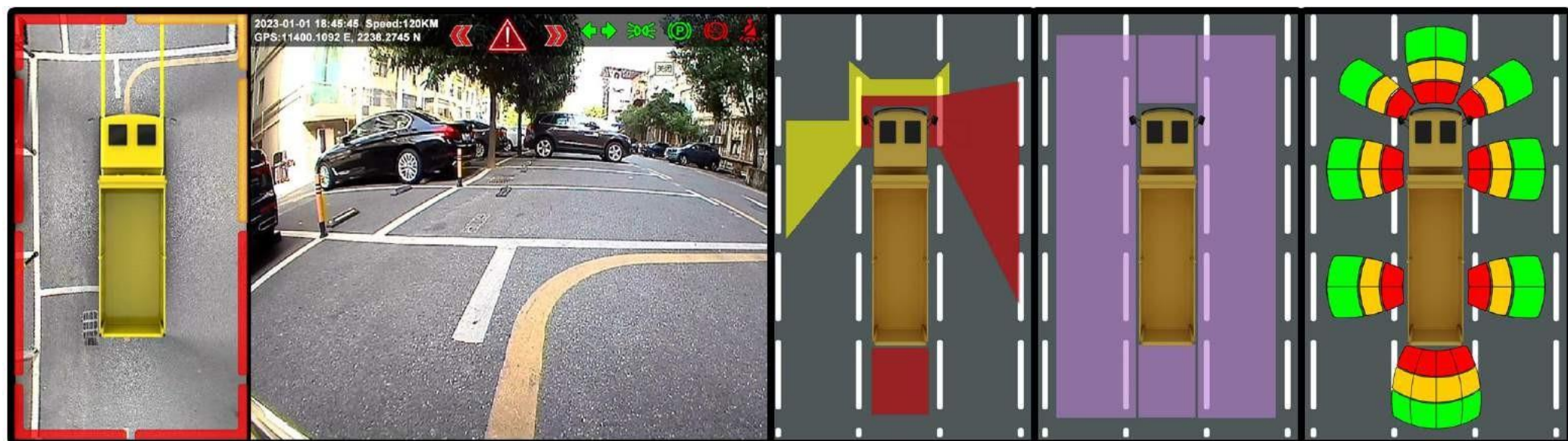


# 360 panoramic view image Active Safety Driving Assistance System



360-degree active safety warning system based on radar and AI vision algorithm



## Product system composition:



360° front view 1080P



360° rear view 1080P



360° left view 1080P



360° right view 1080P



Blindspot AI camera



Tipping Bucket Camera



Roof ball machine 1080P



Cab Camera 1080P



Sound & Light Alarm outside



Front radar

Intelligent Voice broadcast



Rear radar

Left blind spot indicator light



Left radar

Right blind spot indicator



Right radar

In-car Sound & light alarm for driver

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## Original intention of product design

QH-ME360-K2H is a 360-degree panoramic image + active safety driving assistance system developed for the blind area of large vehicles. The product integrates AI visual blind area detection, CAN communication, vehicle speed sensor,

16 Radar probe, external sound and light alarm, blind spot indicator light + buzzer + voice broadcast function, through its own algorithm, realize panoramic image (360) + blind spot detection (BSD) + lane change assistance (LCA)

function to realize the active driving safety assistance system with 360-degree and no dead angle for large vehicles.

## Product Features

1. The 360-degree panoramic image specially developed for trucks and special vehicles, its own 360-degree mosaic algorithm for large vehicles, small size, highly integrated, wide temperature design, and the working temperature can reach -20~70 degrees.
2. The product conforms to the ISO-7637 standard, conforms to the vehicle power supply specification, DC12-36V wide voltage design, anti-reverse connection design, enhanced TVS+ESD design, and the main power supply has farad capacitors to ensure illegal disconnection

Electric video recording reliability.

3. The product supports multiple video outputs, including CVBS/VGA/HDMI/AHD.
4. The product supports ultrasonic radar with 16 probes in four directions, combined with the vehicle speed sensor, its own algorithm, real-time communication with 360° panoramic view, combined with the panoramic interface, the radar information is intuitively displayed on the 360 cars

On the module, it supports enhanced blind spot (BSD) detection on the right side, supports lane change assist (LCA) function, and the linkage of radar and sound and light alarm to realize blind spot alarm function.

5. The product supports the AI vision algorithm of 4-way blind spot detection, which can realize the recognition of pedestrians and motor vehicles in four directions of the car body. The sound and light alarm outside the car warns pedestrians and large cars not to approach the blind spot.

