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weivision DV006

Weivision HD 1080P 360-Degree Bird View Car DVR System (Model DV006) Instruction Manual

Model: DV006 | Brand: Weivision

1. Introduction

This manual provides comprehensive instructions for the installation, operation, and maintenance of your Weivision HD 1080P 360-Degree Bird View Car DVR System, Model DV006. This system is designed to enhance vehicle safety by providing a panoramic, all-round view, recording capabilities, and parking assistance for various large vehicles including buses, trucks, RVs, and motorhomes. Please read this manual thoroughly before installation and use to ensure proper functionality and safety.

2. Setup and Installation

2.1 Package Contents

Verify that all components are present in the package:



Figure 2.1: System Components. The image displays the control box, four cameras, calibration cloth, various cables (16ft front, 66ft rear, 33ft left, 33ft right), power cable, 16GB USB disk, IR receiver, remote control, and user manual.

- Control Box (DVR Unit)
- 4 x AHD 1080P Wide Angle Cameras
- Calibration Cloth (4 pieces, 1.6M*1.2M)
- Camera Cables (16ft Front, 66ft Rear, 33ft Left, 33ft Right)
- Power Cable
- 16GB USB Disk
- IR Receiver
- Remote Control
- User Manual (this document)

2.2 Wiring Diagram

Refer to the following diagram for proper wiring connections. Ensure all connections are secure and correctly matched to avoid malfunction.

