Panoramic Auxiliary System

User Manual

Legal Information

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Regulatory Information

EU Conformity Statement

This product and - if applicable - the supplied accessories too are marked with "CE" and comply therefore with the applicable harmonized European standards listed under the EMC Directive 2014/30/EU, the LVD Directive 2014/35/EU, the RoHS Directive 2011/65/EU, RE Directive 2014/53/EU.

2012/19/EU (WEEE directive): Products marked with this symbol cannot be disposed of as unsorted municipal waste in the European Union. For proper recycling, return this product to your local supplier upon the purchase of equivalent new equipment, or dispose of it at designated collection points. For more information see: www.recyclethis.info

2006/66/EC (battery directive): This product contains a battery that cannot be disposed of as unsorted municipal waste in the European Union. See the product documentation for specific battery information. The battery is marked with this symbol, which may include lettering to indicate cadmium (Cd), lead (Pb), or mercury (Hg). For proper recycling, return the battery to your supplier or to a designated collection point. For more information see: www.recyclethis.info

Industry Canada ICES-003 Compliance

This device meets the CAN ICES-3 (A)/NMB-3(A) standards requirements.

Symbol Conventions

The symbols that may be found in this document are defined as follows.

Symbol	Description
Note	Provides additional information to emphasize or supplement important points of the main text.
Caution	Indicates a potentially hazardous situation, which if not avoided, could result in equipment damage, data loss, performance degradation, or unexpected results.
Danger	Indicates a hazard with a high level of risk, which if not avoided, will result in death or serious injury.

Safety Instructions

- Proper configuration of all passwords and other security settings is the responsibility of the installer and/or end-user.
- In the use of the product, you must be in strict compliance with the electrical safety regulations of the nation and region. Please refer to technical specifications for detailed information.
- Input voltage should meet limited power source or PS2 requirements according to the IEC60950-1 or IEC 62368-1 standard. Please refer to technical specifications for detailed information.
- Do not connect several devices to one power adapter as adapter overload may cause over-heating or a fire hazard.
- Please make sure that the plug is firmly connected to the power socket.

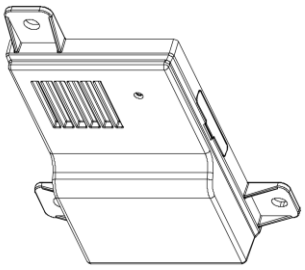
If smoke, odor or noise rise from the device, turn off the power at once and unplug the power cable, and then please contact the service center.

TABLE OF CONTENTS

Chapter 1 Package Check

Please check the package for damages. After opening the package, please check the whether all the items are complete according to the table shown bellow. If all items are complete, then devices are ready for installation.

Table 1-1 Packing List

No.	Picture	Name	Number
1		Panoramic auxiliary system	1

Chapter 2 Product Introduction

2.1 Product Introduction

The panoramic auxiliary system adopts the panoramic image stitching algorithm and image equalization algorithm to perfectly stitch 4-ch 720p/1080P ultra-wide-angle pictures, and conduct 360-degree panoramic surveillance video around the vehicle. By looking at the display inside the vehicle, the driver can easily tell the surrounding condition of the vehicle. The panoramic auxiliary system supports user-friendly functions such as high-definition video surveillance, 360° panorama, static auxiliary line display, and 3D frame. The products can be widely used in various models such as buses, engineering vehicles, special vehicles, etc., to meet the monitoring needs of the blind area around the vehicle.