Horn + blind spot indicator light to remind the driver that there are pedestrians or motor vehicles beside him, please drive carefully.

6. The product supports CAN communication function, supports communication between original vehicle data and 360-degree panoramic host, and realizes original vehicle information such as IO control, touch, steering wheel angle, vehicle speed, and radar.
7. Product support Our intelligent voice control system specially developed for the 360-degree panoramic image system of the cart can control the 360-degree panoramic image through voice to ensure driving safety.
8. The product supports its own algorithm. Through the sensor in the host, the 360-degree panoramic image can realize automatic viewing angle switching according to the application scene.
9. The product supports the fire-off defense function. Through the defense switch, this function can be turned on at any time. After the function is turned on, the whole car radar will start the protection at a distance of 0.35 meters. When someone or an object approach, the buzzer in the car will sound

The device and the sound and light alarm outside the car can give early warning at the same time, so as to realize the functions of anti-stealing oil and goods, RV security and other functions.

10. The product has two storage designs, supports SD card + 2.5-inch hard disk storage, small size, low power consumption, super shock resistance.
11. The product supports electronic rearview mirror product mode, and the unique dual AHD output function can display 360 images on two screens at the same time.
12. Cooperate with our company's production and vehicle-specific display, Android car machine, can realize touch control high-definition display function.

## Product Specifications

Specifications	Product number:	QH-ME360-K2H/KR
Electrical parameters	Product power consumption	The power consumption of the whole machine is 10-30W and the working voltage is DC12-36V.
	power protection	It has anti-surge function, anti-reverse function, low power protection, short circuit and overload protection.

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<b>Video output interface</b>	AHD video output <b>【Optional】</b>	Support, standard GX12-4P female, two-way AHD25_720P/1080P output (360 panoramic screen, can be connected to standard machine, MDVR).
	CVBS video output	Support, standard GX12-4P aircraft carrier head, support PAL/NTSC system.
	VGA video output	Support, standard DB15 female, built-in DC12V regulated power supply, serial port communication function; optional our company's screen, no additional power supply, more convenient installation.
	HDMI video output	Support, dedicated HDMI interface output, built-in DC12V regulated power supply, serial port communication function; optional our company's screen, no additional power supply, more convenient installation.
<b>Video input interface</b>	AHD video input	8-way 1080P_AHD camera input, standard GX12-4P aviation male connector, DC12V regulated power supply.
<b>AI blind spot warning function</b>	AI visual warning function	360-degree surround view system, built-in AI vision algorithm, supports 360-degree blind spot detection function of the whole vehicle: the system passes through the cab <b>monitor</b> (visual) <b>+Blind zone (BSD_LED) indicator light</b> (light)+ <b>Intelligent voice broadcast speaker</b> (sound), provide the driver with the three-in-one reminder function of [image + light + sound], and simultaneously control the <b>Sound and light siren</b> Remind pedestrians or non-motor vehicles entering the blind spot, and improve driving safety in all directions.
<b>ultrasonic radar</b> <b>Radar host [optional]</b>	Radar early warning function	The product supports ultrasonic radar with 16 probes in four directions, combined with vehicle speed sensor, own algorithm, real-time communication with 360 panoramas, combined in the panorama interface, radar information is intuitively displayed on the 360-car model, and supports enhanced right blind spot (BSD) detection, Support the Lane Change Assist (LCA) function, the radar and the sound and light alarm are linked to realize the blind spot alarm function.
	Radar host	A single set of radar host comes standard with 4 special radar probes for large vehicles, 4 probe extension lines of 2.5-5 meters, and 1 communication line with the 360 host.
	Detection distance	The detection distance in four directions is 2.5 meters, and when the fire is turned off, the detection distance is 0.3 meters.
	Power parameters	Power supply voltage DC12-33V, maximum power consumption 0.2W.
	waterproof level	The waterproof rating of the whole machine is IP67.
	radar function	It is used for functions such as vehicle blind spot (BSD) + lane change assistance (LCA) + parking assistance, combined with the company's own algorithms and protocols, to achieve various complex scene applications.
radar interface	The GX12-6P aviation male connector can be converted into 4 GX12-4P female connectors through one-to-two-wire conversion, supporting 4 directions, 1 host plus 4 probes in each direction, and a total of 16 probes are supported.	
<b>CAN communication function</b>	Functions and Features	High-speed CAN bus transceiver, conforms to ISO11898 standard, low power consumption management, wake-up on network function.
<b>storage function</b>	2.5" HDD storage	Support 2.5-inch HDD or SSD storage with SATA interface. Capacity 128G-2TB.

