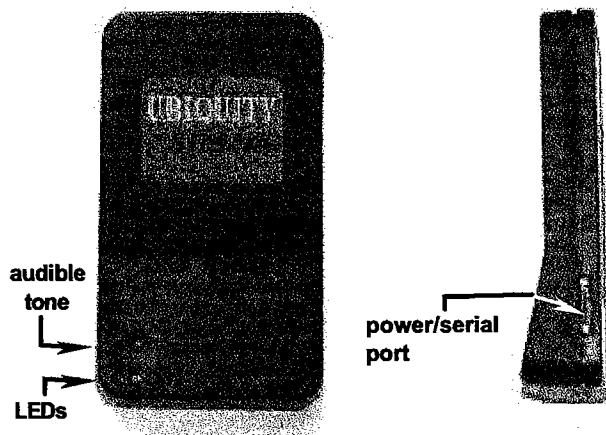


Transponder features



LEDs	These LEDs (light emitting diodes) display the status of the transponder according to data received from a reader and may be a different scenario for each agency. (Your service provider should give this information to you in a separate instruction sheet.)
red	
yellow	
green	
audible tone	provides a BEEP signal when required

To install the transponder, see *Mounting Instructions*.

Power/serial port connections

Block diagrams of typical application configurations

Figure 1: Basic installation:

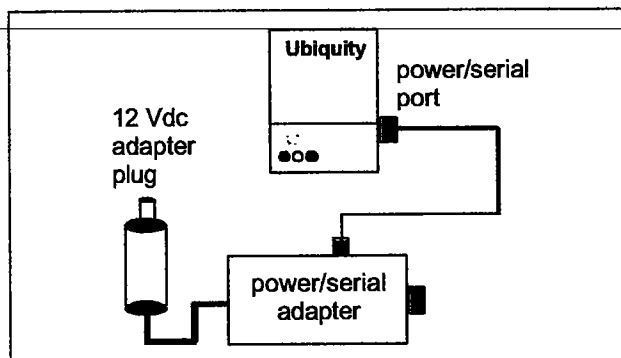


Figure 2: Basic installation + onboard computer

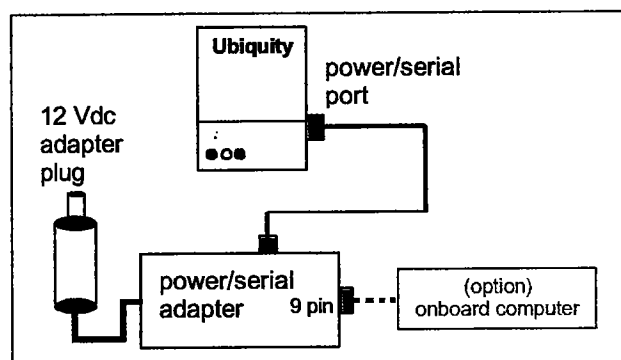
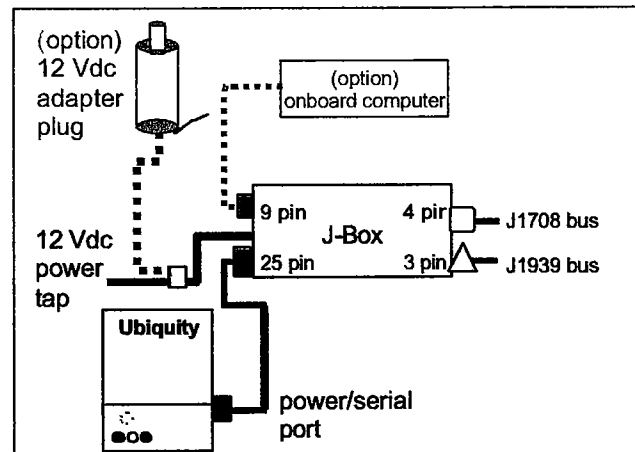
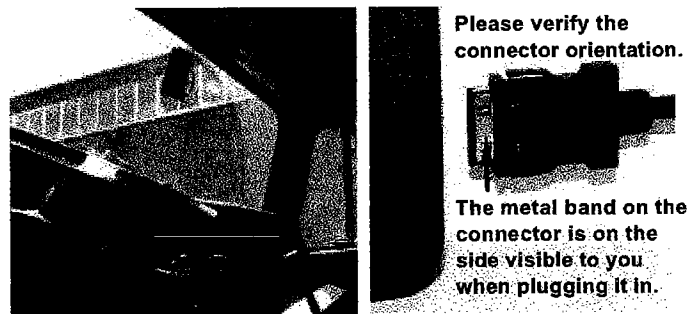


Figure 3: J-Box connections



Mounting Instructions



The transponder works best when mounted in the position shown in the photo above. The transponder is centered on the windshield interior with the top edge about 2 inches below the headliner. The LEDs are at the bottom. Do not position the transponder or the interconnection wiring so as to obstruct your normal view of the roadway. The transponder power/serial port wiring is typically routed in a manner that hides it in the headliner.

IMPORTANT Notes:

- Incorrect mounting position of the transponder may result in failure to communicate with the reader.
- The power/serial adapter must not remain on top of the dashboard where it might overheat in the sun.

