AirIQ®

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Responsibility:

AirIQ assumes no responsibility or liability for the improper installation, operation or maintenance of MobileIQ Onboard™, including, without limitation, the installation or removal thereof by personnel who have not successfully completed the MobileIQ™ Installation Training and Certification program.

Warranty:

AirIQ warrants the use of MobileIQ™ against defects in material and workmanship, with the exception of defects caused by abuse, misuse, accident, alteration, modification, neglect, incorrect installation, operation or removal of the equipment, for a period of one year from the date of purchase. During this period, any defective units will be either replaced or repaired by AirIQ, at its sole option. Any repairs or replacements to the equipment after the applicable warranty period shall be at the sole expense of customer. In the event that any equipment is installed, removed or tampered with in any manner by a person who has not been trained and certified by AirIQ, then this warranty shall be null and void and of no effect whatsoever.

The warranties of MobileIQ™ set forth above are in lieu of all other warranties of MobileIQ™ express or implied, arising out of or in connection with the sale, lease, rental or license of MobileIQ™ products and services, or the use or performance thereof, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose. MobileIQ™ neither assumes nor authorizes any other person to assume for it any liability in connection with the use of MobileIQ™ products or services or the sale or license, use or operation of any other product used in connection with such MobileIQ™ products or services. In no case shall MobileIQ™ be liable to customer for special, indirect, incidental, punitive or consequential damages or loss of profits.

Limitation of liability:

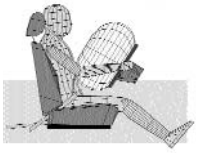
Occasional interruption or irregularities in the MobileIQ™ system (including, without limitation, MobileIQ OnBoard™ and MobileIQ OnLine™) may occur due to defects in the hardware or software provided by MobileIQ™ and/or it suppliers, or from limitations of the technology, and that, except as limited by law, MobileIQ™ and its suppliers or any of its officers, directors, employees or agents or any of the officers, directors or employees or agents of its suppliers shall not be liable to customer or to any other person with respect to any claim for direct, indirect, incidental, punitive, special or consequential damages arising out of mistakes, omissions, interruptions, delays, errors or defects in the MobileIQ™ system, hardware or software, in the application(s), or in the provision of related services, or for losses or damages arising out of the failure to maintain proper standards of maintenance and operation or for service or equipment interruptions, delays in transmission, or errors or defects in service or equipment when caused by acts of God, fire, war, riots, government authorities, default of supplier, or other causes beyond the control of MobileIQ™ and/or its suppliers.

1. Introduction

Satellites are in a 12-hour orbit at 12,000 miles above the earth. There are 24 satellites in the system and generally there are at least 5 satellites orbiting overhead at any one time. This antenna must be positioned to receive signals from these satellites. The antenna location must be selected carefully so that the antenna can receive the satellite signals. The standard GPS antenna is designed to be located inside the vehicle. The ideal location is in a place that allows line of sight reception from the GPS satellites in orbit above. The satellites signals will pass through glass if it is not coated with metallic film. Both the radio transceiver antenna and GPS antenna are designed to be mounted inside the vehicle, (not exposed to the outside weather).
This network covers virtually the entire population of U.S., Canada,and Mexico that is within reach of a cellular network.

1.1 General Safety

This installation manual covers the installation of the MobileIQ. This manual is for the professional and novice installer and should be used to ensure a safe and functional install of the MobileIQ.
The following information should be noted with respect to operating the MobileIQ in various environments, since the cellular transceiver component works through RF (Radio Frequency).



Vehicles Equipped with AirBags

- DO NOT place objects, including communication equipment, in the area over the airbag or in the air bag deployment area.
- If the communications equipment is improperly installed and the airbag inflates, this could cause serious injury.
- Contact the vehicle manufacturer's corporate headquarters, if necessary, for specific air bag information for the vehicle.
- DO NOT run cables under the area reserved for the driver’s feet.

Damage to the equipment can occur if dropped

- DO NOT install components that have been dropped, even if they appear to be ok.
- Internal damage is likely to occur.