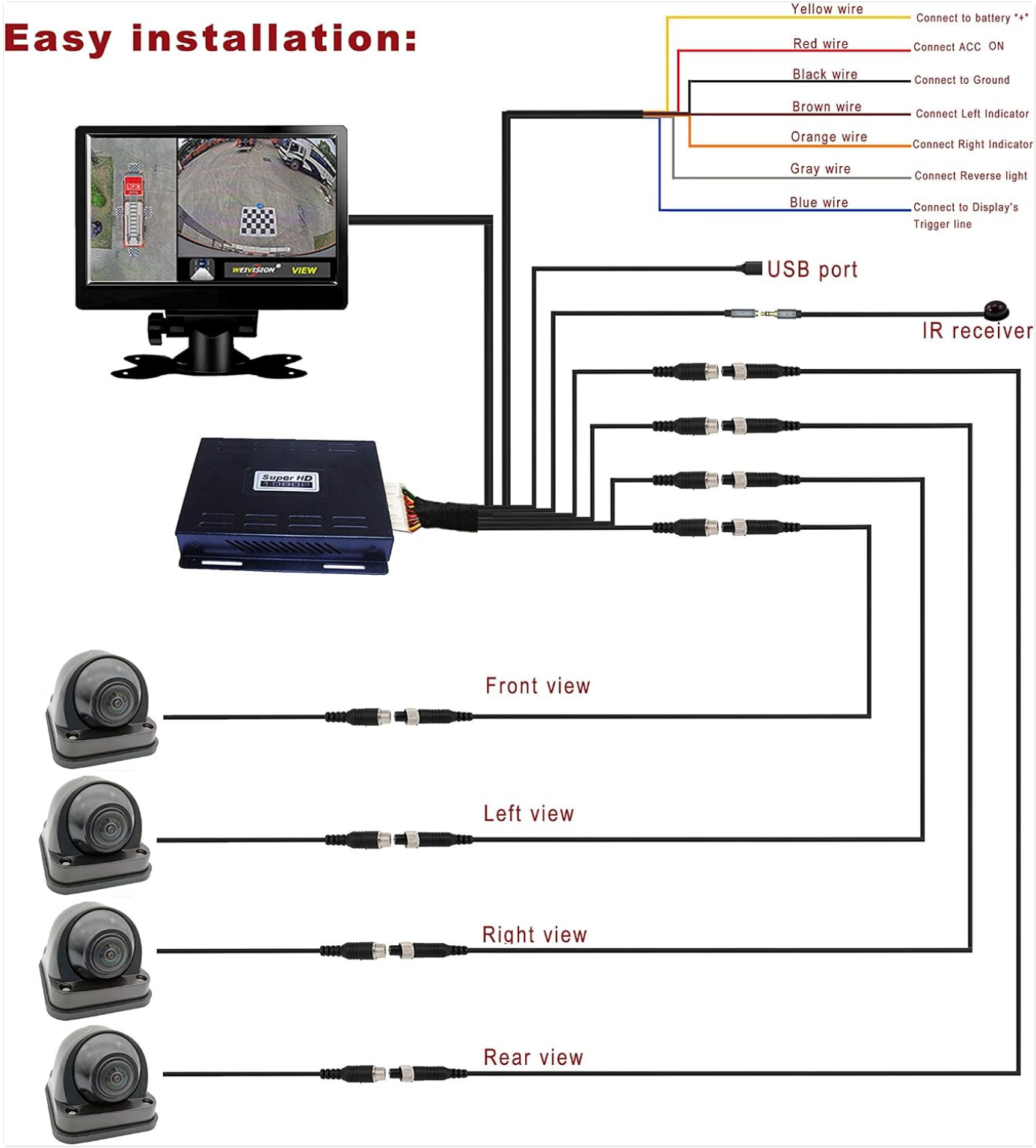


Figure 2.2: Easy Installation Wiring Diagram. This diagram illustrates how to connect the control box to the monitor, USB port, IR receiver, and the four cameras. It also shows the power connections (Yellow wire to battery, Red wire to ACC ON, Black wire to Ground) and trigger wires (Orange for Right Indicator, Brown for Left Indicator, Gray for Reverse Light, Blue for Display's Trigger line).

1. Connect the Yellow wire to the vehicle's battery positive terminal.
2. Connect the Red wire to the ACC ON power source.
3. Connect the Black wire to the vehicle's ground.
4. Connect the Orange wire to the Right Indicator trigger.
5. Connect the Brown wire to the Left Indicator trigger.
6. Connect the Gray wire to the Reverse Light trigger.
7. Connect the Blue wire to the Display's Trigger line.
8. Connect the four cameras to their respective ports (Front, Left, Right, Rear) on the control box.

9. Connect the control box to your monitor (CVBS signal, RCA input port compatible).
10. Insert the 16GB USB disk for DVR recording.
11. Connect the IR receiver for remote control functionality.

2.3 Camera Installation

Install the four cameras strategically around the vehicle to achieve a complete 360-degree view. Ensure cameras are securely mounted and cables are routed safely, avoiding moving parts or heat sources. The cameras are designed to be shockproof and waterproof.

2.4 Monitor Installation

Mount the monitor in a location that provides clear visibility to the driver without obstructing the view of the road. Ensure the monitor is securely fastened.

2.5 System Calibration

After installation, the system requires calibration to stitch the camera views seamlessly into a bird's eye perspective. The system features an auto-calibration function that takes approximately 5 seconds. Use the provided calibration cloths as indicated in the diagram below.

