

Alpine HCE-RCAM-WRA

Alpine HCE-RCAM-WRA Spare Tire Rear View Camera System Instruction Manual

For Jeep Wrangler JK (2007-2018)

1. PRODUCT OVERVIEW

The Alpine HCE-RCAM-WRA is a rear-view camera system specifically designed for 2007-2018 Jeep Wrangler JK models. This system enhances rear visibility, aiding in parking and maneuvering. It features High Dynamic Range (HDR) technology for improved image quality across various lighting conditions, preventing washed-out or overly dark images. The camera is mounted on a versatile bracket that positions between the spare tire and the vehicle's 5x5 wheel pattern, ensuring a clear line of sight.

Key features include:

- Easy, Add-On Camera System
- Versatile Installation with adjustable bracket
- High Dynamic Range (HDR) Technology for superior image quality

2. WHAT'S IN THE BOX

Verify that all components are present before beginning installation:

- Camera Bracket with HCE-C1100 pre-assembled
- Camera Extension Cable (7M/23FT)
- Spare Tire Bracket
- Cable Ties x5
- Waterproofing Pad x1
- Power & Video Unit
- Retaining Clips x3
- Waterproofing Pad Adhesive x1
- Quick Installation Guide x1
- Torx Screw & Lock Washer M6x8

- Torx Screw, Lock Washer, & Nut M6x12 x1
- Nut for M6x12 Screw x1 (Spare only, not used)
- Heat Shrink Tubing x1
- Allen Wrench x1



Figure 2.1: All included components of the HCE-RCAM-WRA system.

3. SETUP AND INSTALLATION

The HCE-RCAM-WRA system is designed for integration with Alpine in-dash screen systems, factory Jeep screens, or other aftermarket displays. For factory screens, the Alpine SGS-CH01 Camera Interface (sold separately) may be required for active guide lines without factory screen re-programming.

3.1. Camera Mounting

The camera and its bracket are designed to mount between the spare tire and the Wrangler's 5x5 wheel pattern. The upper portion of the bracket can be adjusted to the left or right of the wheel's spokes to ensure an unobstructed view behind the vehicle.



Figure 3.1: The camera mounted on its spare tire bracket.



Figure 3.2: Camera positioned within the spokes of a spare wheel.

3.2. Wiring Connections

The system requires connections for power, ground, and video signal. The power wire for the camera should be connected to the vehicle's reverse light circuit so the camera activates automatically when the vehicle is shifted into reverse. The video signal cable runs from the camera to your compatible in-dash display unit.