	SD_CARD storage	Standard SD_CARD storage function, support 8-512G.
<b>Sound and light alarm function [optional]</b>	Specifications	Power supply voltage DC12-36V, maximum power consumption 3W, protection grade IP65, volume ≤105dB within 1 meter, 16-level volume adjustable, RS485 communication, support up to 10 kinds of sounds.
	feature of product	<p>The vehicle is turning left, and the announcement "Vehicle is turning left, please stay away".</p> <p>The vehicle is turning right, and the announcement "Vehicle is turning right, please stay away".</p> <p>The vehicle is reversing, and "reversing, please pay attention" is broadcast.</p> <p>The right blind spot broadcasts "The big car is dangerous, please stay away".</p> <p>Double flash, no broadcast.</p> <p>When the vehicle speed exceeds 50 kilometers, turn left and right without broadcasting, and blind spot broadcasting.</p> <p>When the vehicle puts down the handbrake, it broadcasts "The vehicle starts, please pay attention to safety"</p> <p>When the vehicle speed drops from high to low to below 30 kilometers, it will broadcast "big car approaching, please stay away".</p> <p>The volume of the broadcast is 100% during the day, and 60% at night.</p>
<b>Physical Specifications</b>	Product Size	Length*width*height=105*178*50 (unit: mm).
	product weight	Host weight: 0.65KG; whole machine: 2.9-4KG (the weight difference lies in the length of the wiring harness).
<b>camera parameters</b>	camera voltage	DC8-16V.
	Camera power consumption	0.5-1W for a single camera.
	resolution	AHD1080P.
	Working/storage temperature	Working temperature: minus 30°C~+70°C; storage temperature: minus 40°C~+85°C.
	video frame rate	The capture frame rate is 30 FPS/sec.
	waterproof level	IP68.
	low light	0.01 Lux.
	vibration/shock	Conforms to MIL-STD-810F, Method 516.5
	horizontal angle	210 degrees
	vertical angle	126 degrees
	aperture	1.6±5%
	focal length	1.5MM
<b>Recording parameters</b>	video format	H265
	Video resolution	4 channels plus 1920*1080P together.
	file size	1.25GB/hour.
<b>host parameters</b>	IP protection class	IP51.
	Operating temperature	Minus 20~70°C.
	storage temperature	Minus 40~80°C.
	vibration/shock	Conforms to MIL-STD-810F, Method 516.5.
	body material	The body is made of high-quality aluminum alloy, and the surface is oxidized and brushed.

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## Product Application Scenario

◀(forward view mode)By default and at low speed, panorama + front view image is displayed:  
enters the red area at low speed, the front blind area will be enlarged and displayed:

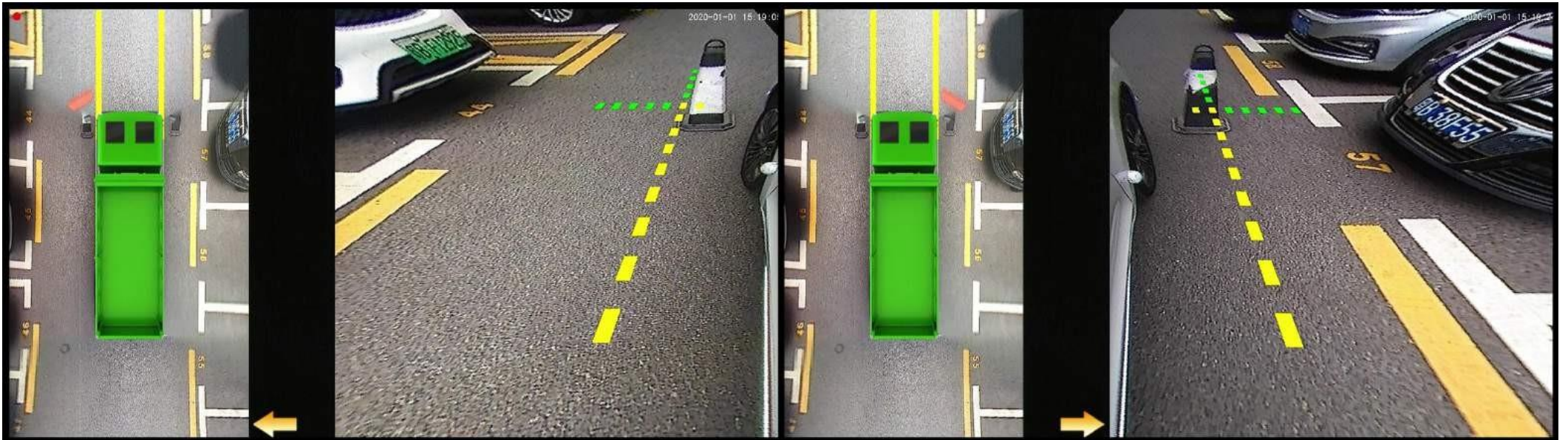
◀(forward blind spot mode)When the front radar



