



360° Maximum Protection

Uniden®

***R9w
Installation Guide***

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R9w INSTALLATION GUIDE

BEFORE YOU BEGIN

IMPORTANT NOTES

Uniden strongly recommends that an installation professional install your R9w radar system. This installation requires someone with a knowledge of automobile configurations to determine the safest, most efficient, installation path.

WARNING! Attempting to install this unit without this automotive knowledge may void your warranty, cause damage to your vehicle, or even cause personal injury.

COMPONENTS

- Controller. Provides power to the R9w components. Color coded tabs indicate where each component connects to the Controller.



- Keypad. Controls the menu as well as adjusts and mutes volume and alarms, user marks, and backlight.



- Display/Display Bezel. Provides the visual display for alarms, alerts, signal strength and frequencies, and menu selections. LEDs on the right side indicate the signal direction.



- GPS Module. Tracks vehicle location related to the GPS database for red light cameras, speed cameras, etc.



- Speaker. Provides audio output for alarms and alerts, etc.



- Active Alert LED. Incoming signal indicator. Usually mounted in speedometer area or area within line of sight. LED mounting bracket already installed.



- Radio Mute Cable. Mutes the radio when an alarm or alert sounds.



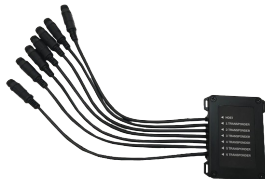
- Front and Rear Remote Radar units. Detects radar and laser signals.



- Adjustable Mounting Clamps. Clamp mounts on side of Remote Radar and connects the Remote Radar to the vehicle.



- Laser Distribution Box. Connects to transponders and to the Controller.

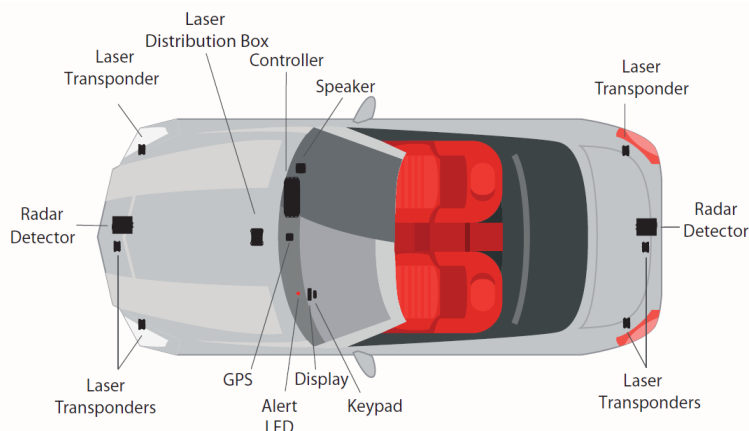


- Transponders. Detects specific laser signals.



- Mounting brackets, screws, and assorted plastic zip ties. Multiple brackets and mounting screws, and zip ties to mount and secure the remote radar to the vehicle.
- Extension cables (4). Provides extra cable length if necessary.

An average installation has the components installed in the vehicle like this:



INSTALLATION

INSTALLATION TIPS

- While your installer will know the best entry points for your vehicle, in general these entry points may be located behind the plastic liner of the wheel well, fuse box, or unused grommets.
- Mount the transponders horizontally and absolutely level (a small, yellow, bubble level is included in your package contents). They must also have an unobstructed view of the road for optimum performance. The best locations are typically under the bumper.
- If it is necessary to drill a hole through the firewall, check the area behind the firewall to be sure the drill does not damage any wiring or other components.
- Cover the surface being drilled with masking tape; this prevents damage to the protective coating if the drill slips.

INSTALLING THE COMPONENTS

These sections cover basic installation procedures for installing the R9w components. Your installer will determine the best installation methods based on your vehicle's configuration.

Be sure that installed cables will not be pinched, cut, or get too hot in the installation location and pathway.

CONTROLLER

CAUTION: DO NOT INSTALL THE CONTROLLER INSIDE THE VEHICLE'S FIRE WALL/INSIDE THE ENGINE COMPARTMENT.