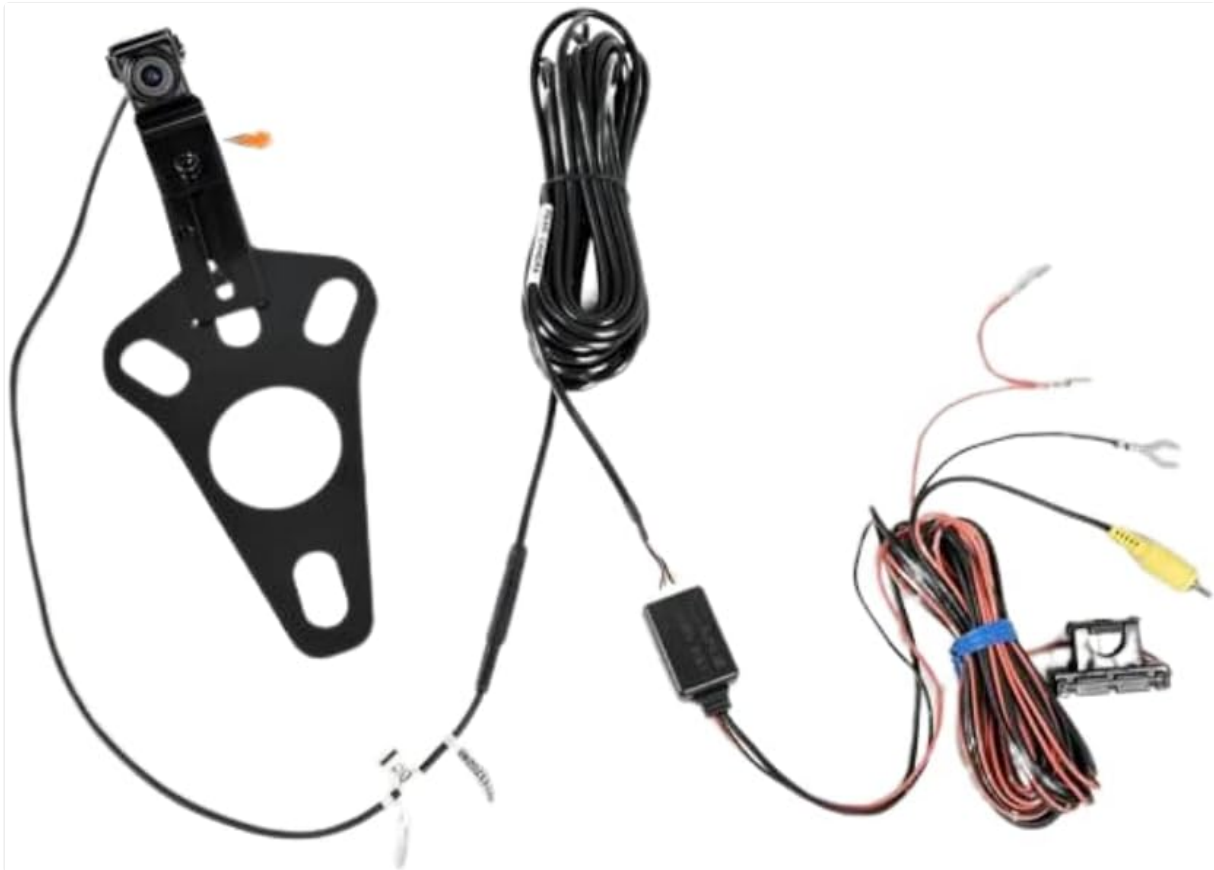


Figure 3.3: Overview of the wiring connections for the camera system.

3.2.1. General Wiring Example (Not specific to Jeep JK or Alpine)

The following video demonstrates a general approach to wiring a backup camera, including tapping into reverse lights and routing cables. While the vehicle and camera shown are different, the principles of connecting power, ground, and video signal remain similar.

Your browser does not support the video tag.

Video 3.1: General backup camera wiring demonstration (Note: This video features a different vehicle and camera system and is for illustrative purposes of wiring principles only).

3.3. Adjustable Mounting and Features

The camera's bracket allows for versatile positioning to achieve the best viewing angle, accommodating various spare tire and wheel designs. The camera itself is designed to be robust and waterproof.

Your browser does not support the video tag.

Video 3.2: Demonstration of camera features and adjustable bracket (Note: This video features a similar product from a different brand, but illustrates common features and adjustability relevant to spare tire mounted cameras).

Your browser does not support the video tag.

Video 3.3: Overview of adjustable spare tire mount and optional guidelines (Note: This video features a similar product from a different brand, but illustrates common features and adjustability relevant to spare tire mounted cameras).

4. OPERATING INSTRUCTIONS

Once properly installed and connected, the Alpine HCE-RCAM-WRA camera system operates automatically. When the vehicle is shifted into reverse, the camera will activate, and the rear-view image will be displayed on your compatible in-dash screen.

The camera utilizes High Dynamic Range (HDR) technology to provide a clear image even in challenging lighting conditions, such as transitioning from bright sunlight to dark garages or during nighttime operation. This technology helps to balance bright and dark areas for optimal visibility.



Figure 4.1: Example of the rear-view image displayed on a compatible screen.



Figure 4.2: HDR technology improves image clarity in varied lighting conditions.

5. MAINTENANCE

To ensure optimal performance and longevity of your Alpine HCE-RCAM-WRA camera system, follow these simple maintenance guidelines:

- **Clean the Camera Lens:** Regularly inspect and gently clean the camera lens using a soft, damp cloth. Avoid abrasive cleaners or materials that could scratch the lens.
- **Check Connections:** Periodically inspect all wiring connections, especially those exposed to the elements, to ensure they are secure and free from corrosion.
- **Inspect Mounting:** Verify that the camera bracket and mounting hardware remain securely fastened to the spare tire. Tighten any loose screws as needed.
- **Avoid High-Pressure Washing:** While the camera is designed to be durable, avoid directing high-pressure water jets directly at the camera or its connections during vehicle washing.