2. Basic Tools Needed for Installation

- Metric and standard socket set
- Screwdriver set
- Side cutters, wire cutters
- Knife or box cutter
- Wire strippers
- Hand Crimper for insulated terminals
- Plyers
- Electrical tape
- Automotive upholstery or trim remover
- Flashlight or trouble light
- Cordless drill with accessories
- Assorted common bit set
- Digital Multimeter (recommended), or 12 volt test light

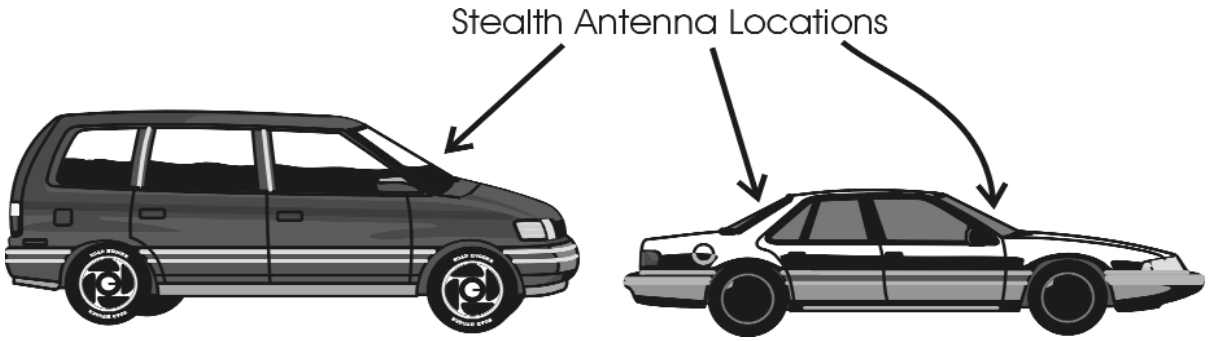
It is strongly recommended that a Digital Multimeter be used when probing electrical systems in the vehicle to avoid any damage to computers or airbag systems.

3. Antenna

Antenna location is critical to the operation of the system. The antenna provided is a combined GPS/RF antenna. The GPS/RF combined antenna must be mounted flat with the GPS receiver facing up (square portion on antenna). The antenna does not require a ground plane to function properly.

4. Stealth Antenna Mounting

The best location for a stealth installation is beneath the rear speaker deck panel or front window concealed in the dash of the vehicle. The GPS/RF combination antenna will work best if it has a clear view to the sky and as much of the horizon as possible. Any metallic objects between the antenna and the satellites will degrade the signal and reduce the overall performance.



- The GPS signals will travel through the clear glass but will be reduced if the window has any metallic coating or tint applied.
- The antenna must be mounted securely so that it does not become a projectile in an accident.

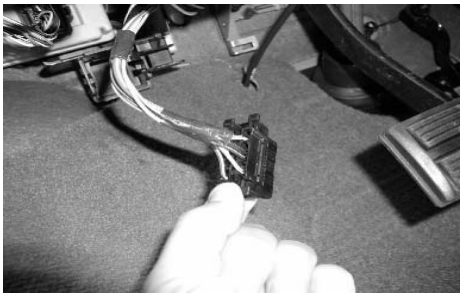
5. The MobileIQ Device

The MobileIQ may be installed in any type of vehicle. The unit should be mounted so it will not be exposed to damage from people or objects. The MobileIQ has four mounting holes. Use nylon tie straps to firmly mount the MobileIQ. Some examples of mounting locations include under the dash above the knee bolster, under the centre console, side kick panel and behind the glove compartment. The battery should be mounted in the same manner, close to the MobileIQ.

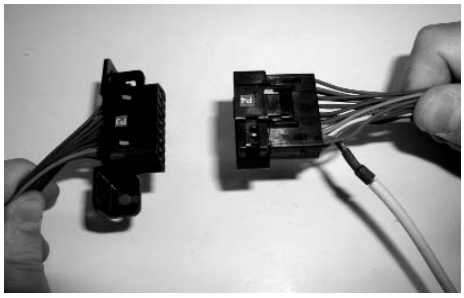
6. The Power Harness

The Power Cable requires connection to the vehicle OBDII diagnostic connector. This connection will provide constant power and ground to the MobileIQ.