Install the Controller under the dash. Connect the black wire (-) to ground and the red wire (+) to a 12-volt power supply. Route the components' cables to the Controller and connect them to the matching Controller RJ11 ports. Test these components for proper operation. Unplug the components and complete Controller installation.

FRONT AND REAR RADARS

The best installation locations for the Remote Radars are behind the front grill or under the rear bumper. Install the remote radars horizontally; use the small, yellow, bubble level to be sure the remote radars are flat.

Use either the mounting brackets or the adjustable mounting clamps to secure the remote radars. If you use the mounting brackets, you'll need to drill pilot holes into the vehicle. Mount the remote radar into the bracket first, and then mount the radar/bracket assembly onto the vehicle. If you use the mounting clamps to secure the remote radar in the front grille, use a hex key to tighten the front screw of each clamp. Use the screw on the side of each clamp to adjust the angle or remove the clamp.

Route the cable through the vehicle's interior. Plug the RJ11 into the Controller's Red Front Radar or Red-Orange Rear Radar port.

GPS ANTENNA

Mount the GPS antenna where it will have a clear view of the sky. Typical mounting locations are on the rear window deck or front dashboard. Be sure that there are no obstructions.

Find an appropriate entry point from the mounting location into the vehicle. Route the cable through the entry point and secure it along its path as needed. Plug the RJ11 into the Controller's yellow GPS port.

KEYPAD

Determine the best location for mounting the keypad. The keypad should be visible from the driver's position, easy to reach, and not interfere with normal driving. Mount the keypad onto the surface using double-sided tape.

1. Clean the mounting surface thoroughly.
2. Mount the keypad to the mounting surface using the double sided tape.
3. Drill hole to thread Keypad cable to Controller.
4. Plug the RJ11 into the Controller's green Keypad port.
5. Secure the cable as needed.

DISPLAY

Determine the best location for the Display. That location should be visible from the driver's position and does not take the driver's eyes off the road for more than a moment. There are 2 different methods to mount the display.

MOUNTED ON DASHBOARD WITH DOUBLE-SIDED TAPE

Clean the mounting surface thoroughly. Mount the display to the mounting surface using the double-sided tape. Route the Display cable to the Controller and plug the RJ11 into the Controller's orange Display port.

Secure the Display cable as needed.

MOUNTED INTO DASHBOARD

Cover the surface with masking tape to prevent accidental scratches while drilling. Using the template, mark the outline of the hole to be cut. Verify that there are no cables, brackets, or other elements behind the location, and that there is enough clearance available.

Very carefully cut the hole into the mounting surface. Remove the masking tape.

Thread the Display cable through the installation hole from the front. Insert the Display into the Bezel. Snap the bezel/Display into the installation hole. Thread the Display cabling through the dash to the Controller. Plug the RJ11 into the Controller's orange Display port.

ACTIVE ALERT LED

Determine the best location for mounting the Active Alert LED. It should be visible from the driver's position and not interfere with normal driving. Verify that there are no hidden cables, brackets, and other components behind the mounting location.

Cover the mounting area with masking tape and mark the location. Drill a ¼" hole through the mounting location. Remove the masking tape.

Insert the Active Alert LED bezel into the new hole from the front. Snap the Active Alert LED into the bezel from the back side.

Route the cable to the Controller and plug the RJ11 into the Controller's gray Active Alert port.

AUTO MUTE

The audio mute cable connects to the vehicle's entertainment center audio mute control wires (refer to your in-vehicle entertainment system documentation for details about this connection).

The R9w provides control to mute the in-vehicle entertainment system's audio during Radar and Laser incoming alerts.

- R9w Orange wire – Mute Control
- R9w Black wire – Ground Wire

Plug the RJ11 into the dark blue "Radio Mute" port on the R9w's Controller.

LASER DISTRIBUTION BOX

Uniden recommends installing the Laser Distribution Box inside the engine compartment.

Install the Laser Distribution Box in an area protected from moving parts, road debris, and hot surfaces such as the radiator/radiator hoses, engine block, etc. Be sure it - and the cables that will connect to it - will not get pinched, cut, or overheated.

