

ReachFree ID<sup>®</sup>

Installation Instructions for Wash Select II<sup>®</sup>

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Unitec

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## 1 Introduction

The ReachFree ID product is a house account application designed to build car wash volume and increase throughput with secure, subscription-based wash accounts. The RFID reader reads the RFID tag that is adhered to the account holder's windshield.

If the account is valid, the Wash Select II will approve the transaction without any interaction from the account holder and will allow the vehicle to proceed past the entry system and into the tunnel or in-bay automatic.

In order for the ReachFree ID system to work in the Wash Select II, your Wash Select II MUST have WashPay integration.

## 2 Software Requirements

In order for the ReachFree ID system to function properly, the Unitec entry unit must be updated to the most recent version of software with WashPay Generation 2 integration, therefore, the WSII software must be 6.00 or higher.

## 3 Site Planning

If this is a new installation, a conduit will need to be run from the Wash Select II to the mounting surface for the reader.

The reader may be mounted on any material including metal, but there must be open space in front of the reader and to its sides. There must be no material interfering with the reader's surveillance zone between the reader and the tags' location.

If the optional mounting pole was ordered with the RFID kit, the reader should be mounted on the pole beside the far side of the Wash Select II (with the flange of the mounting pole installed 3 feet from the centerline of the unit, as shown in Figure 5). The reader should be mounted on a pole 7 feet above the vehicle lane.

## 4 Parts Checklist

Prior to retrofitting an existing Unitec entry unit, verify that you have all parts required:

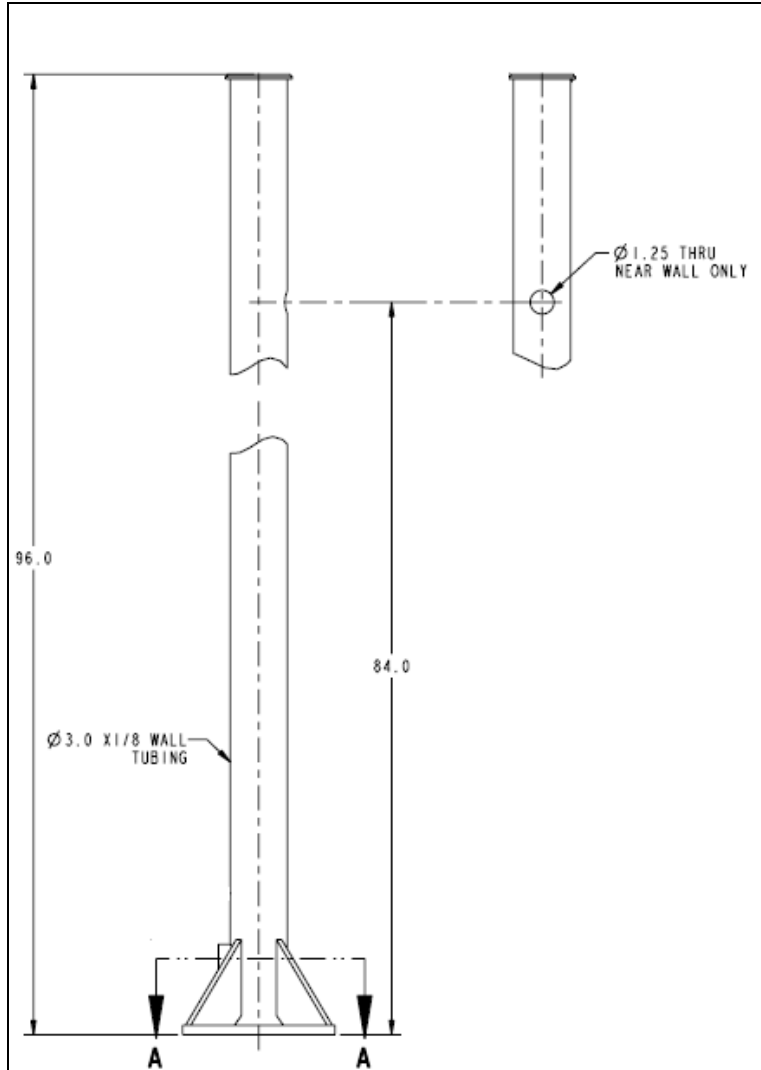
- WSII Expansion Board with RFID connections
- AWID RFID Reader with cable (SA2135)
- Reader pole-mounting bracket (OM1683)
- Power Supply (PS2018)
- 30 ft data cable (CA2179)
- 50 RFID tags (OM1672) (Please note: tag refills come in groups of 50)