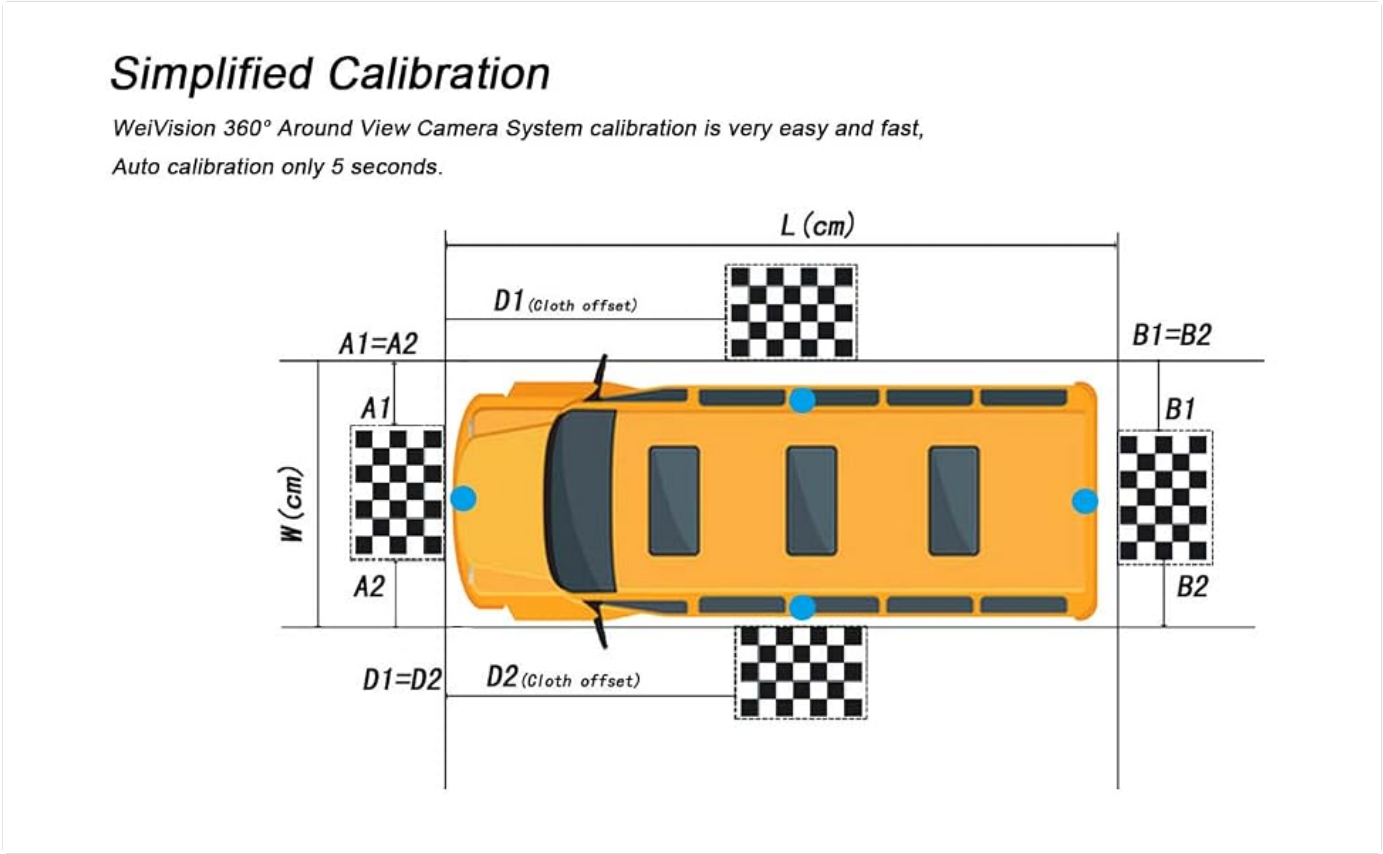


Figure 2.3: Simplified Calibration Diagram. This diagram illustrates the correct placement of the 1.6M*1.2M calibration cloths around the vehicle for accurate 360-degree view stitching. Follow the indicated measurements for optimal results.



Figure 2.4: Bus Calibration Example. A visual example of a bus undergoing calibration with checkerboard mats on the ground, demonstrating the practical application of the calibration process.

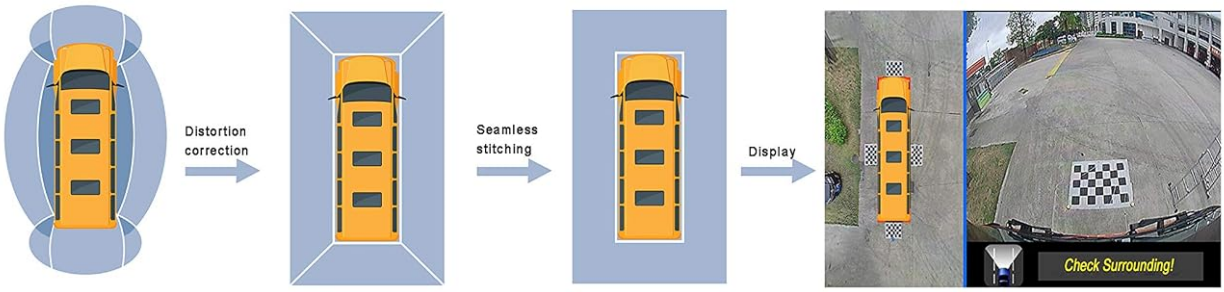
3. Operating Instructions

3.1 Panoramic Image Synthesis

The system rectifies distortion from four 1080P Full HD camera images to stitch them seamlessly, rendering a real-time, panoramic bird's-eye view around your vehicle. This eliminates blind spots and provides a comprehensive overview for enhanced safety.

Panoramic Image Synthesis

Panoramic image synthesis: rectify distortion of 4CH 1080P FHD image to stitch seamlessly,
render real-time scene, display actual driving scenario,
and achieve the real bird's-eye view around your car.cene,
display actual driving scenario, and achieve the real bird's-eye view around your truck.





Front View+Bird's Eye View

When the car forward,
the displayer shows
Front View+Bird's Eye View.