Connect the Laser Distribution Box's 4-pin cable to the 4-pin connector on the extension cable. Connect the RJ11 end of the extension cable to the Controller module's lavender Laser connection.

TRANSPONDERS

The vehicle must be on a completely level surface to install the transponders (both front and rear). The transponders should be completely clear of any obstructions; for example, do not install transponders behind the vehicle's grille. The transponders should also be completely parallel with the road. Uniden recommends transponder placement as follows:

- Three transponders (minimum) in the front of the vehicle, with 1 by the center grille and 2 in front of the grille by each headlight; and
- One transponder above the license plate.

Mount the bracket onto the transponder; install the knurled screws but do not tighten them completely.

NOTE: If the knurled screws don't thread onto the transponder bracket, the bracket may be on backwards.

Mount the transponder to a solid surface on the vehicle, using the bubble level to be sure that the transponder is completely level. Tighten the mounting bracket knurled screws.

Find an entry point into the vehicle's interior. Thread the transponder cable through the entry point and secure. Connect the transponder cable to the Laser Distribution Box area labeled Laser.

TRANSPONDER ORIENTATION

Once installation is complete and verified, set the laser transponder orientation in the menus so that each Laser Distribution Box transponder port (TP1, TP2, etc.) reflects the transponder's actual orientation; you don't want a transponder setting to read "Front" if that transponder is installed in the rear of the vehicle.

Be sure the transponder cable is plugged into the Laser Distribution Box connection that matches the transponder port's actual direction. Set the transponder port orientation (Front or Rear) in MENU/Laser TP Setting.

Repeat for each transponder.

TRANSPONDER OPERATION

MENU AND SETTING

LASER

From **Menu/Laser**, select *ON* for the Host to alert when the Transponder detects a laser signal.

LASER TRANSPONDERS

From **Menu/Laser Jammer**, select *Constant Mode* (default) for the transponding function to always be activated.

There are two other modes available in the Laser Jammer Menu:

- Pulse mode (Laser Pulse Transmit): This mode provides intermittent transponding when laser signals are received (detected). Transponding lasts for 5 seconds (default) while receiving the laser signal; transponding restarts when a new signal is received.
- Receive mode (Laser Receive Only): This mode alerts when a laser signal is detected but does not transpond it.

LASER TP

A total of 6 transponders can be connected and used at the same time. Each transponder can be set to RX or TX and Front or Rear through the Laser TP Mode menu. Laser Transponder defaults are:

- TP1: Front, RX
- TP2: Front, TX
- TP3: Front, RX
- TP4: Rear, RX
- TP5: Rear, TX
- TP6: Rear, RX

GENERAL INSTALLATION

Laser TP settings (TX/RX) are necessary to detect and transpond only Dragon Eye laser guns; they do not affect other types of laser guns.

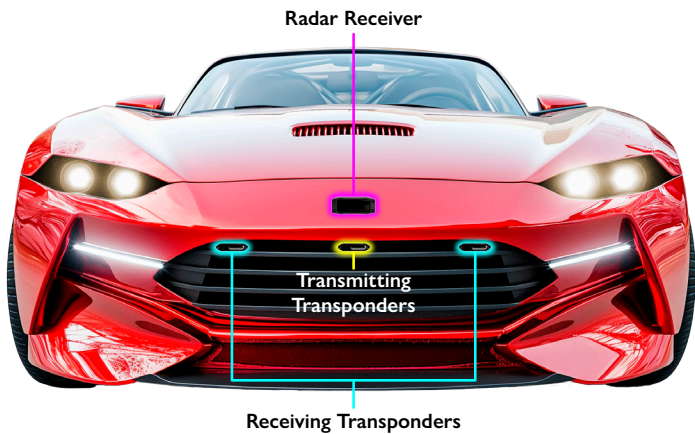
One TX transponder is enough to cover one side (front side or rear side). Set any other installed transponders to RX. RX transponders should be installed in a balanced way to cover as much area of the vehicle as possible.