- 8ft Mounting Pole (MF1589) (Optional)
- 3/8" concrete bolts (Optional)
- Drill with concrete bit (not included)

## 5 Installation Procedures

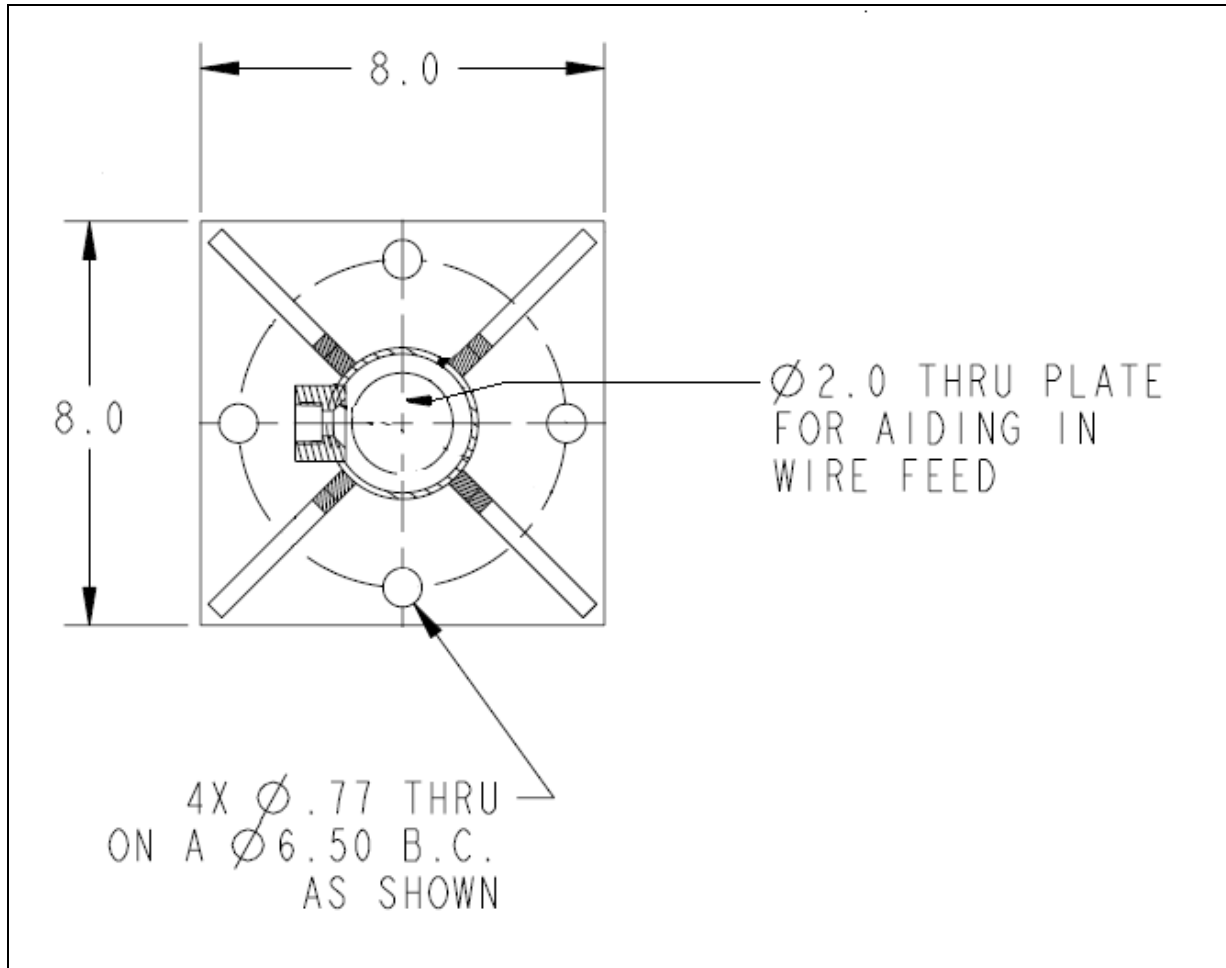
### 5.1 Install the Mounting Pole (Optional)