6. TROUBLESHOOTING

If you encounter issues with your Alpine HCE-RCAM-WRA camera system, refer to the following common problems and solutions:

- **No Image on Display:**

- Ensure the vehicle is in reverse.
 - Check all power and video connections for proper seating and integrity.
 - Verify that the reverse light trigger wire is correctly connected and receiving power when in reverse.
 - Confirm your in-dash display is set to the correct camera input.
- **Poor Image Quality (Blurry, Distorted, or Flickering):**
 - Clean the camera lens thoroughly.
 - Check video cable connections for any damage or loose contacts.
 - Ensure the camera is securely mounted and not vibrating.
 - Verify that the power supply to the camera is stable (12 Volts).
 - **Image Appears Washed Out or Too Dark:**
 - The camera's HDR technology is designed to mitigate this, but extreme lighting conditions can still affect image perception.
 - Adjust brightness/contrast settings on your in-dash display, if available.

If these steps do not resolve the issue, contact Alpine customer support or a certified installer.

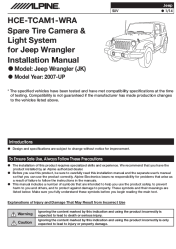
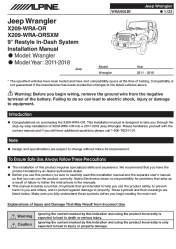
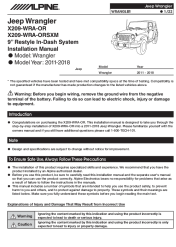
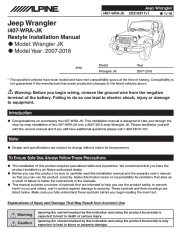
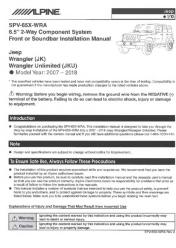
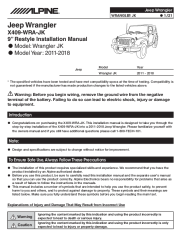
7. SPECIFICATIONS

Feature	Specification
Brand	Alpine
Model Number	HCE-RCAM-WRA
Compatible Vehicles	Jeep Wrangler JK (2007-2018)
Item Weight	1.5 pounds
Product Dimensions	9 x 8 x 4 inches
Voltage	12 Volts
Optical Sensor Technology	CMOS
Lens Type	Wide Angle
Real Angle of View	120 Degrees
Installation Type	Bracket Mount

8. WARRANTY AND SUPPORT

For warranty information, product registration, or technical assistance, please refer to the official Alpine website or contact Alpine customer support directly. Keep your purchase receipt as proof of purchase for warranty claims.

