Directed 509U

Directed Electronics 509U Ultrasonic Sensor Instruction Manual

Model: 509U | Brand: Directed

1. INTRODUCTION

The Directed Electronics 509U Ultrasonic Sensor is designed to enhance vehicle security systems by detecting changes in air pressure within the vehicle's cabin. This sensor triggers an alarm when it senses an intrusion, such as a window being opened or broken, or a door being forced open, creating a pressure disturbance. It is intended for integration with compatible vehicle security systems, such as Viper and Python alarms.

2. FEATURES

- Detects air pressure changes within the vehicle cabin.
- Adjustable sensitivity to prevent false alarms.
- Compatible with various Directed Electronics security systems, including Viper and Python.
- Compact design for discreet installation.

3. PACKAGE CONTENTS

- 509U Ultrasonic Sensor Main Module
- Two (2) Ultrasonic Sensor Heads with connecting cables
- Wiring Harness (may vary based on specific kit)

Image: The Directed Electronics 509U Ultrasonic Sensor includes a main control module and two separate sensor heads, typically installed within the vehicle's cabin.

4. SAFETY INFORMATION

Always disconnect the vehicle's battery before beginning any electrical installation. Ensure all wiring connections are secure and properly insulated to prevent short circuits. Consult a professional automotive technician if you are unsure about any installation steps. Improper installation can lead to vehicle damage or malfunction of the security system.

5. SETUP AND INSTALLATION

Proper installation is critical for the optimal performance of the 509U Ultrasonic Sensor. Refer to your vehicle's specific wiring diagrams and your primary alarm system's installation manual for detailed integration instructions.

5.1. Mounting the Main Module

- Choose a secure, hidden location within the vehicle's cabin, away from direct moisture or extreme heat.
- Ensure the location allows for easy access to the sensitivity adjustment dial if future adjustments are needed.
- Secure the module using screws or double-sided automotive tape.

5.2. Installing Sensor Heads

- The two sensor heads should be mounted symmetrically within the vehicle's cabin, typically on the A-pillars, near the top, angled approximately 45 degrees towards the center of the vehicle.
- Ensure the sensor heads have an unobstructed view of the cabin interior. Avoid placing them behind objects that could block sound waves.
- Route the sensor head cables carefully, avoiding sharp edges or moving parts, and connect them to the main module.

5.3. Wiring Connections

The 509U sensor typically requires the following connections:

- **Power (12V Constant):** Connect to a fused 12-volt constant power source.
- **Ground:** Connect to a solid chassis ground point.
- **Alarm Input:** Connect the sensor's output wire to the appropriate trigger input on your vehicle's alarm system (e.g., a negative trigger input). Refer to your alarm system's manual for the correct input.

5.4. Initial Sensitivity Adjustment

- After all connections are made and the vehicle's battery is reconnected, arm your security system.
- Locate the sensitivity adjustment dial on the main module.
- Start with the sensitivity set to a low level.
- Test the sensor by simulating an intrusion (e.g., opening a window slightly, then reaching into the vehicle).
- Gradually increase the sensitivity until the desired detection level is achieved without causing false alarms from normal vehicle vibrations or external sounds.

6. OPERATING INSTRUCTIONS

Once installed and properly adjusted, the 509U Ultrasonic Sensor operates automatically in conjunction with

your vehicle's security system. When the alarm system is armed, the ultrasonic sensor becomes active. Any significant change in the air pressure within the vehicle's cabin will be detected by the sensor, triggering the alarm system.

- **Arming:** The sensor activates when your vehicle's alarm system is armed.
- **Disarming:** The sensor deactivates when your vehicle's alarm system is disarmed.
- **Sensitivity:** If false alarms occur, reduce the sensitivity. If the sensor fails to detect intrusions, increase the sensitivity.

7. MAINTENANCE

The Directed 509U Ultrasonic Sensor requires minimal maintenance.

- Periodically inspect the sensor heads and main module for any physical damage or loose connections.
- Keep the sensor heads clean and free from dust or obstructions that could interfere with their operation. Use a soft, dry cloth for cleaning.
- Avoid spraying cleaning solutions directly onto the sensor components.

8. TROUBLESHOOTING

8.1. False Alarms

- **High Sensitivity:** Reduce the sensitivity setting on the main module.
- **Windows Left Down:** The sensor is designed to work in a sealed cabin. Leaving windows open will cause false alarms due to external air movement.
- **Loose Objects:** Ensure there are no loose objects inside the vehicle that could shift and create air disturbances.
- **Improper Mounting:** Verify that sensor heads are securely mounted and not vibrating.

8.2. Sensor Not Triggering Alarm

- **Low Sensitivity:** Increase the sensitivity setting on the main module.
- **Incorrect Wiring:** Check all power, ground, and alarm input connections for proper installation and secure contact.
- **Obstructed Sensors:** Ensure the sensor heads have a clear line of sight within the cabin.
- **Faulty Unit:** If all other troubleshooting steps fail, the sensor unit may be defective. Contact customer support or a professional installer.

9. SPECIFICATIONS

Model Number	509U
Brand	Directed
Product Dimensions	4.5 x 5.3 x 2 inches (Main Module)
Item Weight	4 ounces
Compatible Devices	Viper and Python Security Systems

Color	Black

10. WARRANTY AND SUPPORT

For detailed warranty information, please refer to the official documentation provided with your Directed Electronics 509U Ultrasonic Sensor or visit the Directed Electronics official website. For technical support or further assistance with installation and troubleshooting, it is recommended to contact Directed Electronics customer service or consult with an authorized installer.

Related Documents - 509U

DIRECTED Models 5105V, 5105P 5105X, 5105A 5105L Owner's Guide	[Directed 5105V/5105P/5105X/5105A/5105L Owner's Guide: Car Security and Remote Start System](#) Comprehensive owner's guide for Directed 5105V, 5105P, 5105X, 5105A, and 5105L car security and remote start systems. Learn about system features, basic and advanced commands, operations, maintenance, and safety information.
DIRECTED Models 5105V, 5105P 5105X, 5105A 5105L Owner's Guide	[Directed 5105V/5105P/5105X/5105A/5105L Owner's Guide - Vehicle Security & Remote Start System](#) Comprehensive owner's guide for Directed 5105 series vehicle security and remote start systems, covering installation, operation, features, troubleshooting, and warranty. Learn how to use your car alarm and remote start system effectively.
	[Directed 4X05 Series Remote Start & Keyless Entry System: Quick Reference Installation Guide](#) This guide provides essential information for installing Directed 4X05 series remote start and keyless entry systems (models 4115 and 4105). It details wiring connections, installation points, programming features, remote control functions, and diagnostic procedures.
Installation Guide Keyless Entry Remote Start 4103, 4-button series **DIRECTED**	[Directed 4103 Keyless Entry Remote Start Installation Guide](#) This installation guide provides detailed instructions for the Directed 4103 Keyless Entry Remote Start system, covering safety precautions, wiring diagrams, feature programming, and troubleshooting for professional installers.

	[Directed DS4WS Bluetooth Siren Quick Reference Install Guide](#)
	Comprehensive quick reference guide for the Directed DS4WS Bluetooth Siren, covering wiring, installation, pairing with DS4 systems, firmware updates, configuration options, and factory reset procedures.
	[Directed 4105P Python Owner's Guide: Keyless Entry & Remote Start System](#)
	Comprehensive user guide for the Directed 4105P Python vehicle security and remote start system. Learn about features, operation, installation, safety, and warranty.