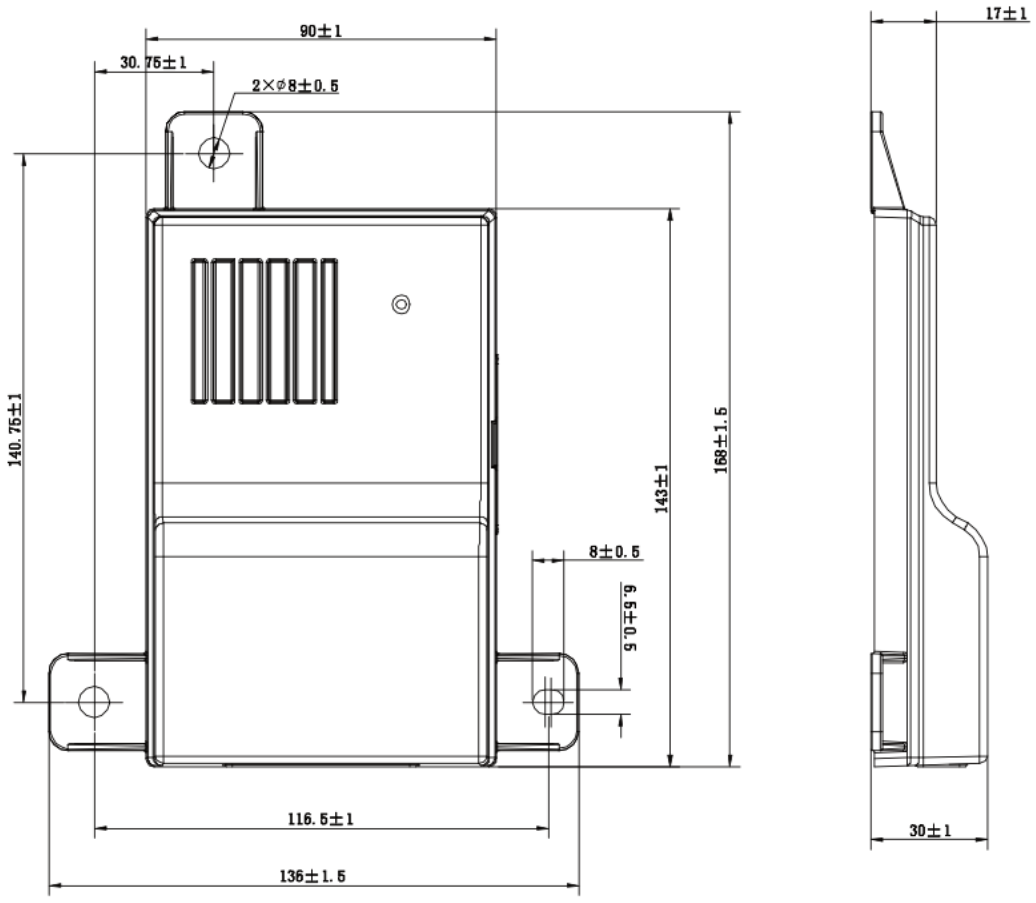
Note

The product is subject to active development, and some functions may differ from what is presented in this manual. Please refer to the actual product.

2.2 Product Features

- Adopted panoramic image stitching algorithm and image equalization algorithm to realize panoramic surveillance video around the vehicle
- Supports 4 channels of 720p, 1080P high-definition camera input
- Support 2D/3D multi-view switching
- Supports HDTVI, AHD, CVBS output
- Supports storage of 4-ch original video and video playback
- Supports CAN connection
- Supports connection to left turn, right turn, reverse hard line signal.
- Supports APP access and calibration function.

