

2020

IATF 16949 : 2016

Candid[®]
一谷電子

Mission

Establishing Spirit, Creating Wealth,
Influencing Ourselves and Achieving
Others

Vision

To be superior supporting supplier in auto
electronic industry

Values

Communication, Respect, Responsibility



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COMPANY PROFILE



Guangzhou Candid have focused on the automotive electronics for 15 years, Passed the certifications of ISO9001, IATF16949, ISO14001 and OHSAS18001 Stander. Candid have rich experience in providing OEM and aftermarket Vehicle image system, 3D Around View System , Microwave Radar Blind Spot System , DVR, ADAS advanced driving assistance system and other aspects of products and customized services. Candid has rich project experience. Which has provided the solid foundation for the better service customer.

Environment Testing Equipments



TEST CAPABILITIES

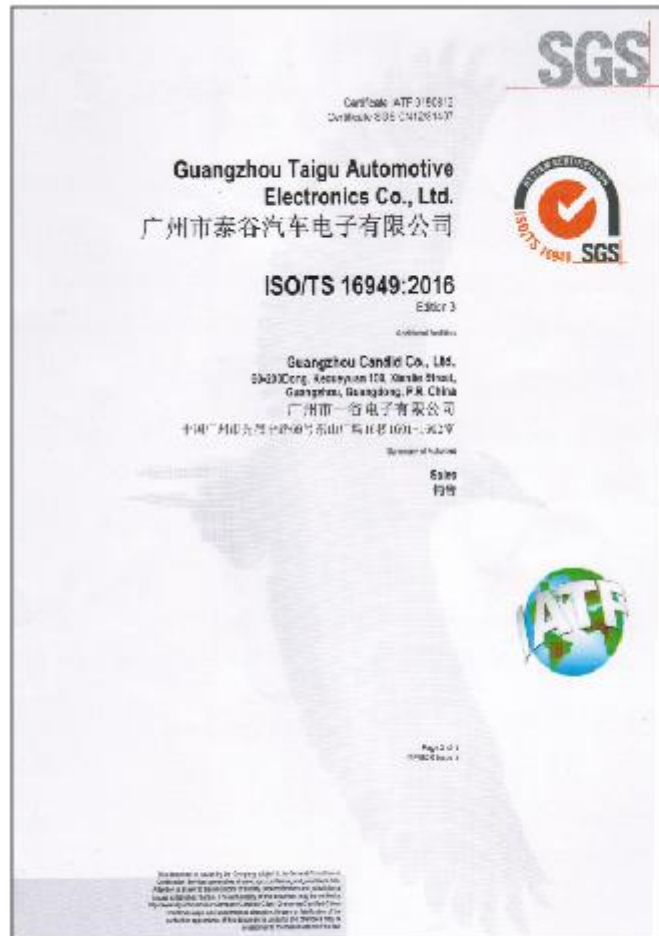
Ref standard : GB/T 28046 ISO16750 ISO20653 IEC60068

ISO17025 Laboratory quality Management system has been established

Production area: 10000 square meters
Management and technical staff accounted for 60%.



Company Certifications



ISO/TS16949CERTIFICATE



ISO/TS16949CERTIFICATE

Product Certifications



APPEARENCE DESIGN PATENT



NEW AND PRATICAL MODEL PATENT

R&D Capability :

63 patent applications ,45 patents for the Appearance Design ; 15 patents for the New and practical Model ; 3 patents for invention (which is under publish)