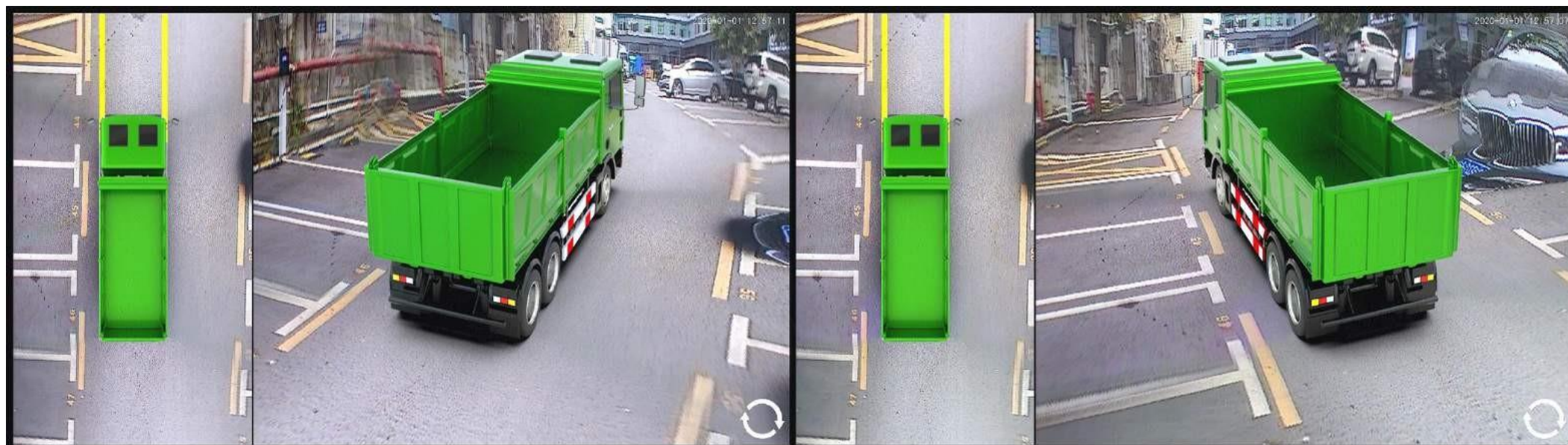
When the vehicle is parked and waiting, when someone passes or stays directly under the front of the car, the radar will sense it in advance, and the radar buzzer in the car will make a sound to remind the driver that there are people or obstacles directly under the front of the car, and at the same time 360 pictures

The front view automatically switches to the front-view wide-angle screen, presenting the 180-degree image directly in front of the front of the car in front of the driver's eyes, avoiding accidents caused by blind spots.

◀(turn left)Turn on the left turn signal, (Mode 1/2D)Display panorama + front left rectified image: ▶(right turn)Turn on the right turn signal,(Mode 1/2D)Display panorama + front right rectified image:

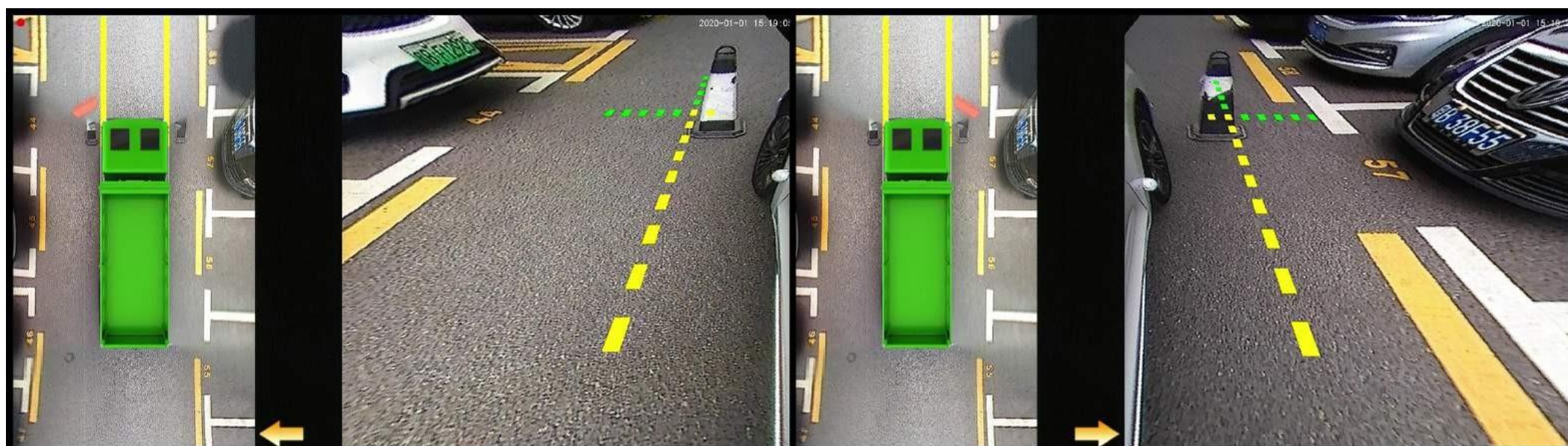


◀(turn left)Turn on the left turn signal, (Mode 2/3D)Display panorama+3D rear left image: ▶(right turn)Turn on the right turn signal,(Mode 2/3D)Display panorama+3D rear right image:



◀(left view + left front blind spot mode)At low speed, turn on the left turn signal, display panorama + left view; This mode will be displayed automatically when front radar A has people or objects entering the red area;

◀(right view + right front blind spot mode)At low speed, turn on the right turn signal, display panorama + right view; This mode is automatically displayed when someone or an object enters the red area of the front radar D;



When the vehicle is parked and waiting, when someone passes or stops in front of the right or left front of the car, the radar senses it in advance, and the radar buzzer in the car makes a sound to remind the driver that there are people or obstacles in the right or left front of the car.

At the same time, the 360-degree image automatically switches to display panorama + left view or panorama + right view, and enlarges the display of people or obstacles in front of the left or right front of the car to avoid accidents caused by blind spots.

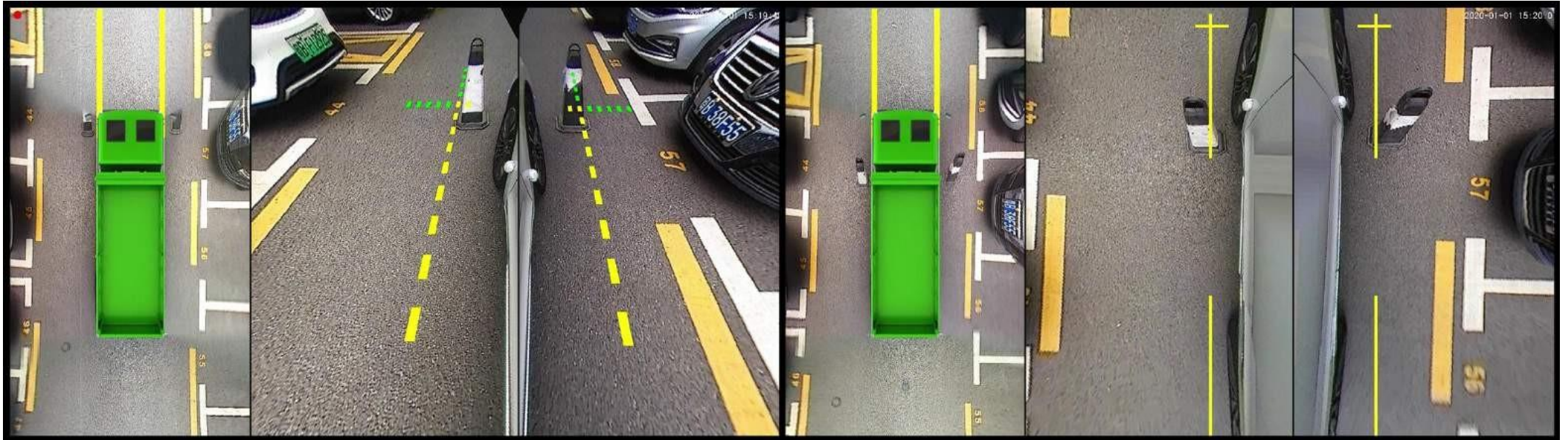
In the above two modes, when the radar is triggered, the buzzer in the car will actively remind the driver and trigger the action of the sound and light alarm outside the car; when the light is triggered, the buzzer will not work, and the sound and light alarm outside the car will act.