Connection Sequence

1. 

   The OBDII connector is typically located on the drivers side, under the dash. Remove the OBDII connector from the current vehicle mounting position.

2. 

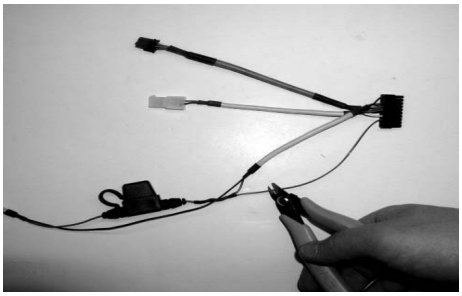
   Plug the Power Cable into the vehicles OBDII connector.

3. 

   Remount the OBDII that is on the power harness to the vehicles mounting position.

7. Ignition Sense Power (if towing notification available)

In order for the “Towing Notification” feature to be active the ignition wire (brown) on the wiring harness will need to be cut, an in line fuse (3amp max) must be added and connected to vehicle ignition power.



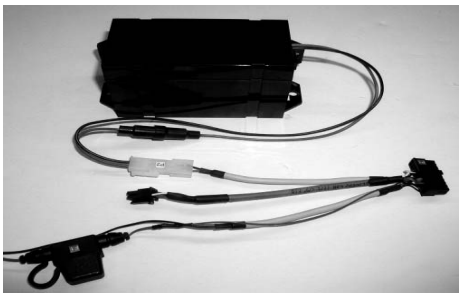
8. Powering the MobileIQ

1. 

   Connect the two coax cables from the combination GPS/RF antenna to the MobileIQ.

2. 

   Plug the main harness into the MobileIQ.

3. 

   Plug the back-up battery into the main wiring harness.

NOTE: The MobileIQ should now be powered. There is a LED on the MobileIQ that should now be flashing, refer to the section labeled “Troubleshooting”.

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9. MobileIQ Installation Testing

Validation of the installation and performance of the MobileIQ can only be performed using a Palm with Application Software designed specifically for MobileIQ.

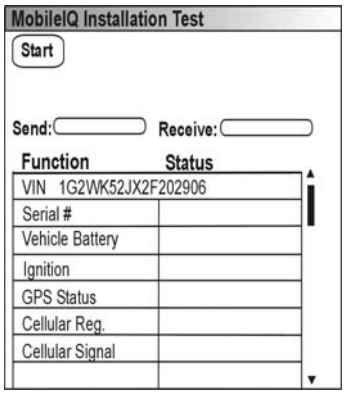
When the Palm is connected to the MobileIQ, the installer can:

- Verify the wiring harness is installed properly.
- Verify the MobileIQ is receiving satellite information in order to obtain a GPS fix.
- Perform a final connection test on the MobileIQ network to ensure performance.

9.1 Start the MobileIQ Application on the Palm

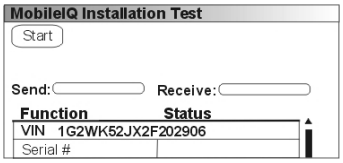
1. 

The MobileIQ program is automatic. To begin, tap the **IQ** icon in the Applications Launcher of the Palm.

2. 

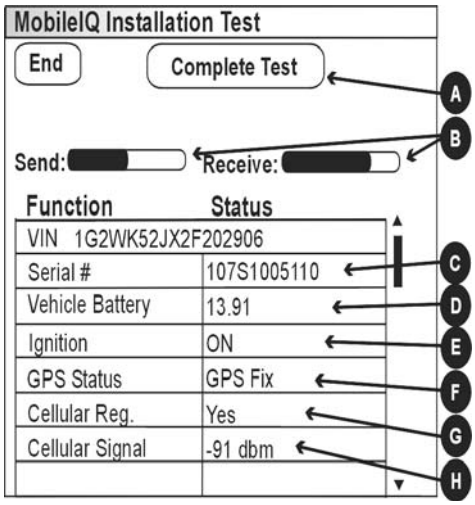
Tap the **VIN** status column with the Palm stylus.