HIGH AND NEW TECH ENTERPRISES



IOS/TS16949



ROHS



FCC



E8

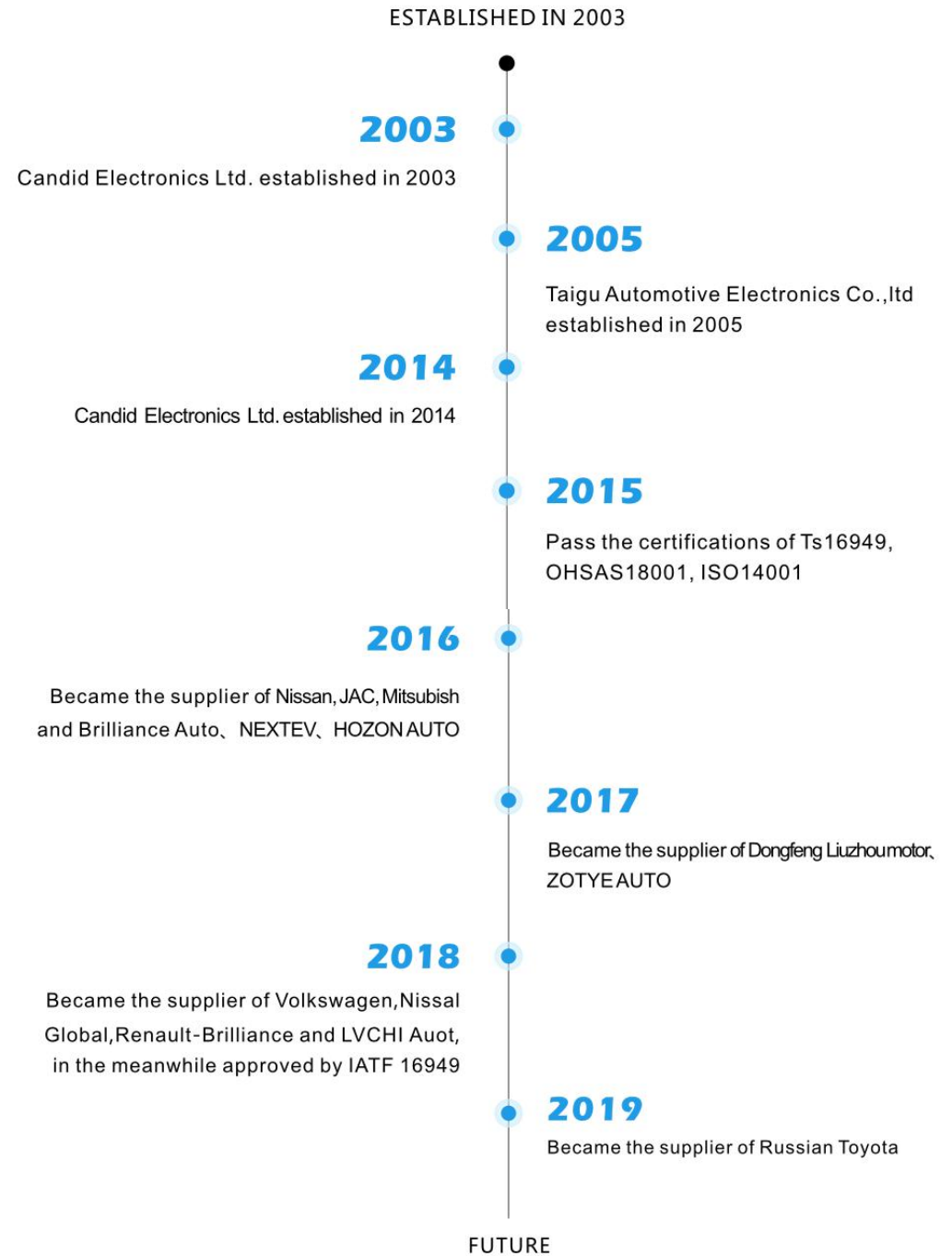


CERTIFICATE



CERTIFICATE MODEL

History



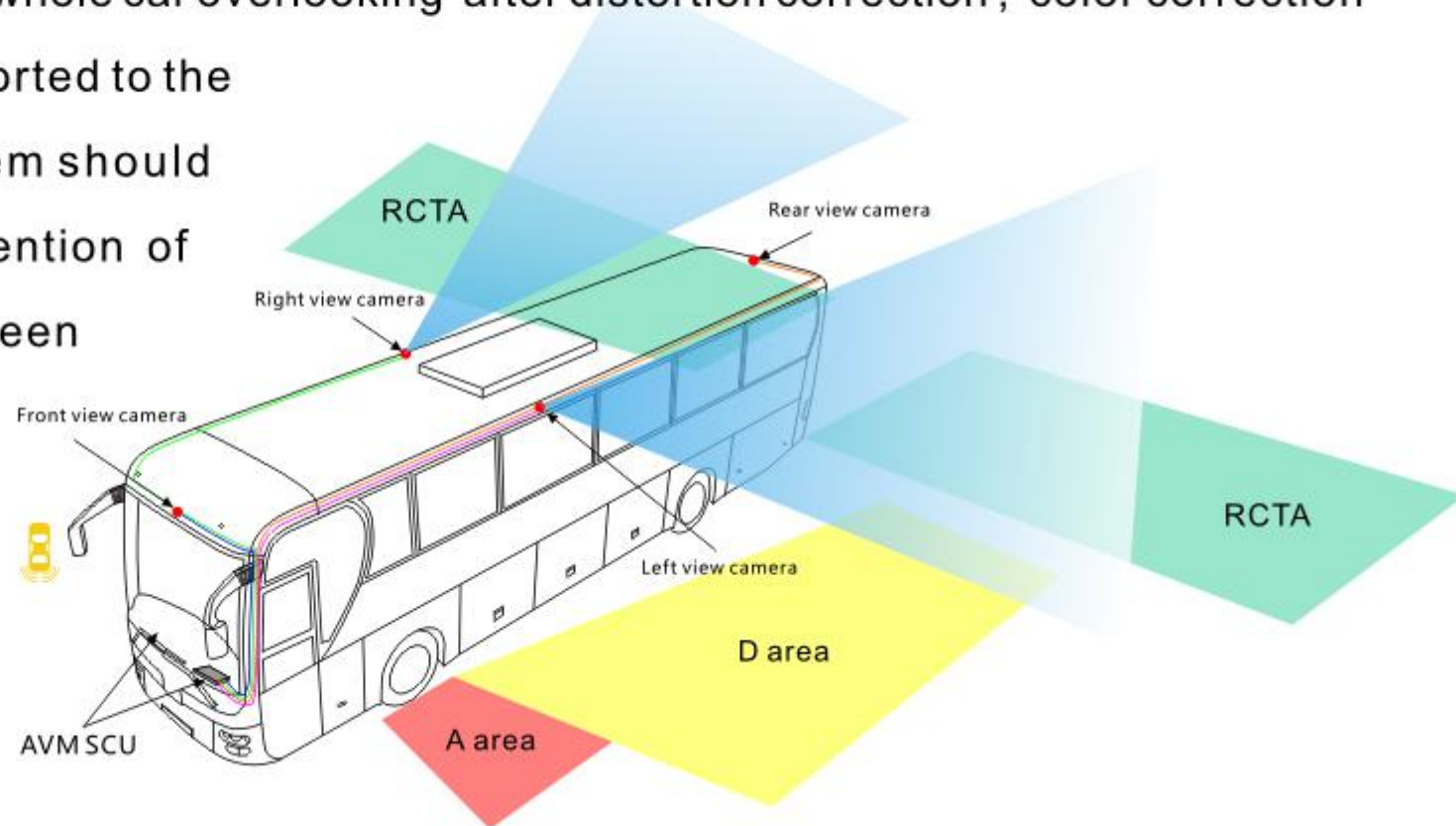
Products

Introduction

- 1 360 Around View System
- 2 Microwave radar blind spot detection
- 3 ADAS+DMS
- 4 HD Monitor
- 5 Wireless HD system
- 6 4 Channel 1080p Recorder
- 7 Commercial Vehicle Camera
- 8 Passenger vehicle camera
- 9 Universal camera