Related Documents - HCE-RCAM-WRA

 <p>ALPINE HCE-TCAM1-WRA Spare Tire Camera & Light System for Jeep Wrangler Installation Manual ● Model: Jeep Wrangler (JK) ● Model Year: 2007-UP</p> <p>1. The specified vehicle has been tested and found to be compatible with the specified Alpine product. However, the user is responsible for ensuring proper installation and use of the product.</p> <p>Contents</p> <ul style="list-style-type: none">1. Introduction2. Tools and Accessories3. Safety Precautions4. Component Locations5. Disassembly6. Installation7. Wiring8. Troubleshooting <p>Specifications of Parts and Accessories</p> <table border="1"><thead><tr><th>Part Name</th><th>Part Number</th></tr></thead><tbody><tr><td>Head Unit</td><td>SPV-65X-WRA</td></tr><tr><td>Subs</td><td>SPV-65X-WRA</td></tr><tr><td>Speaker</td><td>SPV-65X-WRA</td></tr></tbody></table>	Part Name	Part Number	Head Unit	SPV-65X-WRA	Subs	SPV-65X-WRA	Speaker	SPV-65X-WRA	<p>Alpine HCE-TCAM1-WRA Spare Tire Camera & Light System Installation Manual for Jeep Wrangler</p> <p>Detailed installation manual for the Alpine HCE-TCAM1-WRA Spare Tire Camera & Light System, designed for Jeep Wrangler (JK) models from 2007 onwards. Includes safety precautions, tool requirements, accessory lists, step-by-step installation instructions, and wiring diagrams.</p>
Part Name	Part Number								
Head Unit	SPV-65X-WRA								
Subs	SPV-65X-WRA								
Speaker	SPV-65X-WRA								
 <p>ALPINE X209-WRA-OR Wrangler Installation Manual ● Model: Jeep Wrangler (JK) ● Model Year: 2011-2018</p> <p>1. The specified vehicle has been tested and found to be compatible with the specified Alpine product. However, the user is responsible for ensuring proper installation and use of the product.</p> <p>Contents</p> <ul style="list-style-type: none">1. Introduction2. Tools and Accessories3. Safety Precautions4. Component Locations5. Disassembly6. Installation7. Wiring8. Troubleshooting <p>Specifications of Parts and Accessories</p> <table border="1"><thead><tr><th>Part Name</th><th>Part Number</th></tr></thead><tbody><tr><td>Head Unit</td><td>X209-WRA-OR</td></tr><tr><td>Subs</td><td>X209-WRA-OR</td></tr><tr><td>Speaker</td><td>X209-WRA-OR</td></tr></tbody></table>	Part Name	Part Number	Head Unit	X209-WRA-OR	Subs	X209-WRA-OR	Speaker	X209-WRA-OR	<p>Alpine X209-WRA-OR Wrangler Installation Manual</p> <p>Comprehensive installation manual for the Alpine X209-WRA-OR and X209-WRA-ORSXM 9" Restyle In-Dash System for 2011-2018 Jeep Wrangler models. Includes safety precautions, tools required, accessory list, programming, component locations, disassembly, installation steps, wiring diagrams, and troubleshooting.</p>
Part Name	Part Number								
Head Unit	X209-WRA-OR								
Subs	X209-WRA-OR								
Speaker	X209-WRA-OR								
 <p>ALPINE X209-WRA-OR Wrangler Installation Manual ● Model: Jeep Wrangler (JK) ● Model Year: 2011-2018</p> <p>1. The specified vehicle has been tested and found to be compatible with the specified Alpine product. However, the user is responsible for ensuring proper installation and use of the product.</p> <p>Contents</p> <ul style="list-style-type: none">1. Introduction2. Tools and Accessories3. Safety Precautions4. Component Locations5. Disassembly6. Installation7. Wiring8. Troubleshooting <p>Specifications of Parts and Accessories</p> <table border="1"><thead><tr><th>Part Name</th><th>Part Number</th></tr></thead><tbody><tr><td>Head Unit</td><td>X209-WRA-OR</td></tr><tr><td>Subs</td><td>X209-WRA-OR</td></tr><tr><td>Speaker</td><td>X209-WRA-OR</td></tr></tbody></table>	Part Name	Part Number	Head Unit	X209-WRA-OR	Subs	X209-WRA-OR	Speaker	X209-WRA-OR	<p>Alpine X209-WRA-OR Installation Manual for Jeep Wrangler (2011-2018)</p> <p>Comprehensive installation manual for the Alpine X209-WRA-OR 9" Restyle In-Dash System in Jeep Wrangler models from 2011-2018. Includes tools, accessories, programming, disassembly, installation, wiring diagrams, and troubleshooting.</p>
Part Name	Part Number								