The RFID kit comes with an 8 foot mounting post with a mounting flange at the base, as an option. It's designed to accommodate both surface-mounted above ground conduit for existing installations and underground conduit for new construction. For surface run conduit, there's a threaded boss welded to the post on the bottom flange. It accommodates a 1/2" conduit fitting to run liquid-tight conduit to the post. The conduit is then secured by screwing the conduit fitting into the boss. For underground conduit, the installer should run the conduit up the center of the post. There is a hole near the top of the post where the cable will exit to connect with the RF reader.



**Figure 1. RFID Mounting Post**

To mount the post, the installer will need to drill (4) holes and use concrete anchor bolts to secure the flange to the concrete, as shown below. The flange should be flush to the side of the entry unit, as shown in Figure 5.



**Figure 2. RFID Post Flange**



## 5.2 Install the Reader

**Note:** Keep the reader assembled. Do not remove the aluminum plate behind the reader. Do not remove the plastic cover of the reader. Do not tighten or loosen the screws through the cover.

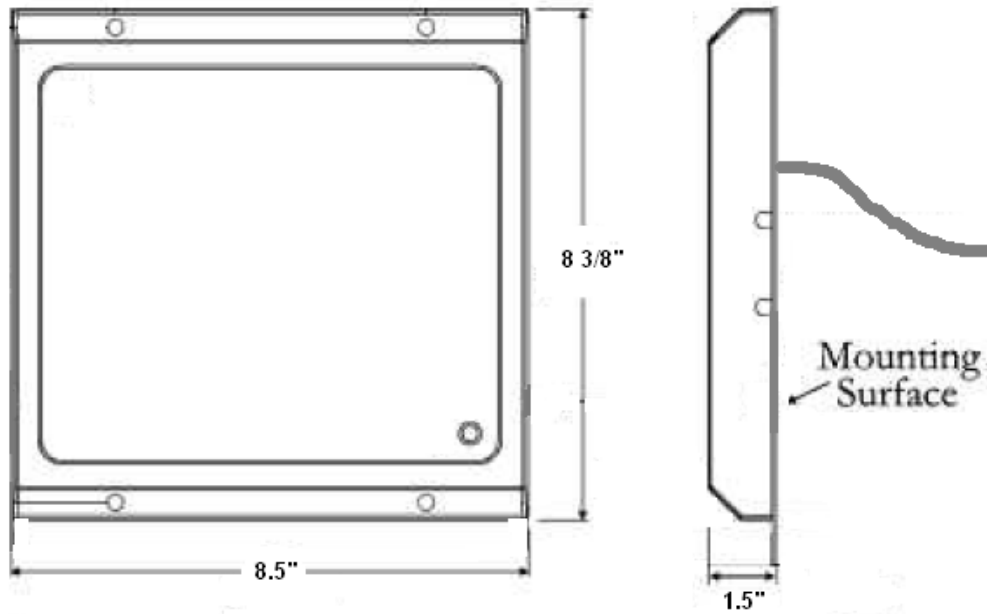


Figure 3. AWID Reader Dimensions



Figure 4. Reader

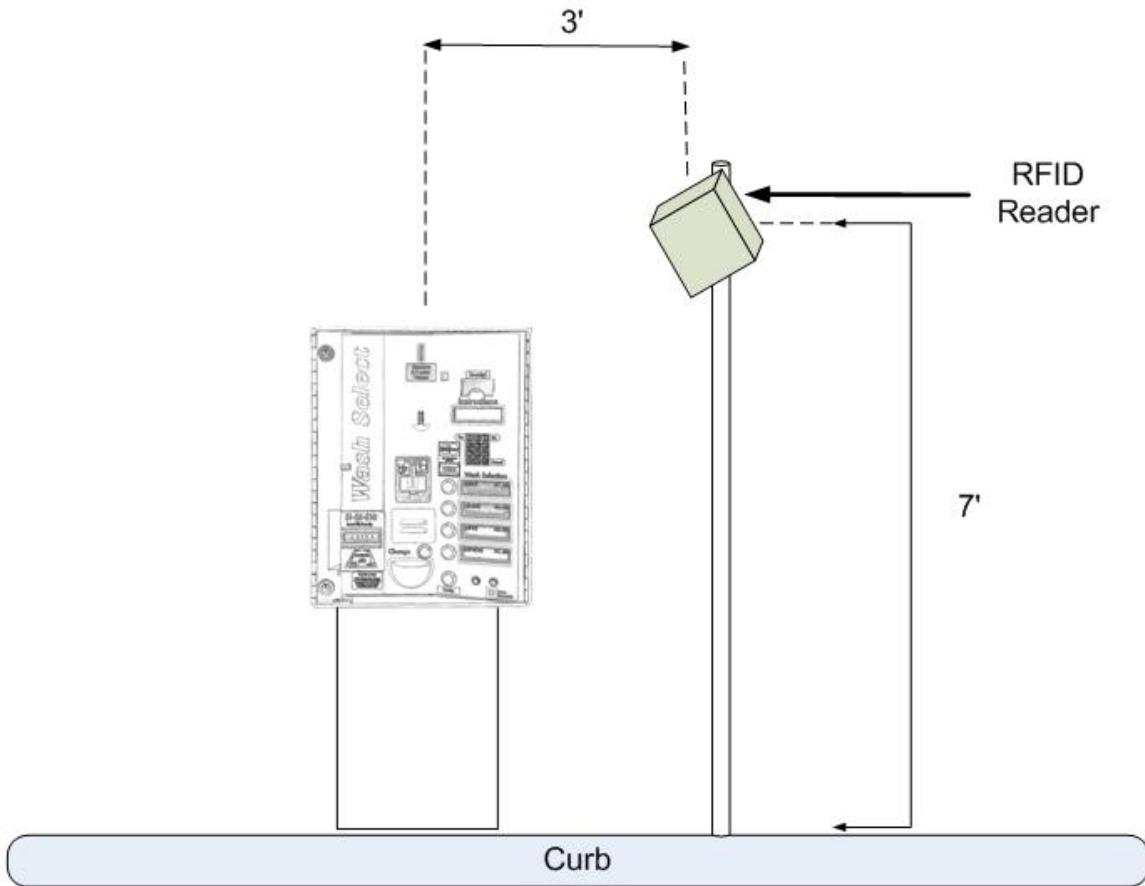


**Figure 5. Pole Mounting Bracket**

1. Attach the mounting assembly to the reader's metal plate using 1/4"-20 screws, if applicable for your installation.
2. If you are mounting the reader to a pole, leave the mounting assembly fully assembled and use the supplied mounting bracket to secure the reader to the pole approximately 7 feet above the lane.