360 Around View System

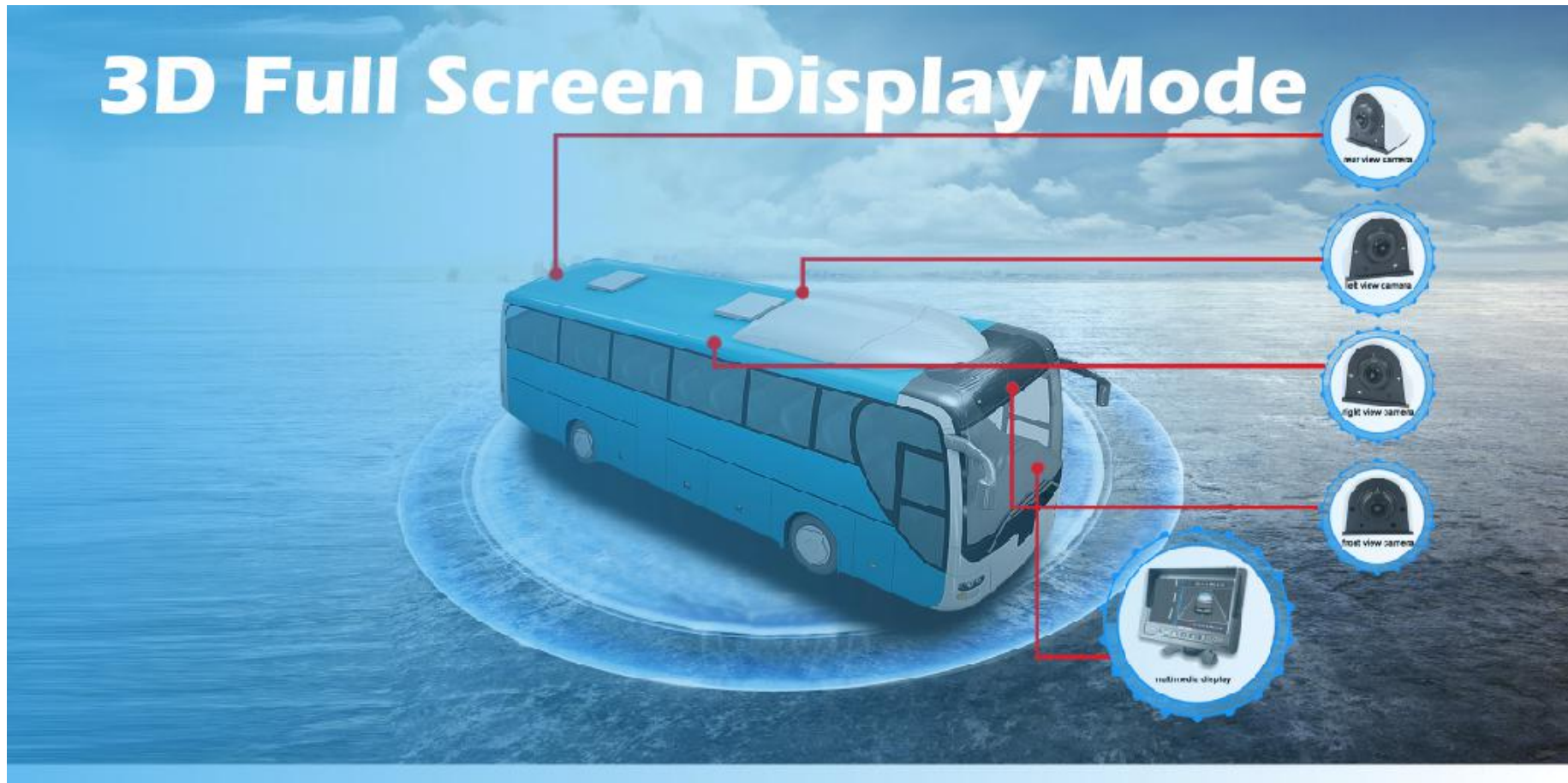
360 Around View System consists of four cameras and a controlled by AVM box, The four image signal will be integrated into a whole car overlooking after distortion correction , color correction and image mosaic, then transported to the multimedia display. The system should also be able to judge the intention of driver , switch the display screen automatically or manually.



