

Installation Instructions

Tags for LR-911 Long-Range Reader

Change History

Version	Date	Author	Comments
1.2	20 Nov 2008	LHH	First release.

The tags for AWID’s LR-911 Long-Range Reader are easily mounted using the following instructions. It is important that the installer follows these suggestions. Contact AWID’s Technical Support for applications and installation advice.

GENERAL RULES

1. The relationship between the *reader’s* location and aiming, and the location of the *tags* inside or outside the vehicle, is important for good performance. Plan the installation considering these factors before installation starts.
2. Start by testing the LR-911 reader using the LR-911KIT’s test unit and the hand-held test tags, with no vehicle present at the reader. When good read range has been proved, proceed to mounting the tags in or on the vehicles.
3. The “*sweet spot*” reading distance for a tag in or on the vehicle is typically 8 feet, measured between the face of the reader and the location of the tag. Note: The “*sweet spot*” reading distance is shorter than the tag’s rated “*read range*”, which is the total distance between the reader and the farthest point at which a hand-held tag can be detected.
4. At the sweet spot, the tag should *face the reader*, with clear *line-of-sight* (through the windshield is OK) to the reader, and with the tag and the reader about *parallel to each other*. Aim the reader at the sweet spot.
5. Orientation of a tag may be “*portrait*” or “*landscape*” or diagonal. Reading will be most active when either *long edge* of the tag is closest to the reader as the tag first enters the effective RF field.
6. Keep your hand and body away from the tags, to avoid blocking or reducing the tag’s RF field.
7. Before attaching WS-1216 tags to the windshield, clean the windshield near the tag, inside and outside.
8. To attach WS-1216 tags to side windows, select a window that does not lower into the door frame. Align tags with a reader at the side of the vehicle lane, at the same height as the tags.
9. If necessary, turn off RF sources on the vehicle, such as anti-collision sensors and UHF communications gear.
10. Prevent buildup of snow over the tags. Use windshield wipers to remove water from the windshield. Near the ocean, wash the windshield near the tag to remove salt coating.
11. Prepare instructions for the users’ staff member who will oversee tag installation. Copy the suggestions in the sections below for the appropriate tag. From the LR-911 Installation Manual, copy the sub-section in Section 9 – Applications that matches this installation.

WS-1216-0-0 WINDSHIELD TAG

1. Mount the reader so that it faces the location of all windshield tags at the “*sweet spot*”. For passenger cars the reader is typically at the side of the vehicle lane, close to the vehicles’ path, 7 feet above ground level.
2. Leave the large paper label in place on the tag, to protect the tag’s adhesive during location tests.
3. Use a hand-sized block of plastic foam (flexible but firm), about 2 inches thick. Press the WS-1216 tag flat against the inside of the windshield. Keep your hand away from the tag.



Figure 1. WS-1216 tag at four optional locations.

(continued)

(WS-1216-0-0 Windshield Tag – continued)

4. Move the tag to different locations inside the windshield, where the tag faces the reader. Test the reader's performance with the tag high and low on the windshield, several inches from the vehicle's door pillar, in "portrait" and "landscape" orientation.
5. Avoid items that may block the tags' transmission – embedded wires, metal coating, dark tinting, or RF emitting devices.
6. When you identify a good tag location, peel the paper label off the tag. Press the tag's adhesive flat against the inside of the windshield. This is a one-time application. The tag will not work after it is pulled from its original position.
7. *Do not* carry the WS-1216 tag in a pouch or wallet, or attach it using tape, or hold it by hand, or place it on the dashboard. *Do not* adhere the tag to anything except windshield glass. *Do not* attempt to move the tag from one vehicle to another.
8. In a small percentage of cars, metal in or on the windshield reduces the read range. If so, use the MT-1014 metal-mount tag.

MT-1014-0-0 METAL-MOUNT TAG

1. Inside the vehicle –

Locate the MT-1014 tag, at the "sweet spot", on a flat surface where it is in line-of-sight through the windshield with the reader. The "AWID" logo must face the reader. The MT tag may be attached to any material or held in air. Suitable locations are the dashboard (away from the windshield), or the sun visor facing the reader when the visor is turned down, or the inside rearview mirror's frame facing the windshield, or inside the windshield if the tag is spaced away from the glass by ½ inch or more (example: heavy-duty Velcro on the *front* of the tag).

For *holding* by hand, squeeze the tag between your thumb and forefinger, like a baton, over one of the screw-holes. Keep your hand behind the tag. Hold the tag away from your body.

For *temporary* attachment, use tape over the 2 screw-holes at the ends of the MT tag. Do not cover the center of the tag between the screw-holes.

For *long-term* attachment, peel the paper label from the back of the tag, and adhere the tag to the inside surface using the tags own adhesive.

The MT tag may be moved between different vehicles if the attachment method is temporary. The MT tag may be stored in the vehicle's glove compartment when not being used.

2. Outside the vehicle –

Locate the MT tag, at the sweet spot, on a flat surface where it is in line-of-sight with the reader. The "AWID" logo must face the reader. Suitable locations are the top of the front bumper, the radiator grill, the edge of the hood, the lower or upper part of the windshield (away from the driver's line-of-sight), the front door pillar, the roof rack, etc.

On trucks and buses, the MT tag may be on a fender or side door, facing a side-mounted reader.

Fastening a tag on the front license plate *may* be acceptable. Verify performance first using the LR-911KIT.

Attach the tag using the tag's own adhesive under its peelable label, or by sealant around the edges, or by wire ties, or by non-metal (nylon) screws or pop-rivets through the tag's screw holes.

3. Finishing the installation –

Test the MT tag's performance before attaching it permanently. Seal moisture from the back of the tag by running a small bead of silicone sealant around the edge of the tag. Insert the screw-hole plugs over the screw heads for good appearance and security.



Figure 2. MT-1014 tag on side of truck cab.



Figure 3. MT-1014 tag on cab of front-loader.