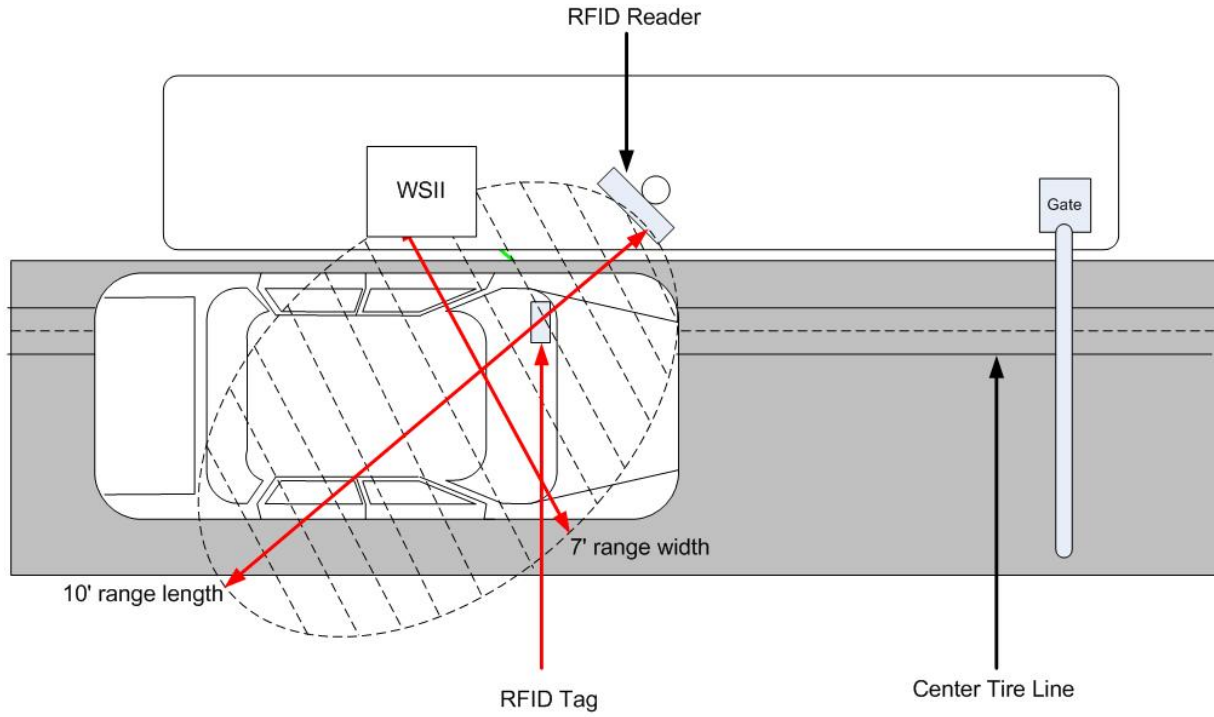
**Note:** If you are mounting the reader on to something other than a pole, you will need to order another style of mount.

### 5.3 Site Installation



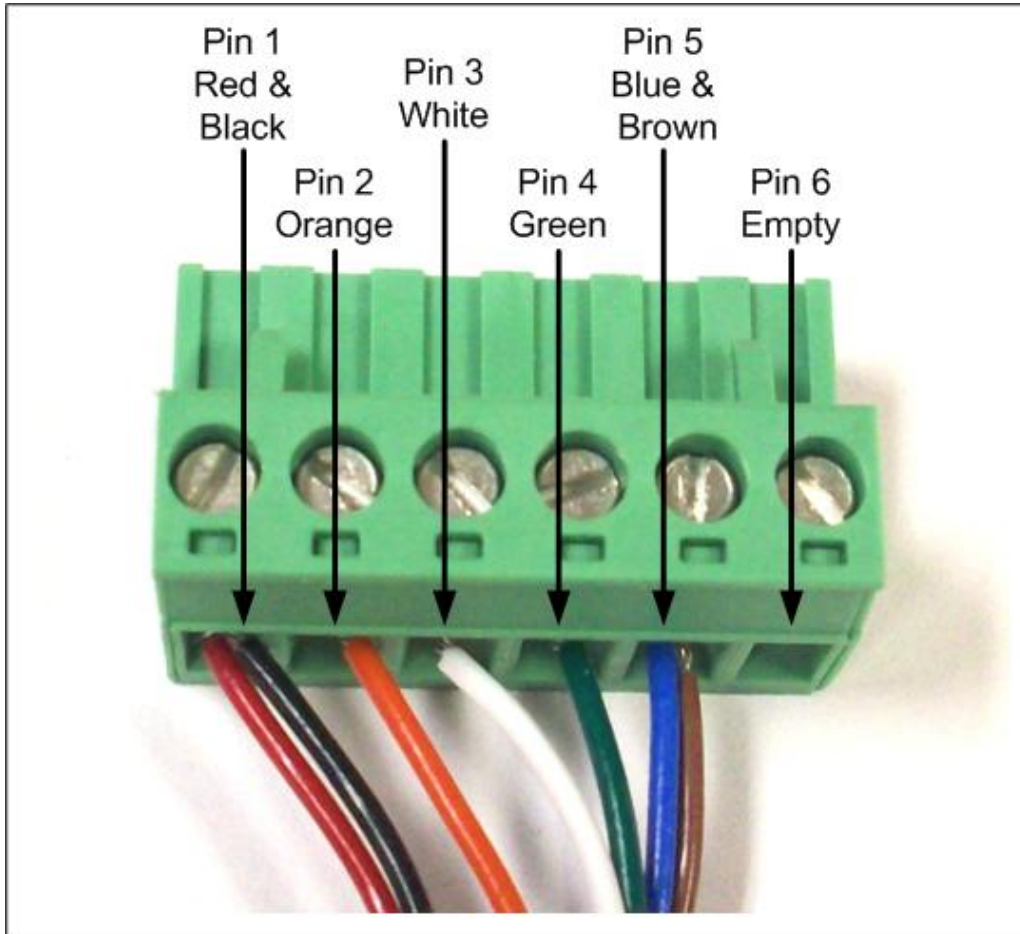
**Figure 6. RFID Reader Installation - Front View**