Mount all transponders horizontally and absolutely level. They should also be mounted facing the front or rear of the vehicle, respectively. TX transponders should be installed at the horizontal center of the car and high enough from the ground to prevent TX echo reflection from the ground.

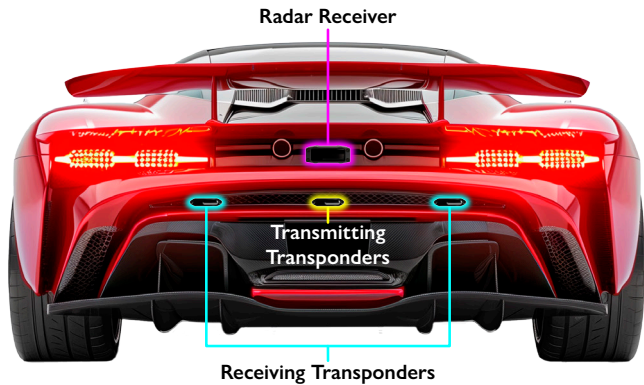
Refer to the following examples of transponder placement.

NOTE: Different vehicles have different body configurations that should be considered when planning transponder installation. Vehicles that have a larger reflection areas, such as trucks, may require more transponders.

FRONT TRANSPONDER INSTALLATION EXAMPLE

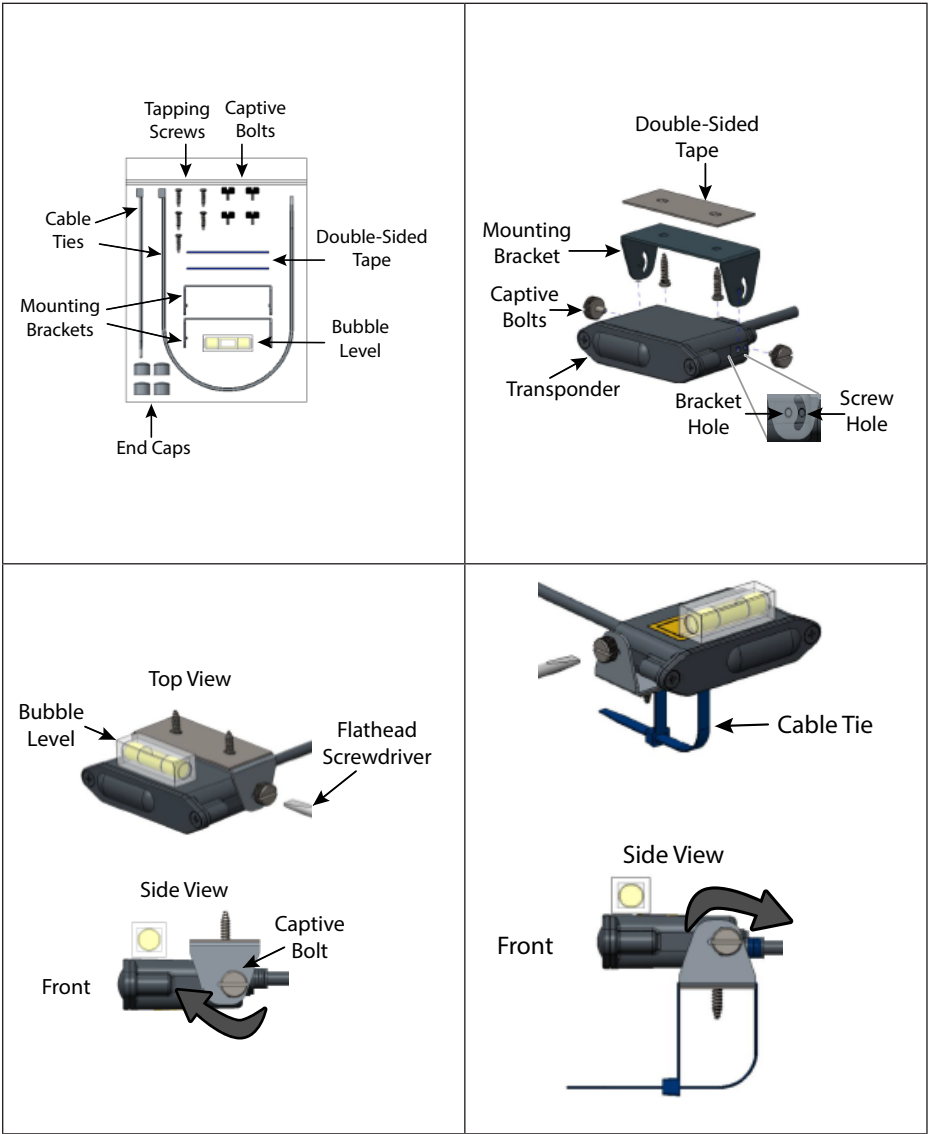


REAR TRANSPONDER INSTALLATION EXAMPLE

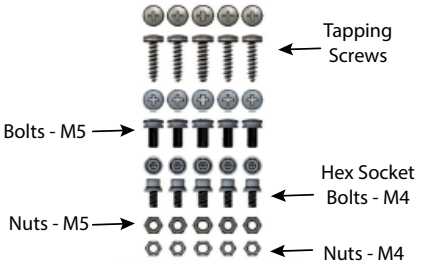
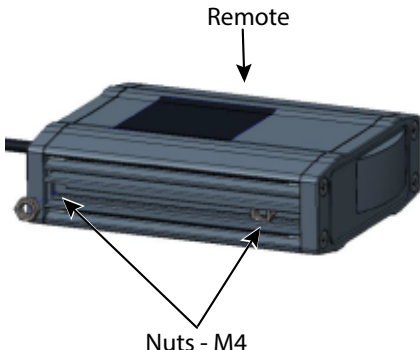
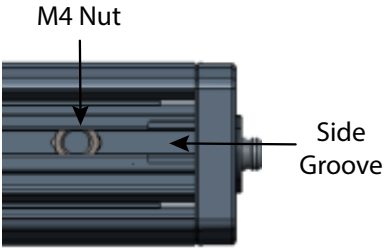



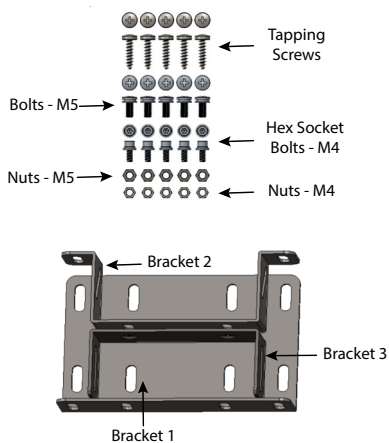
BRACKET INSTALLATION

TRANSPONDER MOUNTING BRACKET INSTALLATION

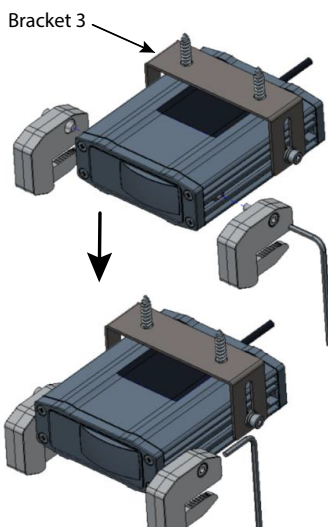
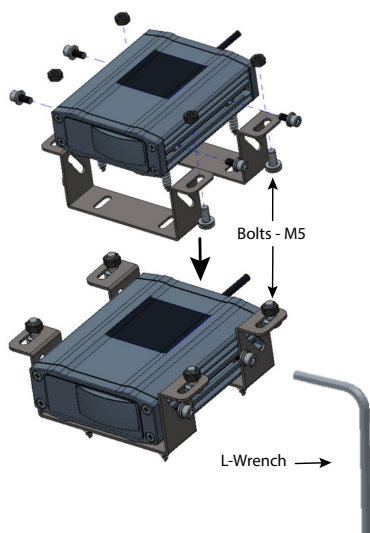
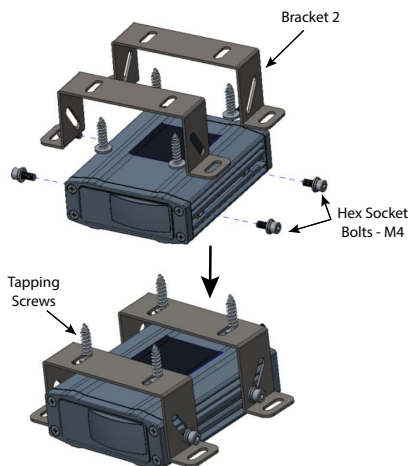