Rear View+Bird's Eye View

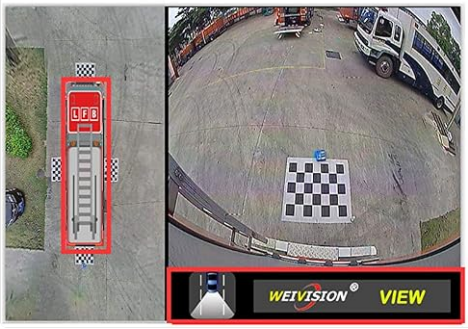
When the car reverse,
the displayer shows
Rear View+Bird's Eye View.

Left side View+Bird's Eye View

When the car turn left,
the displayer shows
Left side View+Bird's Eye View

Right View+Bird's Eye View

When the car turn right,
the displayer shows
Right View+Bird's Eye View.



Here can be updated by yourself

If you would like to update the car logo
and add your company logo,
please send message to us, we send you the update file.

Figure 3.1: Panoramic Image Synthesis. This image illustrates how individual camera feeds are processed and stitched together to create a unified 360-degree bird's-eye view, enhancing situational awareness.

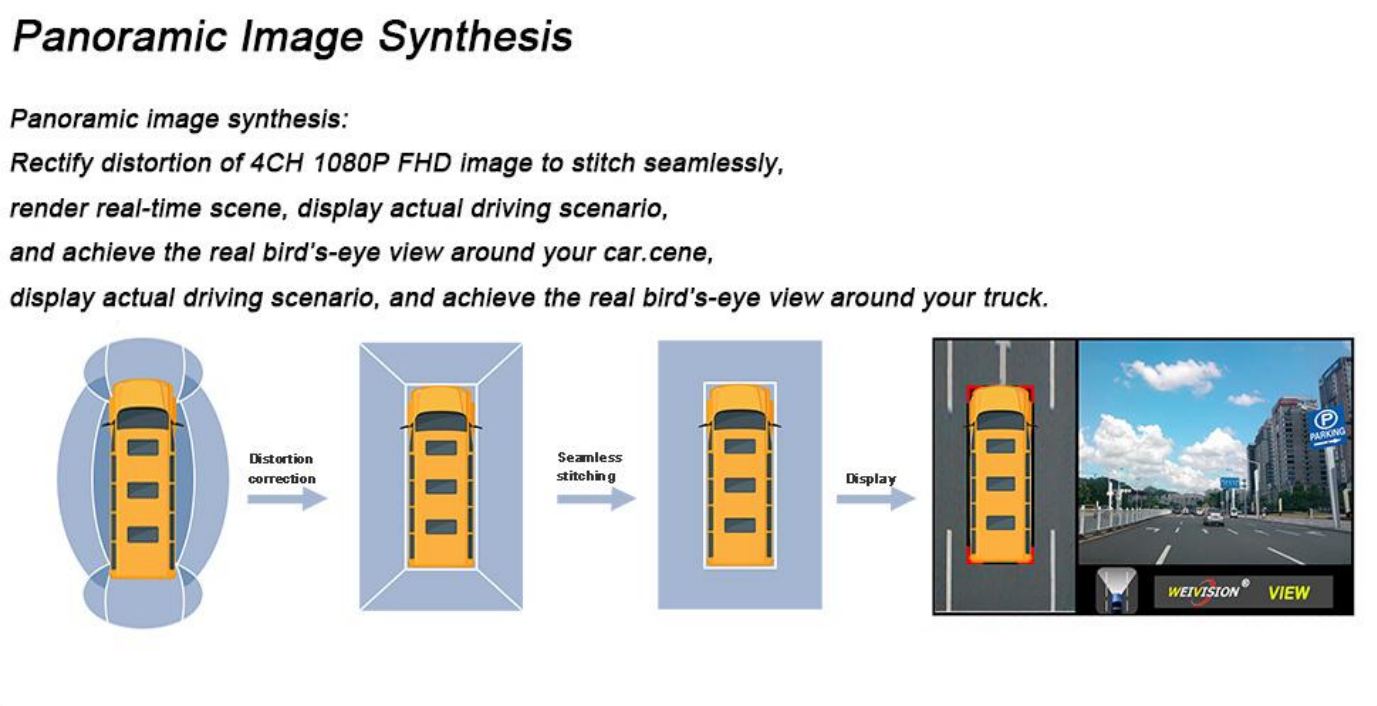


Figure 3.2: Panoramic View Overview. This image demonstrates the comprehensive 360-degree bird's-eye view provided by the system, effectively eliminating blind spots around large vehicles.