Specification

NO	Item	Parameter
1	Working temperature	-40℃ ~ 85℃
2	Storage temperature	-40℃ ~ 95℃
3	Operating temperature	90 RH%
4	Waterproof rating of camera	IP69
5	Horizon Angle	180±5°
6	Vertical field of view	105±5°
7	Power supply mode	POC
8	Power input range	6~16VDC
9	Power consumption of the work	150mA@8VDC
10	Video output type	LVDS (POC)
11	Image sensor	CMOS OV9706(1/3.8 inch)
12	Pixel size	2.8 um
13	Pixels	1288*728/1945*1109
14	Effective output pixel	1280*720/1920*1080
15	Pixel dynamic range	≥120dB
16	Exposure method	Automatic exposure
17	Shutter type	Electronic Rolling Shutter (ERS)
18	Dot resolution	720P/1080P

3D Full Screen Display Mode



- **360° Around View System:** The 360-degree view is a composite display of the car's surrounding images, stitched together by multiple camera images. So it looks like an image displayed from the top to the entire camera.
- **Screen Conversion:** According to the logic requirements, the screen will be automatically converted.
- **Driving Record Function:** Real-time monitoring, driving environment recording.
- **ADAS Function:** ADAS is the advanced driving assistance system, also known as active safety system, which mainly includes lane departure warning system (LDW), lane keeping system (LKA), traffic sign recognition (TSR), blind spot detection (BSD), night vision system (NV) function.

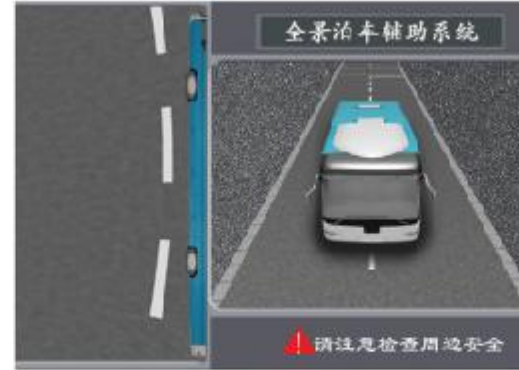
Front view



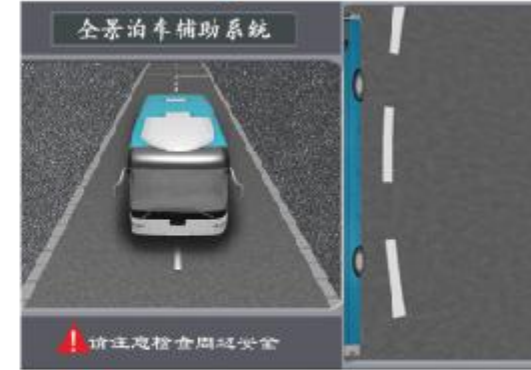
Back view



Left view



Right view



AHD high definition around view driving system

- **More clearer:** Advanced luminance and chrominance separation, signal filtering, 3D noise reduction technology, higher image sharpness, better image reproducibility.
- **Transmission Far:** Using coaxial transmission ordinary 75-5 line up to 500 meters.
- **Zero Delay:** The front-end data is not encoded and compressed to the rear end in time and keeping high-fidelity.
- **High Cost-effective:** Common analog price, high-definition product.
- **High integration:** AHD front-end chip price, high-definition products.