3. Aim the reader so that center front face of the reader points toward a spot on the vehicle lane approximately 18" from the middle front of the entry unit. This usually requires that the reader be adjustable downward about 45 to 90 degrees ("tilt"), and slightly toward the approaching vehicles ("pan").



**Figure 7. RFID Reader Installation - Top View**

## 5.4 Connector Wiring



**Figure 8. Wired Connector**

## 5.5 Mount RFID Board and Connect Cables in WSII

The existing expansion board is mounted to the right side wall of the inside the entry unit above the CPU.

### **Install New Expansion/RFID Board**

1. Ensure the main power to the WS2 is turned off.
2. Locate the existing expansion board on the inside right wall above the CPU board.
3. Disconnect the CAT5 cable from the rabbit board and the wide ribbon cable from the J2 connector.
4. Remove the existing board by removing the 4-40 nuts and washers.
5. Attach the new Expansion/RFID board to the standoffs using the 4-40 nuts and washers.
6. Connect the ribbon cable from socket J5 on the Expansion Board to socket J2 on the CPU Board.

### **Install Reader Cables**

7. Run the 30' data cable down thru the unit's conduit and up to the mounted reader.
8. Plug the female end of the in-line connector on the 30' data cable into the male end of the in-line connector on the reader. To ensure a tight, water-proof connection, fit the two ends together, press firmly and turn the ends to lock them together.
9. Connect the other end of the data cable with the 6-pin Phoenix connector to the J10 connector on the Expansion/RFID board
10. Plug the power supply into the J11 power connector on the Expansion/RFID board and plug the power supply cord into an outlet on the power supply panel at the back of the unit.