3.2 Display Modes and Trigger Functions

The system automatically switches camera views based on vehicle actions:

- **Left Indicator Engaged:** Displays the left side view along with the bird's-eye view.
- **Right Indicator Engaged:** Displays the right side view along with the bird's-eye view.
- **Reverse Gear Engaged:** Displays the rear view along with the bird's-eye view.
- **Normal Driving:** Provides a continuous bird's-eye view or a customizable split screen.

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Video 3.1: Weivision 360 Bird View System in Operation. This short video demonstrates the real-time switching of camera views (rear and bird's-eye) on a vehicle's display when the reverse gear is engaged, showcasing the system's dynamic functionality.

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Video 3.2: Weivision 360 Bird View System Working View. This video provides a detailed demonstration of the 360-degree bird's-eye view system in action, showing how it assists with parking and maneuvering in various scenarios.

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Video 3.3: 360 Bird View System Overview. This video offers a comprehensive look at the 360-degree bird view system, highlighting its features and benefits for vehicle operation and safety.

3.3 DVR Recording

The system supports 4-channel 1080P DVR recording in MP4 format. Video files are saved to the USB disk. The record video resolution is 2560*1440. When the vehicle's ACC is ON, the system automatically records from all four cameras. It supports loop recording and a maximum of 64GB (2.0) USB disk.