Microwave Radar Blind Spot Detection

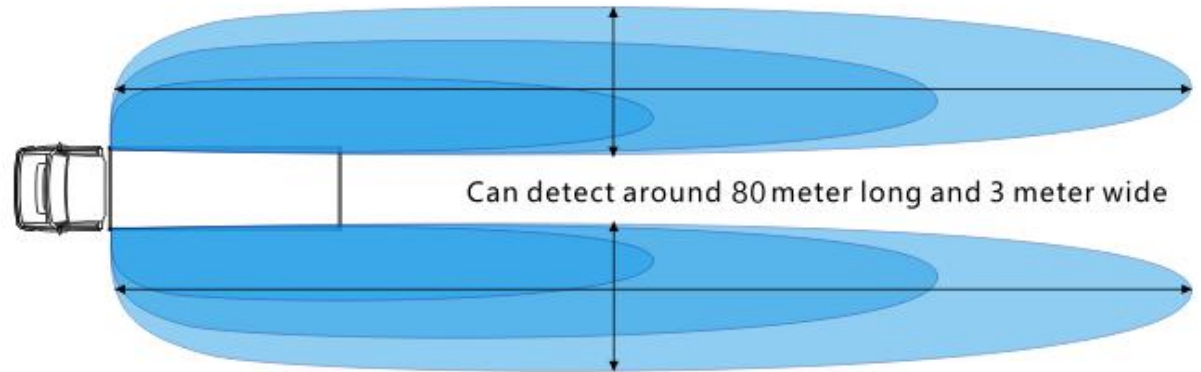


Specification

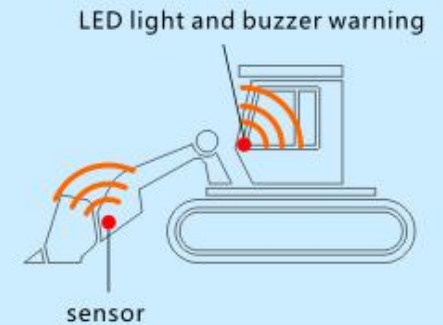
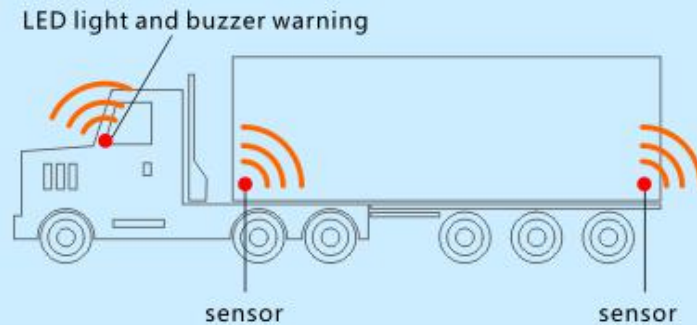
NO	Item	Parameter
1	operating frequency	77GHz
2	Detection range on both sides of the body	3m
3	Vehicle rear Detection range	80m
4	Horizontal Angle	120°
5	Update target rate	33Hz
6	Detection range accuracy	0.36m
7	Detection angle error range	1°
8	Detect the relative velocity error range	±0.25 m/s
9	Alarm relative speed	When the relative speed of the target vehicle and the vehicle is less than 140km/h, the system is working.
10	Detect target minimum speed	the target of the relative speed is over 2.5km/h
11	Operation voltage	9V~16V
12	Power Consumption	<300mA (single)
13	Operation Temperature	-40°C~+85°C
14	Storage Temperature	-40°C~+85°C
15	IP Rating	IP67

Door open anti-collision feature:

When it comes to people get off the car mean while other cars or people from the back are passing by , which will trigger the system to alert by beep sound and indicated light (ref to the figure the car with BSD stop at the side of road, and detect other cars from the back.)