Scan the vehicle **VIN** into the Palm, or input the information manually if a scanner is not available.

3. 

Tap the **Start** icon to initiate communications between the Palm and MobileIQ. This icon will change to **End** .

9.2 MobileIQ Status



The following appears on the screen:

- (A) Complete Test icon.
- (B) **Send** and **Receive** progress bars scroll to indicate the Palm is communicating with the MobileIQ.
- (C) The **Serial #** of the MobileIQ. Verify this number with the Serial # on the MobileIQ.
- (D) **Vehicle Battery** voltage.
- (E) **Ignition** state ON or OFF (*if towing notification available*)
- (F) **GPS Status** state GPS Fix or No GPS Fix
- (G) **Cellular Reg** will indicate if service has been acquired, Yes or No.
- (H) **Cellular Signal** strength (dbm value)

9.3 Installation Test

This test verifies correct installation of the wiring harness, to ensure proper operation of the MobileIQ and Wired Features.

Power Testing

1

Vehicle Battery	13.4
Ignition	ON

Start the vehicle, or ensure the engine is running.
"Vehicle Battery" status should read "12.0" or higher.
"Ignition" status should read "ON"

2

Vehicle Battery	13.4
Ignition	OFF

Turn the engine "OFF" and remove the keys.
"Vehicle Battery" status should remain "12.0" or higher.
"Ignition" status should read "OFF" *(if towing notification available)*.

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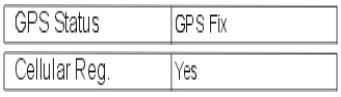
10. Communications Test

This test verifies communication between the MobileIQ and the OnLine System. The test will only be successful and error free if the following pre-requisites have been met:

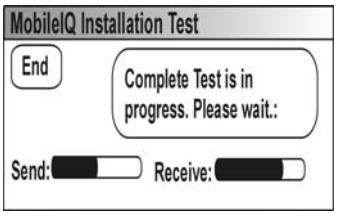
- The MobileIQ has achieved a GPS Fix.
- The MobileIQ has registered on the cellular network and has sufficient cellular strength.

1



The MobileIQ should receive a Cellular Registration when powered and a GPS Fix within 5 minutes.

2



Tap the Complete Test icon.
This should initiate a final connection test on the MobileIQ OnLine System to ensure performance.

3

A message window should appear, with an Activation Code to verify the test was successful.

Testing should now be complete.

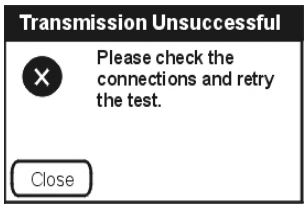
11. Troubleshooting

This section provides detailed instructions to assist in identifying the root cause of issues related to the MobileIQ or associated accessories. If you are unable to identify the root cause of the problem after following the steps in sequence, contact MobileIQ Client Care at 1-877-684-2040.

- The MobileIQ equipment has no serviceable parts.
- Service is based solely on the substitution method; a faulty unit is replaced by a working one.

The following lists potential issues that may be encountered when testing the MobileIQ, and provides recommendations on resolution.

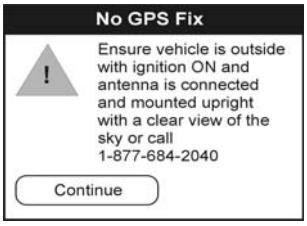
1. Transmission Unsuccessful message on Palm:



When the Start button is pressed on the Palm, the Palm attempts to communicate with the MobileIQ. This message occurs if the Palm is not connected to the MobileIQ, or the MobileIQ is not powered. The most common problem is related to the wiring harness power connections.

	Possible Cause	Action Required
i.	Palm not connected to the MobileIQ	Verify the Palm is connected to the 6 pin connector on the wiring harness of the MobileIQ via the serial cable and the interface module.
ii.	No power to the MobileIQ.	Verify that the wiring harness is plugged into the OBDII connector. Check the fuse on the RED power cable. Verify there is power (12VDC) on the RED wire at the fuse.