2.3 Overview



Unit: mm

Figure 2-1 Dimensions

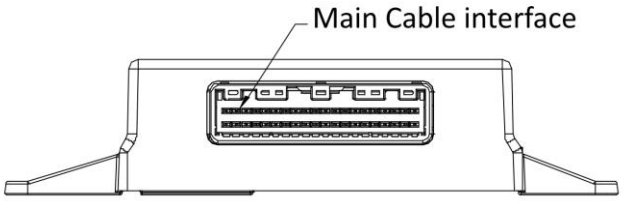


Figure 2-2 Main Cable interface

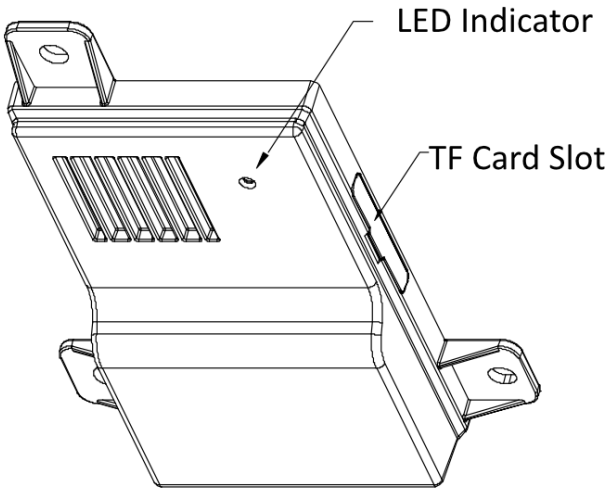


Figure 2-3 TF Card Slot and Indicator

Table 2-1 Indicator Status

Status	**Definition**
Red and green flashes alternately	The device is booting
The red light flashes	The camera is not connected normally, or the camera is abnormal
The green light is solid	The TF card is not inserted properly, or the TF card is abnormal
The red light is always on	During a device upgrade, the green light flashes when the upgrade is complete
The green light flashes	The device is working normally

Chapter 3 Product Installation

You need to securely fix all the screw holes, in particular the recorder itself. It is recommended to use the M6 Screw and please choose the appropriate length.