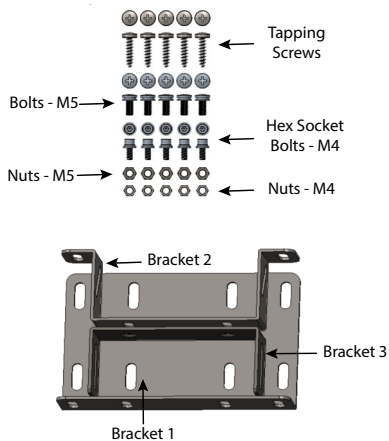
REMOTE MOUNTING BRACKET INSTALLATION

 <p>Tapping Screws</p> <p>Bolts - M5</p> <p>Nuts - M5</p> <p>Hex Socket Bolts - M4</p> <p>Nuts - M4</p>	 <p>Remote</p> <p>Nuts - M4</p>
 <p>M4 Nut</p> <p>Side Groove</p> <p>Insert the M4 nuts into the groove.</p>	

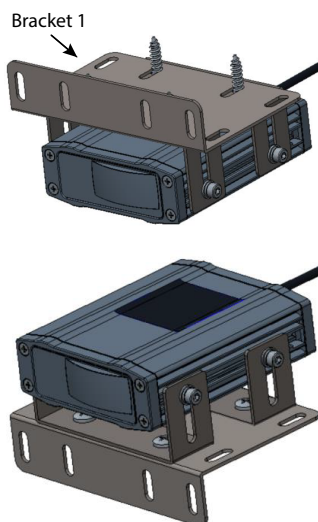
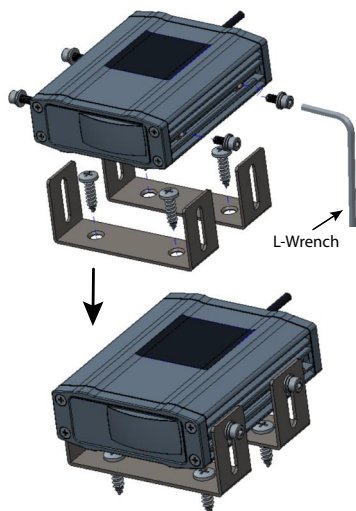
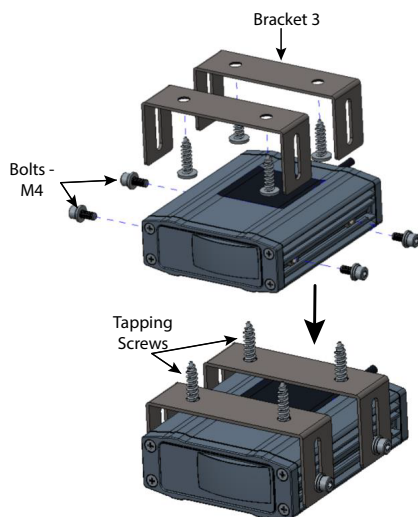


Assemble the three mounting brackets with the nuts and bolts provided.