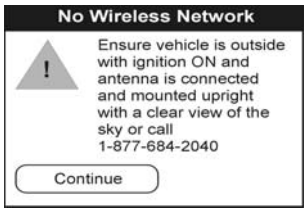
2. No GPS Fix message on Palm:



This message occurs if the “Complete Test” icon is tapped without obtaining a GPS Fix. The vehicle must be running and have a clear view of the sky in order to get a GPS Fix. The MobileIQ should get a GPS Fix in less than 5 minutes. Ensure GPS cable is connected to the MobileIQ.

	Possible Cause	Action Required
i.	Vehicle inside building or near obstructions.	Move the vehicle to a new location that does not have obstacles directly in front of the vehicle or directly overhead.
ii.	Antenna buried too deep under metal, or upside down.	The GPS module on the antenna must point up. Try using another temporary antenna in a different location. If this antenna works, reconnect the original antenna. If it doesn’t work, relocate or replace antenna.
iii.	Aftermarket tinting may contain metal flakes.	Relocate the antenna to an area where there is no window tint.

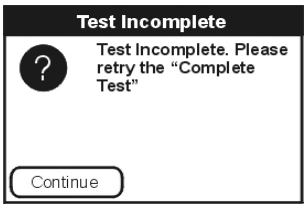
3. No Wireless Network message on Palm:



This message occurs if the MobileIQ has not registered on the cellular network, or if the signal is too weak. There needs to be a local wireless network in the area for the MobileIQ to register.

	Possible Cause	Action Required
i.	Antenna connector loose or not connected.	Ensure the antenna is connected to the MobileIQ and the connector is tight.
ii.	Antenna may have physical damage.	If there are any cracks in the cable, the antenna may be shorted and may not work. If the antenna itself has a crack or severe physical damage, it may be defective. Try a new antenna.
iii.	No wireless coverage.	If this is the first installation in this area, verify there is wireless service. Installation tests may need to be performed in another location where there is cellular coverage.

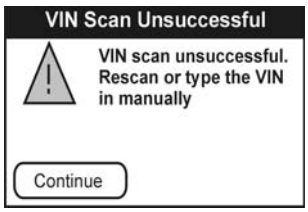
4. Test Incomplete message on Palm:



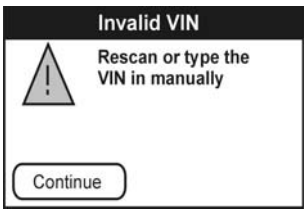
This message occurs if the communication test between the MobileIQ and the OnLine Sytems fails.

	Possible Cause	Action Required
i.	Poor wireless coverage	Retry the "Complete Test", if this occurs again contact MobileIQ Client Care at 1-877-684-2040.

5. VIN Messages:



This message occurs if the scan tool does not read the bar code. Retry the scan or type the VIN in manually.



This message occurs if the VIN has not been properly entered. Verify the VIN on the vehicle with the VIN on the Palm. If VIN is correctly entered, contact MobileIQ Client Care at 1-877-684-2040.

This message occurs if the VIN is not recognized by MobileIQ in the VIN database. You may continue with the installation test but the Serial # will not be activated. Contact MobileIQ Client Care at 1-877-684-2040 for activation.

6. LED Operation:

Bi-Coloured MobileIQ LED
Each MobileIQ is equipped with one bi-coloured LED.

Blinking LED Colour:

- ***Blinking Green:*** Microburst and Cellular Service are available.
- ***Blinking Orange:*** Cellular Service, but not Microburst Service is available.
- ***Blinking Red:*** Neither Cellular Service nor Microburst Service is available.

Blinking LED Timing:

- ***Off for 1 second:*** GPS Module is powered and signal is Valid, Cell Module is powered.
- ***Off for 5 second:*** GPS Module is powered and signal is Invalid, Cell Module is powered.
- ***Off for 10 seconds:*** GPS Module is turned off, Cell Module is powered.
- ***Off for 21 seconds:*** GPS Module is powered and signal is Valid, Cell Module is turned off.
- ***Off for 25 seconds:*** GPS Module is powered and signal is Invalid, Cell Module is turned off.
- ***Off for 30 seconds:*** GPS Module is turned off, Cell Module is turned off.