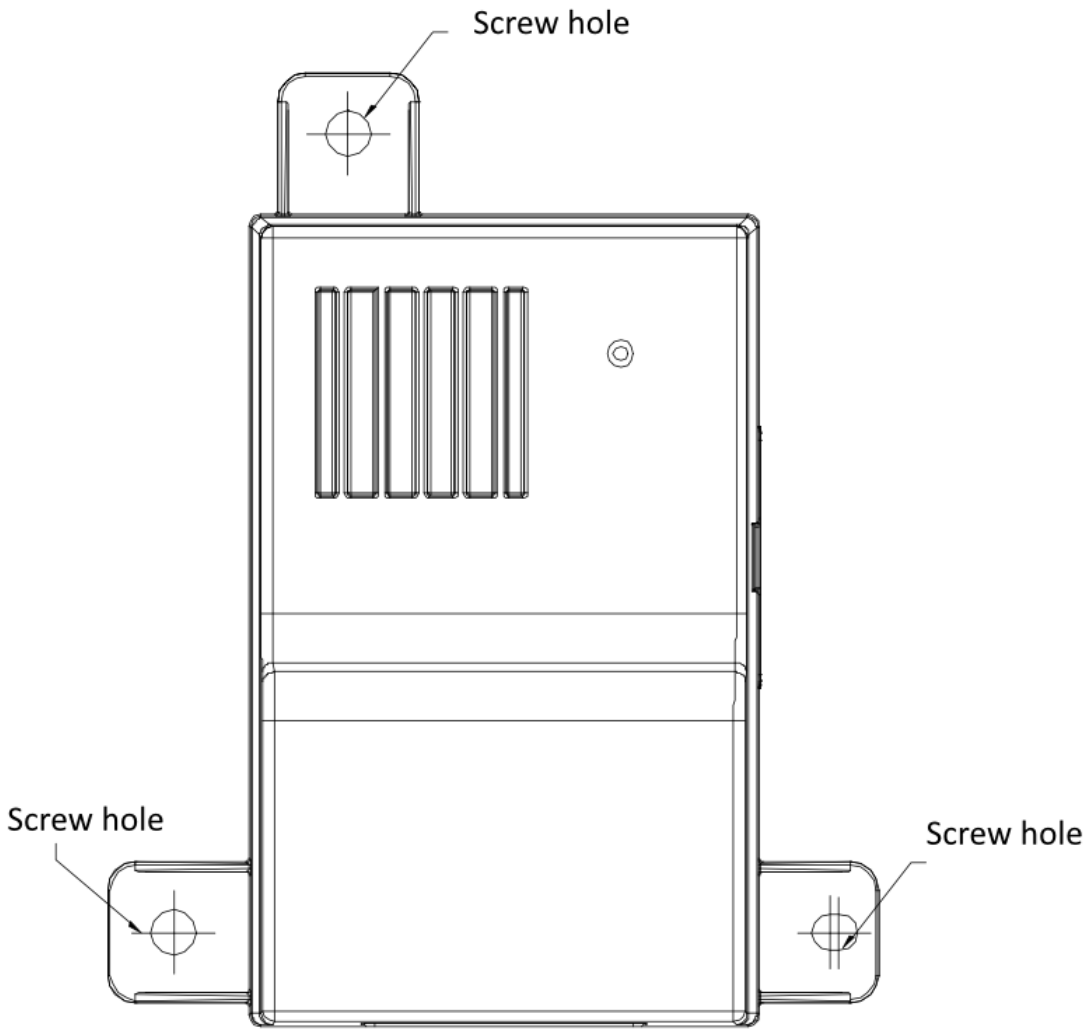


Figure 3-1 Screw Position

Step 1 Gently break the silicone plug on the TF card slot, connect the host to the TF card, and then press the silicone plug back.

Note

Insert the TF card with the gold finger side facing down

Step 2 Attach the main cable to the recorder.

Step 3 Attach the cables to the corresponding peripheral or vehicle interface.