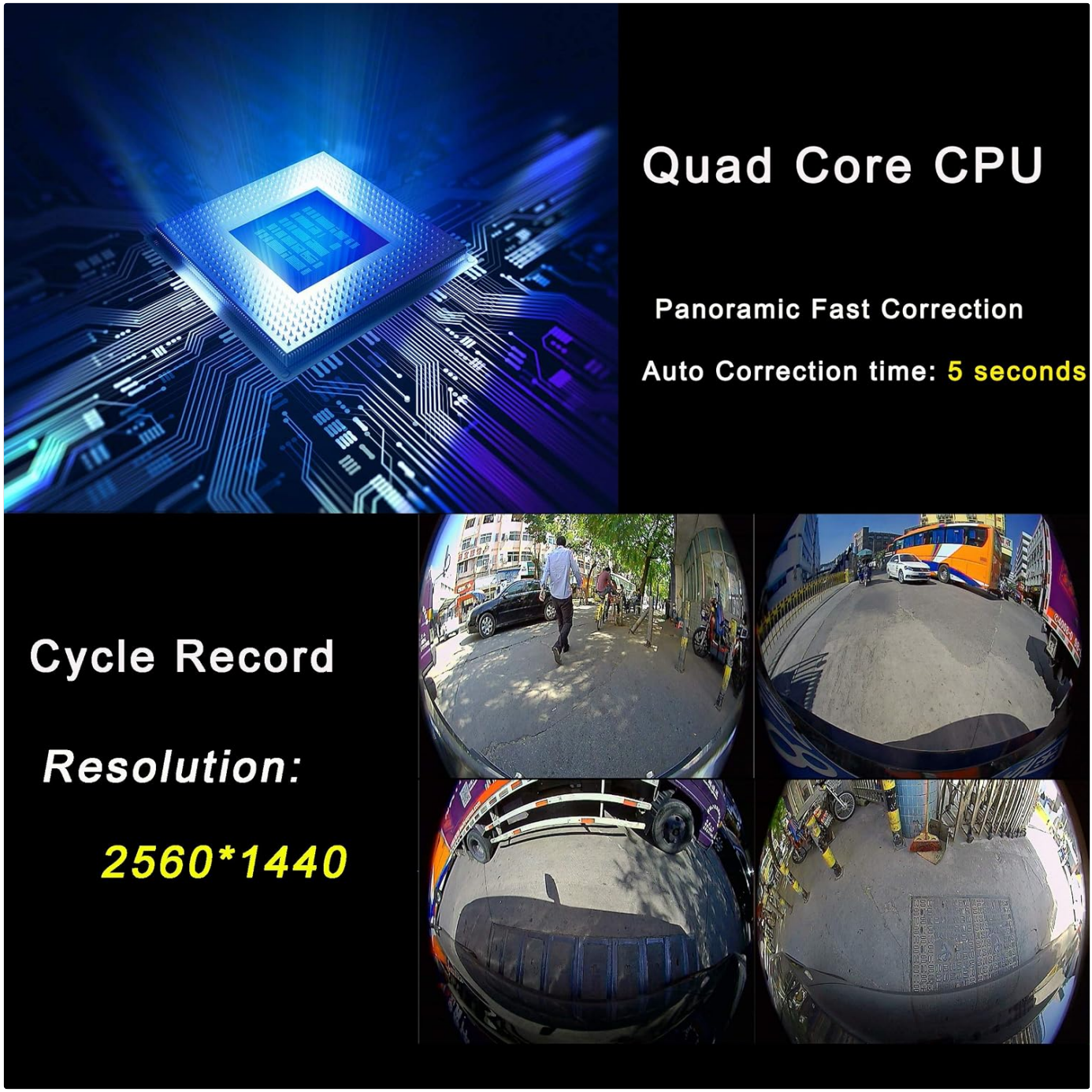


Figure 3.3: Quad Core CPU and Recording Features. This image highlights the system's Quad Core CPU for panoramic fast correction (5 seconds auto-correction time) and its cycle record function with a resolution of 2560*1440.

3.4 Night Vision

The 4 AHD 1080P cameras feature a Sony sensor and full 6-glass lens with strong light suppression and noise reduction. This provides super night vision without additional light, making the view clear even in dark conditions.



Figure 3.4: Super HD Night Vision. This image demonstrates the advanced night vision capabilities of the cameras, providing clear visibility in low-light conditions without the need for external illumination.

3.5 Vehicle Compatibility

The system is compatible with a wide range of vehicles that operate on a 9-36V DC power supply. This includes RVs, trucks, trailers, buses, motorhomes, and other heavy-duty or commercial vehicles.



Figure 3.5: Vehicle Compatibility. This image showcases the diverse range of vehicles compatible with the system, from passenger cars to heavy machinery, highlighting its versatility.

4. Maintenance

- **Cleaning:** Regularly clean camera lenses with a soft, damp cloth to ensure clear image quality. Avoid abrasive cleaners.
- **Cable Inspection:** Periodically check all cables for wear, damage, or loose connections. Secure any loose wiring.
- **Software Updates:** Check the manufacturer's website for any available firmware or software updates to ensure optimal performance and new features.
- **USB Disk Management:** Regularly back up important recordings from the USB disk and format it periodically to maintain recording efficiency.

5. Troubleshooting

- **No Image on Monitor:**
  - Ensure all power connections (Yellow, Red, Black wires) are correctly made and receiving power.
  - Verify the monitor is compatible with CVBS (RCA input) signal and is correctly connected.
  - Check camera connections to the control box.

- **Poor Image Quality (CVBS Signal):**
  - This system uses a CVBS signal. Image quality may vary depending on the monitor's capabilities. For higher quality, consider systems with HDMI output if available.
  - Ensure camera lenses are clean and free from obstructions.
- **Recording Issues:**
  - Check if the USB disk is properly inserted and has sufficient free space.
  - Ensure the USB disk is formatted correctly (FAT32 recommended).
  - Verify the ACC ON wire is correctly connected, as recording starts automatically with ignition.
- **Incorrect Trigger View:**
  - Confirm that the Left Indicator, Right Indicator, and Reverse Light trigger wires are correctly connected to their respective vehicle signals.
- **Voltage Compatibility:**
  - The system operates on a 9-36V DC power supply. Ensure your vehicle's electrical system falls within this range.

6. Specifications

Feature	Specification
Model Number	DV006
Video Resolution	2560*1440 (Recording), 1080P (Camera Input)
Camera Type	4 x AHD 1080P, Horizontal 180° Wide Angle, Potosensitive, Super Night Vision, Shockproof, Waterproof
CPU	Quad-core
DVR Recording	4-CH 1080P, MP4 format, Loop Record
Storage	Supports Max 64GB (2.0) USB disk
Power Supply	9-36V DC
Signal Type	CVBS (RCA input port compatible)
Item Weight	10.13 pounds
Product Dimensions	2.75 x 1.96 x 1.96 inches (Control Box)

7. Warranty and Support

For warranty information and technical support, please refer to the contact details provided on the product packaging or the official Weivision website. Keep your purchase receipt as proof of purchase for any warranty claims.

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