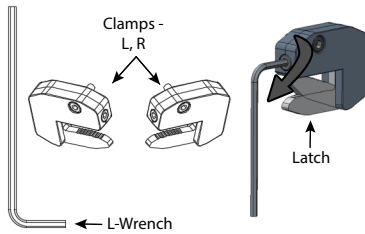




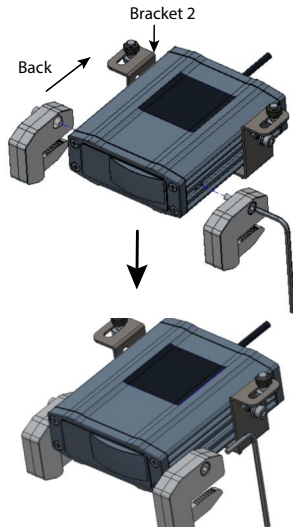
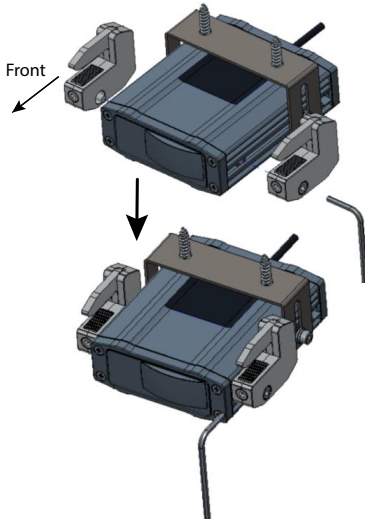
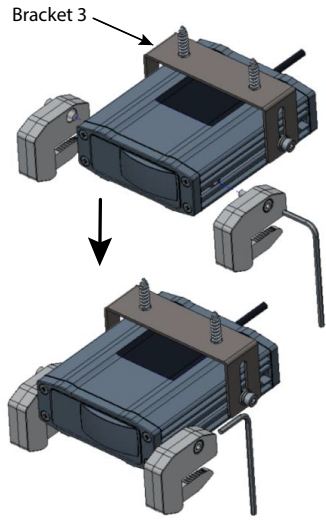
Assemble the three mounting brackets with the nuts and bolts provided.



CLAMP INSTALLATION



Symmetrical left and right clamps are included.
Use the L-Wrench to rotate and fix the latch.



INSTALLER TEST MODE

OVERVIEW

After completing R9w installation, use this mode to verify that the R9w works properly. The R9w Installer Test runs automatically and verifies the following connections:

- Laser
- Remote Radar
- GPS
- BLE

NOTE: Press **MENU** during the test to skip it. When test results display during the Test Summary, “Skip” displays.

RUNNING INSTALLER TEST MODE

There are 2 ways to activate Installer Test mode:

- If R9w is on, turn it off. Press and hold the **MENU** key. While holding down the **MENU** key, press and release the **POWER** key. R9w powers on, the UNIDEN logo displays, and then the *Installer Test* screen displays.
- If vehicle engine is on, turn it off. Press and hold the **MENU** key. While holding down the **MENU** key, turn the vehicle back on. R9w powers on, the UNIDEN logo displays, and then the *Installer Test* screen displays.

The Installer Test mode tests the following interfaces sequentially and displays in the following order:

Laser → Front Remote RD → Rear Remote RD → GPS → BT/WiFi

After testing each interface, the screen displays either *PASS* or *ERR-XXX* and continues to the next interface to test. During each test, *PASS* and *ERROR* alerts cause both voice alerts and a beep to sound.

			
Displays during testing	Displays if working normally	Displays if there are errors	Displays when all testing completed

TESTING LASER OPERATION

This portion of the automatic test checks the operation status of the communication with the host and transponders connected to the laser interface.

TESTING REMOTE RADAR OPERATION

This portion of the automatic test checks the operation status of the communication line with the host and internal components (DSP Chip, Tuner, PLL).

TESTING GPS OPERATION

This portion of the automatic test checks the operation status of the communication with the host and the internal components (GPS Module, Data Flash).

TESTING BT/WIFI OPERATION

This portion of the automatic test checks the communication line status with the host.

TEST SUMMARY DISPLAY

If there are no errors, the Test Summary displays each section and *PASS*. If there are errors, the error code displays (*ERR:1*, etc). All errors display if there are multiple errors in a section.

If an error code displays, check the element being tested (Laser, Front RD, etc).

1. Verify it is installed correctly and no wires are pinched or twisted.
2. Remove the element and install it again.
3. Run Installer Test again.
4. If the element fails after running the Installer Test a second time, change out the faulty element for a new one. Contact Customer Support through the website at uniden.com to request a replacement.