Notes about using the Dual Lock™ strips that are fastened on the back of the transponder...

1. Thoroughly clean and dry the glass surface where the transponder is to be mounted on the inside of the windshield.
2. Carefully remove the protective backing from the Dual Lock™ mounting strips.
3. Ensure that the transponder is oriented as shown in the photo above.
4. Firmly press the transponder against the windshield.

5. Maintain firm pressure for about 15 seconds to achieve a good bond.
6. After this, the transponder may be removed from the Dual Lock™ strips as often as required. Always press the transponder back firmly onto the Dual Lock™ strips.
7. Make the connections to the transponder as shown in the **power/serial port connection** section on this page. Choose the drawing that suits your specific application.

Equipment identification photos

Photo #1: Basic installation power supply connectors:

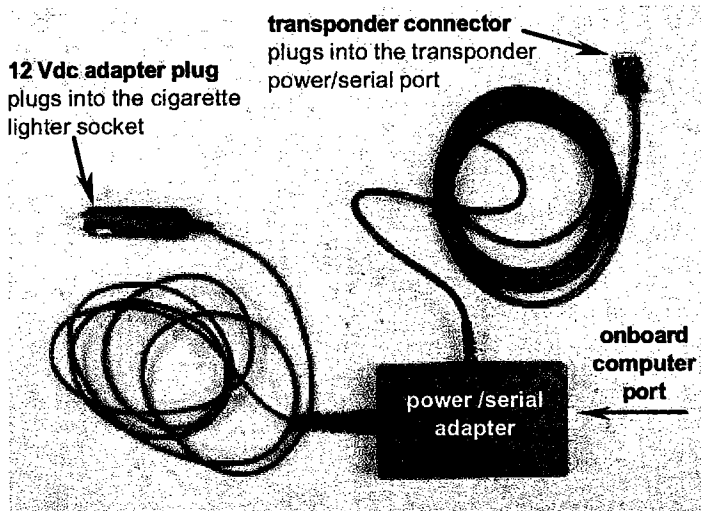
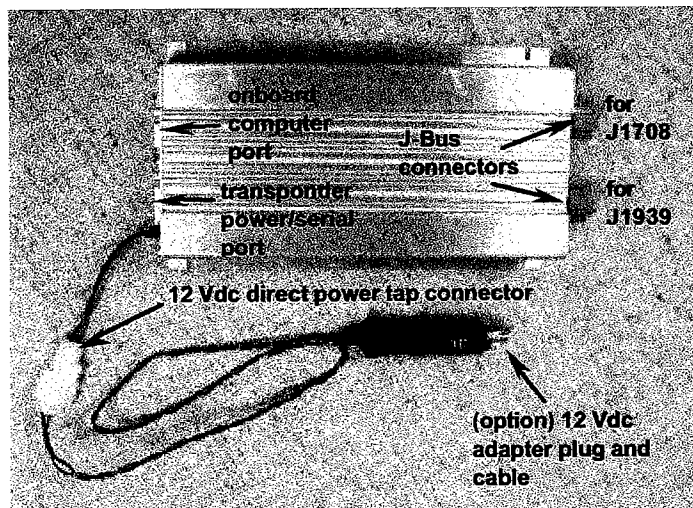


Photo #2: J-Bus J-Box connectors



Specifications

Protocol compatibility

1. IAG
2. TDMA "V6"
3. Sandwich specification (IEEE 1455 +)
4. Title 21

Power supply

A 5 Vdc power tap extracted from the vehicle 12 Vdc power provides the power supply for the transponder.

Life

6 year operating life measured from delivery date of transponder from the factory. Batteries are not required. Durability of the case meets SAE 1455 recommendations.

Operating Temperature Range

All demonstration transponder performance specifications apply over the temperature range -20°C to +70 °C unless otherwise specified. The power/serial adapter supplied in the transponder demonstration package is rated at 0 to +85 °C.

Maximum Case Temperature

115 °C as per SAE J1455. The transponder case does not deform or become permanently damaged at this temperature.

Storage Temperature Range

The transponder can be stored safely within -40 to 85 °C

Humidity

The transponder withstands 5 to 90% relative humidity, non-condensing.

Vibration

The transponder performance does not degrade when subjected to 1.5g vibration 5 through 1000 Hz in any plane for 3 hours as per test method SAE J1211.

RF Safety

The transponder transmitted energy does not exceed the RF safety requirements as specified in IEEE C95.1-1991.

Applicable RF Standards

The transponder meets FCC Parts 15 and 90 and Industry Canada RSS 137.

Mounting

Use the 3M Dual Lock® strips supplied to mount the transponder to the inside of the vehicle window as described in the **mounting instructions** section above..

Metallized Windows

The transponder cannot be used in vehicles equipped with either metallized windshields or metallized sunscreen appliques.

Customer Access

There are no customer serviceable components inside.

(The above specifications are subject to change without notice.)

Applications

- electronic toll collection
- weigh station bypass /mainline screening
- CVISN applications
- mobile commerce

Document revision

Rev A 4-July-02 original release