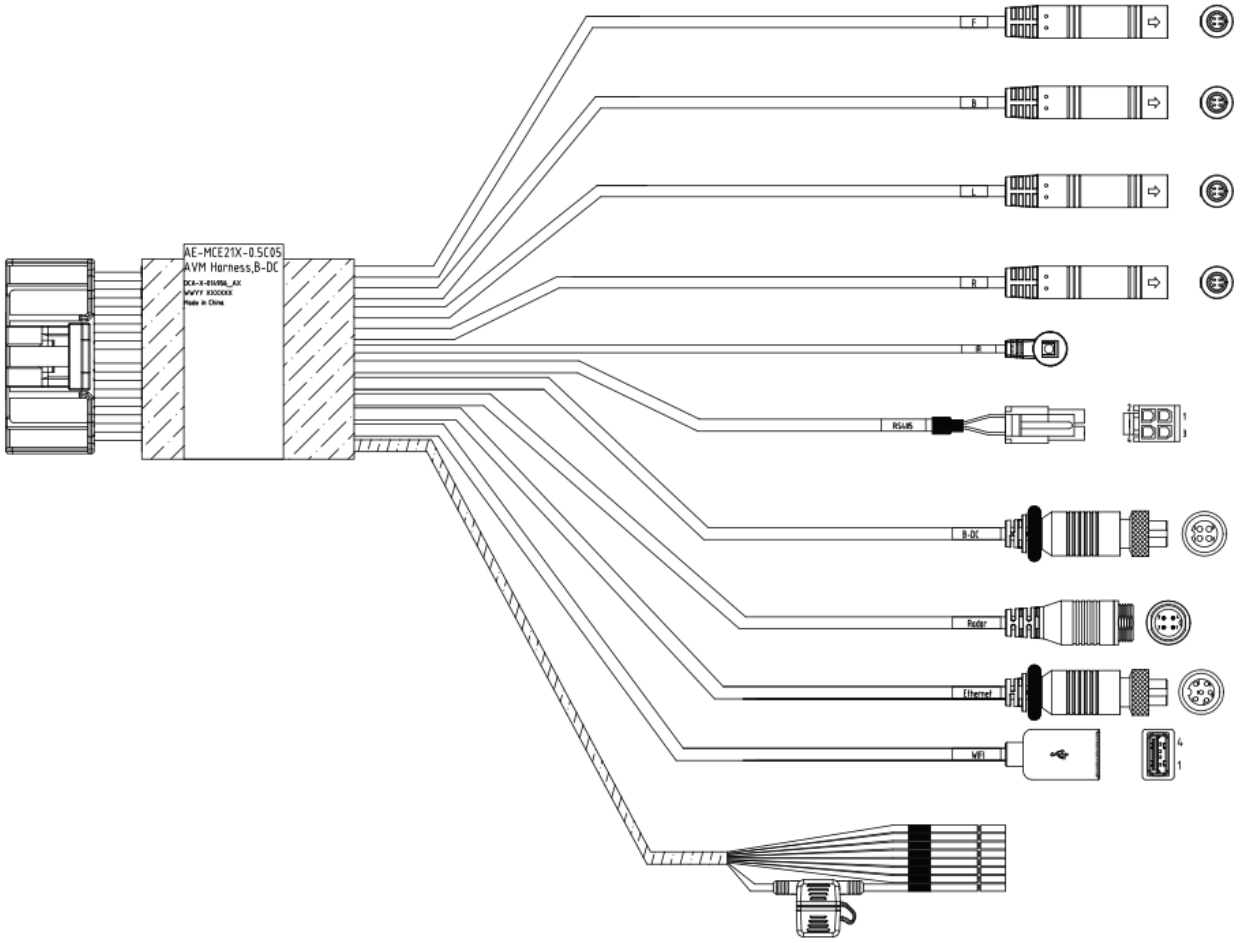


Figure 3-2 Cable Descriptions

Table 3-1 Interface Descriptions

Definition	Name	Function
Camera Connection Interface	Front Camera F	Connect to Front View Camera
	Back Camera B	Connect to Back View Camera
	Left Camera L	Connect to Left View Camera
	Right Camera R	Connect to Right View Camera
IR Receiving Interface	IR Indicator IR	Support reciving IR signal of the remote control

RS485 Interface	RS485 (Green: positive; White: negative)	Reserved
Video Output Interface Note: choose one among the four types of cable and refer to the actual cable definition.	A	Connect to A pin sequence display, without powering the display
	A-DC	Connect to A pin sequence display, and powers the display
	B	Connect to B pin sequence display, without powering the display
	B-DC	Connect to B pin sequence display, and powers the display
Radar Interface	Radar	Reserved Note: cannot compatible with CAN_H and CAN_L
Ethernet Interface	Ethernet	Support Ethernet communication
USB Interface	Wi-Fi	Wi-Fi calibration module
Other Interfaces	POWER+	Connect to vehicle power positive
	ACC	Connect to vehicle ACC
	POWER-	Connect to vehicle power negative
	Left Turn L	Connect to vehicle left turn wiring
	Right Turn R	Connect to vehicle right turn wiring
	Backing B	Connect to vehicle backing wiring
	CAN_H	Connect to vehicle CAN wiring
	CAN_L	

Chapter 4 Basic Operations

4.1 Calibration Preparation

Before operating the panoramic auxiliary system (recorder), make sure you have connected the main cable, 4 channels of camera, display and other needed cables to the recorder. Also make sure that you have inserted the accompanying TF card.

4.2 Calibrate with Mobile APP

If you calibrate with the mobile APP, then you need to insert the accompanying Wi-Fi calibration module. Turn on the Wi-Fi function of your cellphone, and connect to “HIKAUTO-360****”.

4.3 Calibrate with Remote Control

You need the accompanying remote control to calibrate with remote control.

4.3.1Remote Control

Figure 4-1 Remote Control

Table 4-1 Remote Control Functions

Name	Function
	Long press to restart
	Menu
	2D/3D view swithcing
	“Up” in the menu
	Play the previous video in the playback interface
	Back to previous action
	“Page Up” in the menu
	“Slow motion”in the playback interface
	“OK” in the menu
	“Play/Pause”in the playback interface
	“Page Down” in the menu
	“Fast motion”in the playback interface
0	For date/time setting
	“Down” in the menu
	Play the next video in the playback interface
C	In the preview interface, swith output standard
1	For date/time setting
	On 2D/3D view, swith to front view
2	For date/time setting
	On 2D/3D view, swith to back view
3	For date/time setting
	On 2D/3D view, swith to left view
4	For date/time setting
	On 2D/3D view, swith to right view

5	For date/time setting
6	For date/time setting
7	For date/time setting
8	For date/time setting
9	For date/time setting

4.3.2GUI Interface

Press the “MENU” button of the remote control to show the menu option.