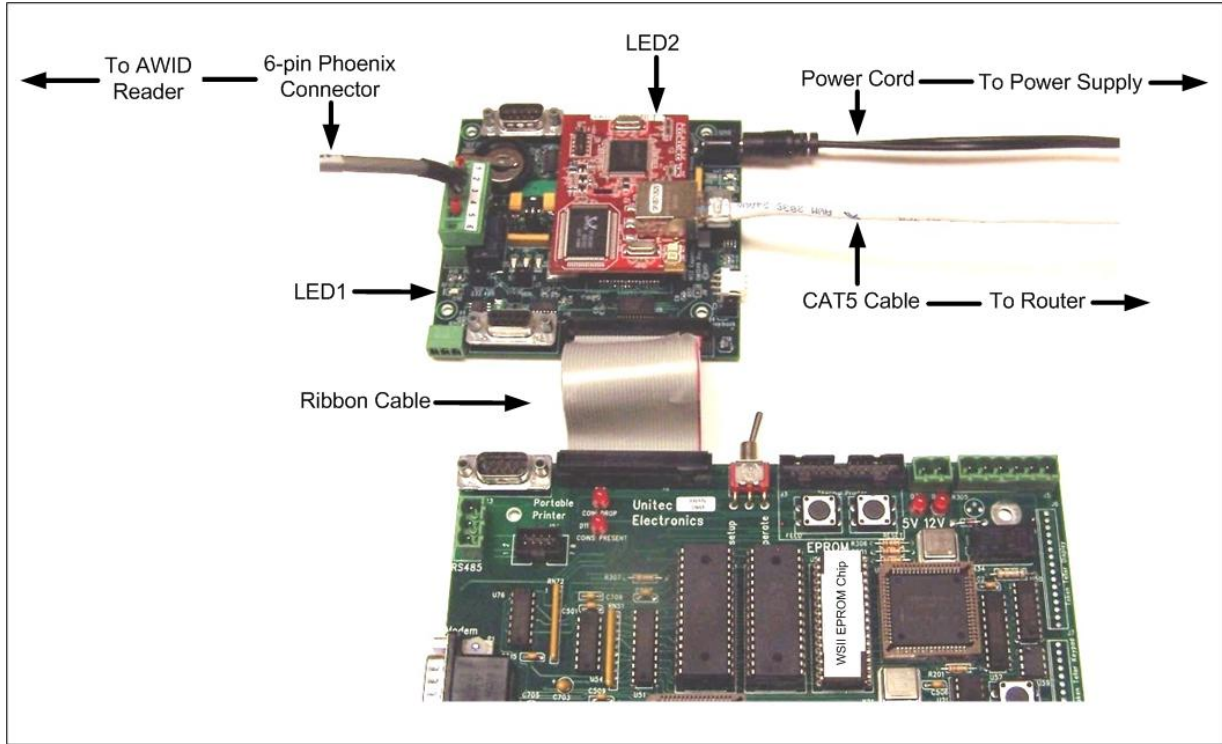


Figure 9. Expansion/RFID Board Connections for Wash Select II

## 6 RFID Tags



Figure 10. Sample RFID Tag

The ReachFree ID vehicle tag should be applied to the **INSIDE** bottom or top corner of the windshield on the driver's side, depending on the height of the vehicle, so that the tag is in approximately the same place on every vehicle. For example, if the vehicle is a taller SVU, apply the tag to the bottom of the windshield. If the vehicle is a smaller sports car, apply the tag to the top corner of the windshield. Make sure the windshield is clean before adhering the tag to the glass.

## 7 Program the WashPay Server

The ReachFree ID system is based off a subscription-based house account. You will need to enable the RFID reader on the WSII profile under Peripherals, and set up a house account program and account for each vehicle tag. For more information, see the *Sierra Management Application Programming Manual*, which is available on our website at <http://www.StartwithUnitec.com>

## 8 Troubleshooting

Use the *Diagnostics>Test RFID (AWID)* in Maintenance mode to make sure the ReachFree ID system is reading the tags properly. Once the vehicle tag is detected by the reader, the 8-digit code will be displayed in the third window on the Wash Select II door. As long as the RF tag remains in range of the reader, the WSII will beep once per second. You can determine the area the RF Reader can read tags by moving the tag around and listening for the beeps. As long as the unit is beeping once per second, the RF tag is in-range.

The ReachFree ID reader uses the 900 MHz frequency which can cause interference with other electronic devices that use the 900 MHz frequency range. Unitec strongly suggests you observe the following warnings:

- Stay away from UHF communications devices.
- Avoid arc lighting fixtures by 3 or 4 feet.
- Keep neighboring long-range readers on parallel lanes at least 12 feet apart, with their surveillance zones parallel to each other.
- Do not have identical readers facing each other (but “back-to-back” is OK).

### LEDS

The Expansion/RFID board has 2 LEDs that indicate whether or not the RFID system is working. The table below defines each LED and its function.

LED	Label	Color	Light Status	Description
LED 1	Power	Yellow	Solid	Indicates power to the reader
LED 2	Power	Red	Solid	Indicates power to the board

### Power Adjustment

The *Diagnostics>Test RFID (AWID)* function also has a power adjustment. All RFID boards are shipped with the power adjustment set to 5. If you need to adjust the power for the reader, enter a number from 1-9 on the keypad. The power levels range from 1 to 9, with 9 being the highest.