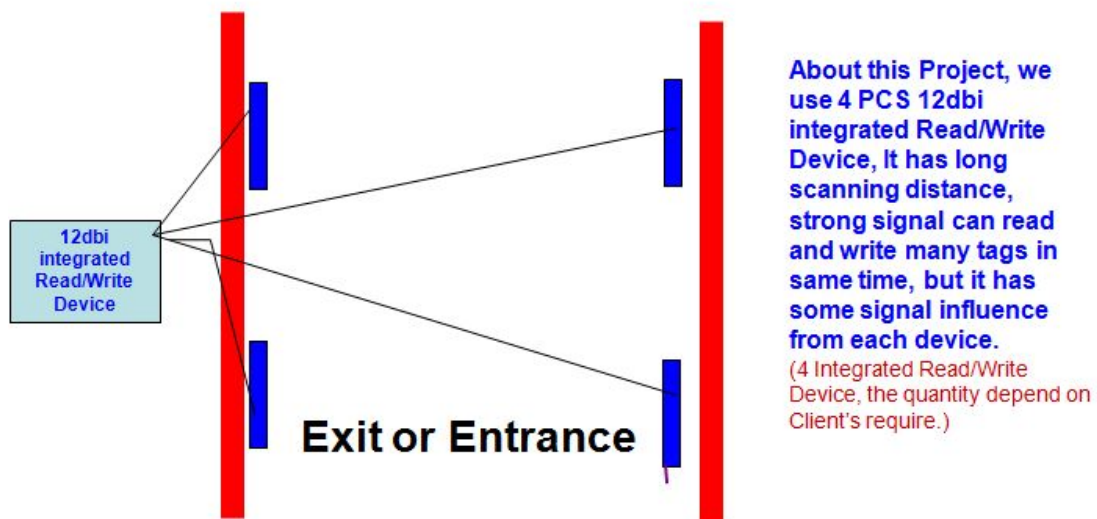## Two：Equipment Installation

PDA Scan Style：

RFID UHF Tire Tag
（TT-020)

RFID UHF Handheld Reader

Fixed Installation Style：

Reader

Tyre Tag

Project 1：Use 4 PCS Antennas, the Quantity of the Antenna depend on Client's require.

About this Project, we use 4 Channels Fixed Read/Write Device(IndyR2000), It has long scanning distance, strong signal can read and write many tags in same time, and perfect working performance.
(The Quantity of the Antenna depend on Client's require)

12dbi Antenna

4 Channels Fixed Read/Write Device

Exit or Entrance

Date Connection Cable

Project 2: use integrated Read/Write Device, the Quantity depend on Client's require.

About this Project, we use 4 PCS 12dbi integrated Read/Write Device, It has long scanning distance, strong signal can read and write many tags in same time, but it has some signal influence from each device.
(4 Integrated Read/Write Device, the quantity depend on Client's require.)

12dbi integrated Read/Write Device

Exit or Entrance

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