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◀(Width limit + A-pillar blind zone mode)At low speed, press the double flash to display the panorama + front left\_ front right of the car; ●(Road + B-pillar blind spot mode)Low speed, press the double flash, put the reverse gear, display the panorama + both sides of the car

When the front radar A+D has people or objects entering the red area at the same time, this mode will be displayed automatically: Left and right radar, when someone or object enters the red area at the same time, this mode will be displayed automatically:



When the vehicle enters a road section with limited width, press the double flash to automatically display the width-limited mode, and the driver can clearly see the real-time images on the left and right sides of the front of the vehicle through the screen, and easily pass through the road section with limited width;

When the vehicle enters the middle section, when the radar on the left and right sides senses that people or objects enter the red area, the roadside mode will be displayed automatically, and the driver can clearly see the real-time images on the left and right sides of the vehicle through the screen.

Easily pass through restricted roads.

◀(left blind spot mode)At high speed, turn on the left turn signal and display the image of the left video camera;

When someone or an object enters the red area of the left radar at low speed, this mode will be displayed automatically:

◀(Right Blind Mode)At high speed, turn on the right turn signal and display the picture of the right video camera;

This mode is automatically displayed when someone or an object enters the red zone of the right radar at all speeds:



In the above two modes, when the radar is triggered, the buzzer inside the car will actively remind the driver, the screen will automatically switch, and the sound and light alarm outside the car will be triggered.

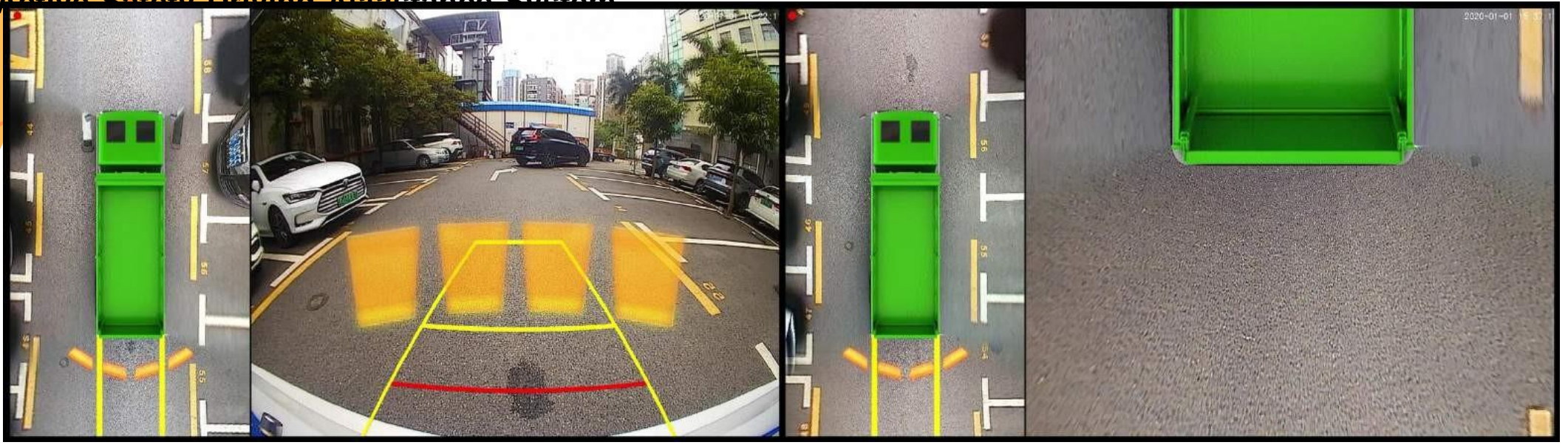
◀(reverse mode)At low speed, put the reverse gear, display panorama + rear view; and when the rear radar enters the yellow area,

◀(backsight magnification mode)At low speed, put reverse gear,

Display panorama + rear view zoom;

# 360 panoramic view image

## Active Safety Driving Assistance System



In reversing mode, when the radar is triggered, the buzzer in the car will actively remind the driver according to the most actual radar status, the screen will automatically switch, and trigger the action of the sound and light alarm outside the car.

●(Rearview Blind Spot Mode)Low-speed reverse gear, the rear radar enters the red area, and the rear blind area is enlarged and displayed: ●(bird's eye view mode)At high speed, press the double flash, and the bird's-eye view will be enlarged and displayed on the full screen:



●(Parking 720-degree blind spot mode)Pull up the hand (air) brake, turn on the double flash, and enter the 4-split screen: ●(Lane Change Assist LCA mode)Lane change assist display:

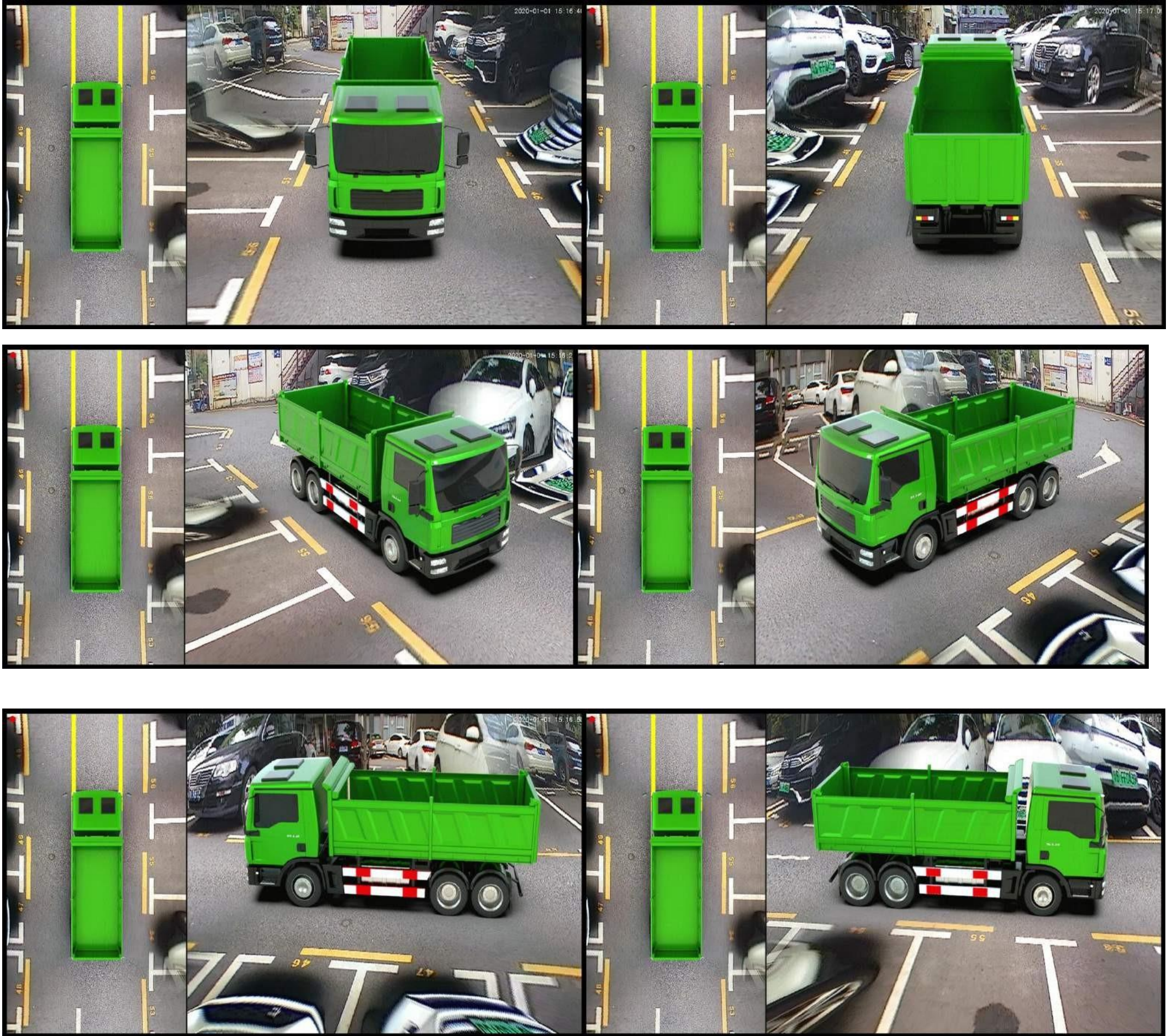


when parking. Press the double flash, each camera's 180-degree wide-angle picture, and the 4-way camera's 720-degree wide-angle picture will be displayed on the screen in real time to ensure parking safety. At high speed, when there is a vehicle coming from behind on the left or right