Wireless Coverage Area:

Wireless technology is required to access the MobileIQ. MobileIQ utilizes the broadest coverage area networks.
There are areas within North America that have not yet been included in the wireless coverage area. If a vehicle travels out of coverage, or is in a poor coverage area, communication with that vehicle is unavailable until it returns to the coverage zone. From time to time, poor coverage areas (“holes”) occur even in fully developed areas, thereby limiting system performance.

Wireless Network Service Problem:

Wireless network service problems may affect the communications link between the vehicle and MobileIQ OnLine. Service problems include, service interruptions and network congestion, a busy network, or cellular roaming issues.

GPS Drift, Urban Canyon:

GPS is a satellite based positioning system providing the greatest coverage available, but there are still some circumstances that can hinder the performance of the system. The GPS antenna must have a direct line of sight to the satellites. If the path is blocked or obstructed by underground parking lots, or the shadow of tall buildings, it can affect the GPS receiver. What typically occurs in this case is the system will recognize that it is not receiving a clear GPS signal, and will report the last known clear location of that vehicle.

Tampering with the Unit - Human Intervention:

If the unit is tampered with - antennas (GPS or cellular) or wires disconnected, or the unit completely removed, the functionality of the system will be jeopardized. However, steps can be taken to prevent this from occurring. Upon installation, the components should be hidden, making the system difficult to detect and tamper with.

Defective Units:

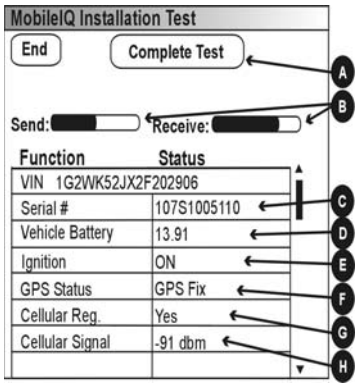
All MobileIQ’s are tested at the MobileIQ facility prior to being shipped and installed. The MobileIQ has a built-in diagnostic test that initiates each time the unit is powered on. If the MobileIQ detects an irregularity, it has the ability to send notification of the problem and the vehicle’s location, (if power and a communication link are present) so that the situation can be rectified immediately.

Quick Reference Pull-Out

Wiring

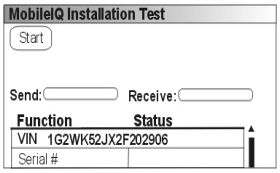
- plug inline with OBDII for power.
- (red) wire constant power with 3 amp fuse.
- (brown) wire, ignition, if towing notification available, add inline fuse 3 amp maximum and attach to ignition pwr.
- (black) wire, ground

Palm



The MobileIQ program is automatic. To begin, tap the **IQ** icon in the Applications Launcher of the Palm.

Scan the VIN into the Palm, or input the information manually if a scanner is not available.



Tap the Start icon to initiate communications between the Palm and MobileIQ. This icon will change to End .

A Complete Test icon.

B **Send** and **Receive** progress bars scroll to indicate the Palm is communicating with the MobileIQ.

C The **Serial #** of the MobileIQ. Verify this number with the Serial # on the MobileIQ.

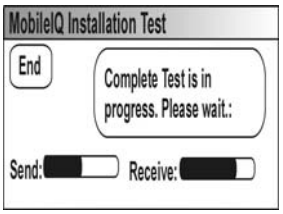
D **Vehicle Battery** voltage.

E **Ignition** state ON or OFF (*if towing notification available*)

F **GPS Status** state GPS Fix or No GPS Fix

G **Cellular Reg** will indicate if service has been acquired, Yes or No.

H **Cellular Signal** strength (dbm value)



Tap the Complete Test icon.

Blinking Green: Microburst and Cellular available Blinking Orange: Cellular Svc, no Microbust Svc Blinking Red: Neither Cellular or Microburst Svc	off 1 sec - GPS powered signal valid,cell powered off 5 sec - GPS powered signal invaild,cell powered off 10 sec - GPS turned off,cell powered off 21 sec - GPS powered signal valid,cell off off 25 sec -. GPS powered signal invalid,cell off off 30 sec - GPS turned off,cell off