Table 4-2 GUI Interface

Level 1	Level 2	Level 3
Settings	Distortion Correction	ON/OFF
	3D Display	ON/OFF
	Model Car Settings	Bus/School Bus/Car/Others
	Display Signal Format	TVI/AHD/CVBS
	Signal Standard	PAL / NTSC
	Camera Type	TVI/AHD camera
	Reset	ON/OFF
	Format Storage	ON/OFF
	Date/Time	Setting Interface
	Plate Settings	Setting Interface
	Video Bit Rate	1/2/4/6M
	Front Trajectories	ON/OFF
	Back Trajectories	ON/OFF
	Output Resolution	720P/1080P
	Camera Resolution	720P/1080P
Playback	Ordinary Recording	All storage recordings
Device Information	System and storage information	/

4.4 Image Stich Calibration

4.4.1Calibration Mode Choice

Mode one: press the “menu” button of the remote control, and then press the number “6” for 6 times, and then press the number “3”, and you enter the calibration mode choice interface.

Mode two: connect to mobile APP, and tap setting to enter the calibration mode choice interface.

4.4.2Manual Calibration

Manual calibrate is to first set up the calibration cloth, and then calibrate. For details, refer to the professional calibration manual.

4.4.3Automatic Calibration

Manual calibrate is to first set up the calibration cloth, and then calibrate. For details, refer to the professional calibration manual.

4.4.4Static Road Calibration

Static road calibration refers to the setting up of two vehicle lane and then calibrate. For details of the vehicle lanes, refer to the professional calibration manual.

Table 4-3 Static Road Calibration Requirement

Definition	Requirement
Vehicle Length	The length of the vehicle. Note: This generally refers to the horizontal distance between the front and rear cameras.
Vehicle Width	The width of the vehicle. Note: This generally refers to the horizontal width of the left and right cameras.
Front camera height	The ground clearance of the forward-looking camera
Rear camera height	The ground clearance of the rearview camera
Left camera height	The ground clearance of the left-looking camera
Right camera height	The height above the ground of the right-looking camera.

The distance between the left camera and the front of the car	Note: This generally refers to the horizontal distance between the left-looking camera and the forward-looking camera, not the straight-line distance.
The distance between the right camera and the front of the car	Note: This generally refers to the horizontal distance between the right-looking camera and the forward-looking camera, not the straight-line distance
Confirm	Click to enter the calibration interface. Note: Do not perform other operations while calibration. After waiting for the progress to reach 100%, the calibration is successful and automatically jumps back to the preview interface.

4.4.1Dynamic Road Calibration

Dynamic road calibration refers to the setting up of two vehicle lane and then calibrate. For details of the driving scene, vehicle lanes and speed, refer to the professional calibration manual.

Table 4-4 Static Road Calibration Requirement

Definition	Requirement
Vehicle Length	The length of the vehicle. Note: This generally refers to the horizontal distance between the front and rear cameras.
Vehicle Width	The width of the vehicle. Note: This generally refers to the horizontal width of the left and right cameras.
Front camera height	The ground clearance of the forward-looking camera
Rear camera height	The ground clearance of the rearview camera
Left camera height	The ground clearance of the left-view camera
Right camera height	The height above the ground of the right-view camera.
The distance between the left camera and the front of the car	Note: This generally refers to the horizontal distance between the left-looking camera and the forward-looking camera, not the straight-line distance.

The distance between the right camera and the front of the car	Note: This generally refers to the horizontal distance between the right-looking camera and the forward-looking camera, not the straight-line distance
Confirm	Click to enter the calibration interface. Note: Do not perform other operations while calibration. After waiting for the progress to reach 100%, the calibration is successful and automatically jumps back to the preview interface.

4.5 Upgrade

Step 1 Formate the TF card and place the upgrading program in the root directory.

Step 2 Inser the TF card into the recorder TF card slot.

Step 3 Choose the preview interface and the upgrade popup will show up. Press confirm.

Step 4 If the recorder successfully reboots, then the upgrading is successful.


See Far, Go Further