Head Unit	X209-WRA-OR								
Subs	X209-WRA-OR								
Speaker	X209-WRA-OR								
 <p>ALPINE i407-WRA-JK Wrangler JK Installation Manual ● Model: Jeep Wrangler (JK) ● Model Year: 2007-2018</p> <p>1. The specified vehicle has been tested and found to be compatible with the specified Alpine product. However, the user is responsible for ensuring proper installation and use of the product.</p> <p>Contents</p> <ul style="list-style-type: none">1. Introduction2. Tools and Accessories3. Safety Precautions4. Component Locations5. Disassembly6. Installation7. Wiring8. Troubleshooting <p>Specifications of Parts and Accessories</p> <table border="1"><thead><tr><th>Part Name</th><th>Part Number</th></tr></thead><tbody><tr><td>Head Unit</td><td>i407-WRA-JK</td></tr><tr><td>Subs</td><td>i407-WRA-JK</td></tr><tr><td>Speaker</td><td>i407-WRA-JK</td></tr></tbody></table>	Part Name	Part Number	Head Unit	i407-WRA-JK	Subs	i407-WRA-JK	Speaker	i407-WRA-JK	<p>Alpine i407-WRA-JK Installation Manual for Jeep Wrangler JK (2007-2018)</p> <p>Comprehensive installation manual for the Alpine i407-WRA-JK multimedia receiver designed for the 2007-2018 Jeep Wrangler JK. This guide covers tools, accessories, programming, disassembly, installation steps, wiring diagrams, and troubleshooting.</p>
Part Name	Part Number								
Head Unit	i407-WRA-JK								
Subs	i407-WRA-JK								
Speaker	i407-WRA-JK								
 <p>ALPINE SPV-65X-WRA 6.5" 2-Way Component System in Jeep Wrangler Installation Manual ● Model: Jeep Wrangler (JK) ● Model Year: 2007-2018</p> <p>1. The specified vehicle has been tested and found to be compatible with the specified Alpine product. However, the user is responsible for ensuring proper installation and use of the product.</p> <p>Contents</p> <ul style="list-style-type: none">1. Introduction2. Tools and Accessories3. Safety Precautions4. Component Locations5. Disassembly6. Installation7. Wiring8. Troubleshooting <p>Specifications of Parts and Accessories</p> <table border="1"><thead><tr><th>Part Name</th><th>Part Number</th></tr></thead><tbody><tr><td>Head Unit</td><td>SPV-65X-WRA</td></tr><tr><td>Subs</td><td>SPV-65X-WRA</td></tr><tr><td>Speaker</td><td>SPV-65X-WRA</td></tr></tbody></table>	Part Name	Part Number	Head Unit	SPV-65X-WRA	Subs	SPV-65X-WRA	Speaker	SPV-65X-WRA	<p>Alpine SPV-65X-WRA Component Speaker System Installation Manual for Jeep Wrangler</p> <p>Step-by-step installation guide for the Alpine SPV-65X-WRA 6.5" 2-Way Component System in 2007-2018 Jeep Wrangler JK and JKU models. Includes tools, parts, safety precautions, and warranty information.</p>
Part Name	Part Number								
Head Unit	SPV-65X-WRA								
Subs	SPV-65X-WRA								
Speaker	SPV-65X-WRA								
 <p>ALPINE X409-WRA-JK Wrangler JK Installation Manual ● Model: Jeep Wrangler (JK) ● Model Year: 2011-2018</p> <p>1. The specified vehicle has been tested and found to be compatible with the specified Alpine product. However, the user is responsible for ensuring proper installation and use of the product.</p> <p>Contents</p> <ul style="list-style-type: none">1. Introduction2. Tools and Accessories3. Safety Precautions4. Component Locations5. Disassembly6. Installation7. Wiring8. Troubleshooting <p>Specifications of Parts and Accessories</p> <table border="1"><thead><tr><th>Part Name</th><th>Part Number</th></tr></thead><tbody><tr><td>Head Unit</td><td>X409-WRA-JK</td></tr><tr><td>Subs</td><td>X409-WRA-JK</td></tr><tr><td>Speaker</td><td>X409-WRA-JK</td></tr></tbody></table>	Part Name	Part Number	Head Unit	X409-WRA-JK	Subs	X409-WRA-JK	Speaker	X409-WRA-JK	<p>Alpine X409-WRA-JK 9-Inch Restyle Installation Manual for Jeep Wrangler (2011-2018)</p> <p>Comprehensive installation manual for the Alpine X409-WRA-JK 9-inch restyle system in 2011-2018 Jeep Wrangler models. Includes tools, parts, programming, disassembly, installation, wiring diagrams, and troubleshooting.</p>
Part Name	Part Number								
Head Unit	X409-WRA-JK								
Subs	X409-WRA-JK								
Speaker	X409-WRA-JK								