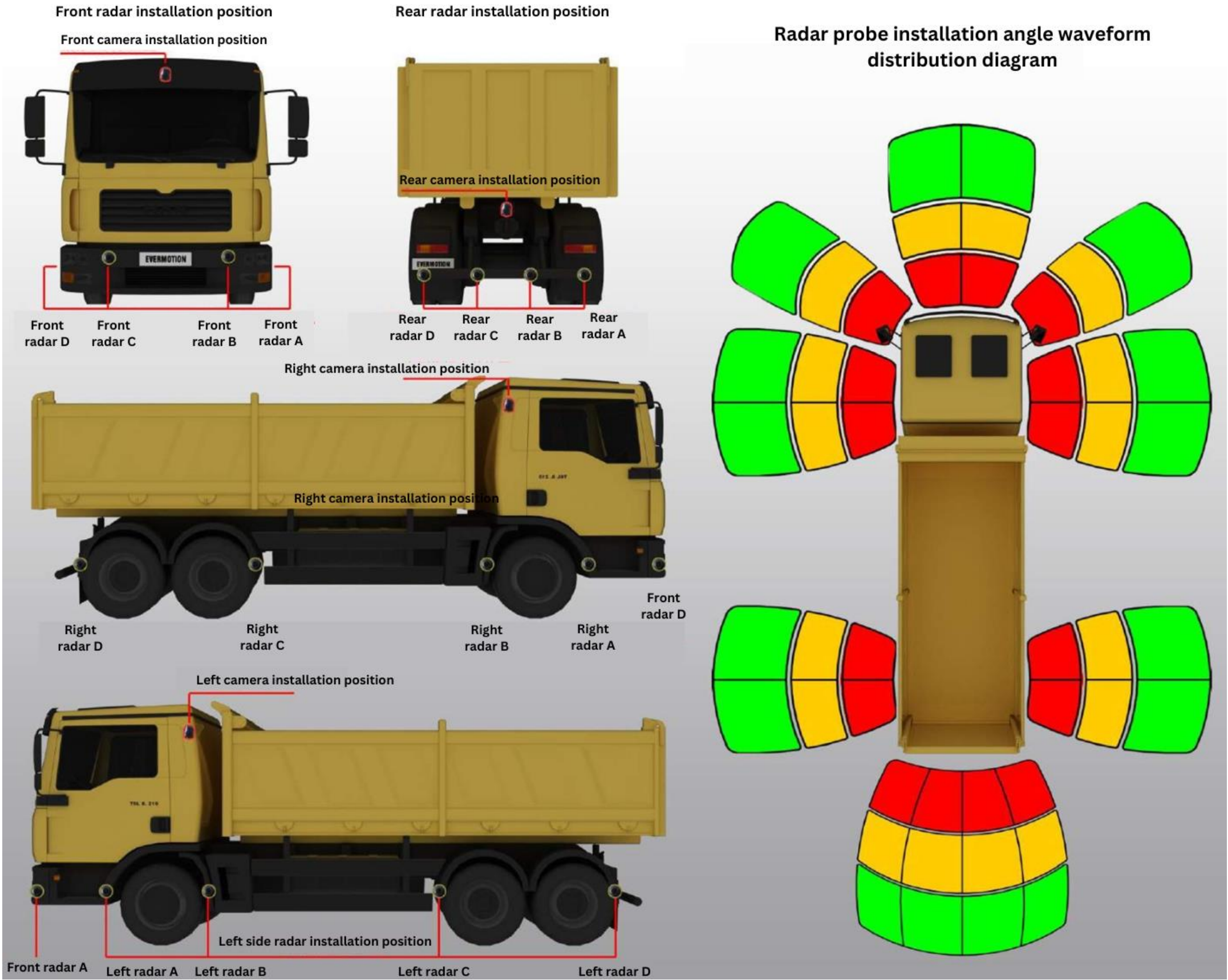
When entering the radar area, if the turn signal is turned on to change lanes, the buzzer in the car will sound to remind the driver when there is a car on the side of the blind spot, and the buzzer will not sound when there is no car on the side of the blind spot.



◀(3D surround mode)3D Surround Display:



Product installation icon



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## Ordering Information

Ordering Information	describe
<b>BSD-PRO</b>	3D version/4-channel 1080P_AHD camera input/CAN communication/CVBS+VGA+HDMI video output/16 radar support (excluding radar host)/speed sensor/DC10-36V power supply/SD card+MSATA storage.
<b>BSD-PRO_AI</b>	3D version/8-channel 1080P_AHD camera input/integrated AI vision algorithm/CAN communication/CVBS+VGA+HDMI video output/16 radar support (excluding radar host)/speed sensor/DC10-36V power supply/SD card+MSATA storage.

## optional features

optional features	Functional description
<b>Dual AHD output function</b>	Panoramic splicing screen, dual-channel copy AHD video output, GX12-4P aviation head-female interface; support AHD_720P or 1080P output.
<b>Radar host</b>	A host comes standard with 4 radar probes, GX12 aviation head interface, and a communication line with the 360 host.
<b>Sound and light siren</b>	Voltage DC9-30V, maximum power consumption 3W, protection grade IP65, volume ≤105dB within 1 meter, 16-level volume adjustable, RS485 communication, support up to 10 kinds of sounds
<b>BSD camera</b>	Support pedestrian detection function, 1080P, 0.5T computing power.

## Product Dimensions