NOTE: R9w *must be in warranty to receive a replacement element at no cost. See R9w Owner's Manual for warranty requirements.*

ERROR CODE ACTIONS

If this error code displays,	Do this...
Laser - ERR:COM	Replace the laser interface.
Laser - ERR:TP1	Replace Transponder 1.
Front RD - Error	Replace the front RD.
Rear RD - Error	Replace the rear RD.
GPS - Error	Replace the GPS.
BT/WiFi - Error	Replace the Host.

Once the test is completed, turn off the vehicle to exit Installer Test Mode.

R9W OPERATION ERROR CODES

	Meaning
LSR IF Disconn	Laser Interface Disconnected. The main controller(Host) does not communicate with the Laser interface for a specific time frame.
Front RD Disconn	Front Remote Radar Disconnected. The main controller(Host) does not communicate with the front Remote Radar for a specific time frame.

	Meaning
Rear RD Disconn	Rear Remote Radar Disconnected. The main controller(Host) does not communicate with the rear Remote Radar for a specific time frame.
Lsr Pwr Sts Err	Laser Interface Power State Error. The laser interface voltage is out of range.
F RD Pwr Sts Err	Front Remote Radar Power State Error. The front remote radar voltage is out of range.
R RD Pwr Sts Err	Rear Remote Radar Power State Error. The rear remote radar voltage is out of range.
GPS Pwr Sts Err	GPS Power State Error. The GPS voltage is out of range.
Laser IF Error	Communication between the main controller(Host) and Laser Interface is working, but there is a problem with Laser Interface.
Laser TP Error	There is a problem with the Laser Transponder or the setting of the Transponders that is not connected is set to ON.
GPS Error	The GPS related function button is pressed while not receiving location information from GPS.
GPS Error: 1	No data is received from GPS for a certain period of time
GPS Error: 2	The data sent from the host to the GPS is not delivered properly.

INSTALLER TEST MODE ERROR CODES

Test Mode Error Codes	Meaning
Laser - ERR:TP1	Replace Transponder 1
Front RD - Error	Replace the front RD
Rear RD - Error	Replace the rear RD
GPS - Error	Replace the GPS
BT/WiFi - Error	Replace the main controller (Host)
Laser Error Codes	Meaning
Laser-ERR:PWR	There is a problem with the power supply to the laser.
Laser-ERR:COM	The communication between the main controller(Host) and Laser Interface is not working properly.

Laser Error Codes	Meaning
Laser-ERR:IF	The communication between the main controller(Host) and Laser Interface is working, but there is a problem with the Laser Interface.
Laser-ERR:TPn(n:1~6)	There is a problem with the nth Laser Transponder.
DSP Error Codes	Meaning
Front RD or Rear RD-ERR:PWR	There is a problem with the power supply to the Front Radar or Rear Radar.
Front RD or Rear RD-ERR:COM	The communication between the main controller(Host) and Front Radar or Rear Radar is not working properly
Front RD or Rear RD-ERR:1	There is a problem with the first DSP Chip inside the Front Radar or Rear Radar.
Front RD or Rear RD-ERR:2	There is a problem with the second DSP Chip inside the Front Radar or Rear Radar.
Front RD or Rear RD-ERR:3	There is a problem with the Tuner IC inside the Front Radar or Rear Radar
Front RD or Rear RD-ERR:4	There is a problem with the PLL Voltage used inside the Front Radar or Rear Radar.
GPS Error Codes	Meaning
GPS-ERR:PWR	There is a problem with the power supply to the GPS.
GPS-ERR:COM	The communication between the main controller(Host) and GPS is not working properly.
GPS-ERR:1	There is a problem with the GPS Module inside the GPS.
GPS-ERR:2	There is a problem with the first Data Flash for Mute Memory/User Mark in the GPS.
GPS-ERR:3	There is a problem with the second Data Flash for Auto Mute Memory in the GPS.
BT/WiFi-ERR:COM	The communication between the main controller(Host) and BT/WiFi Module is not working properly.