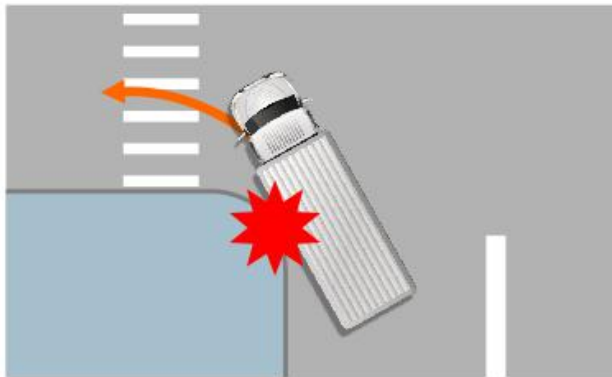


■ Commercial Vehicle Application Example

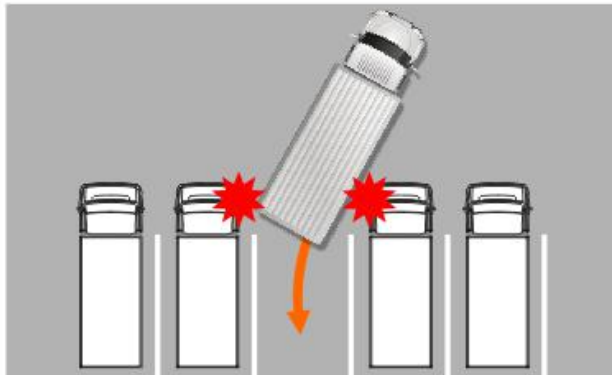


Feature

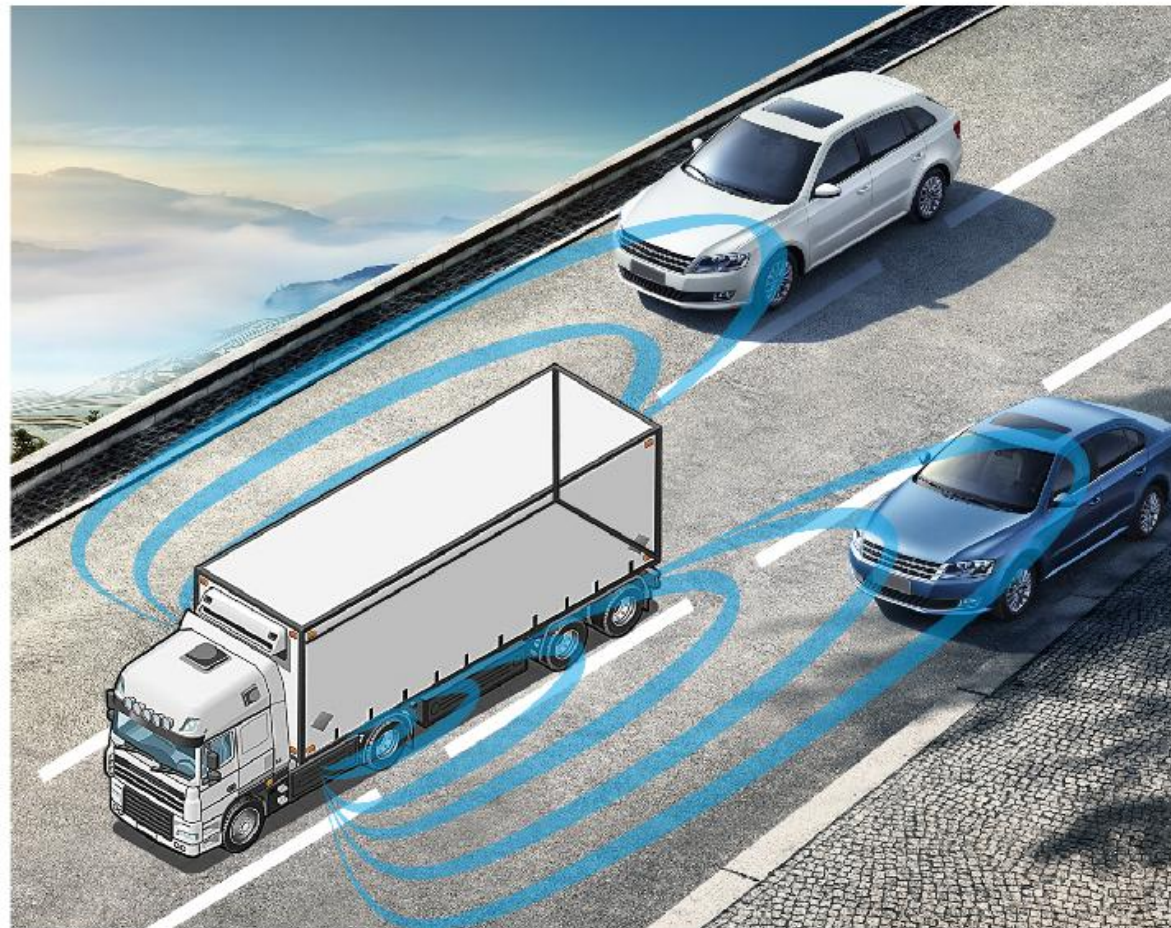
- 77G HZ high performance microwave sensor
- LED light alarm, Sound alarm, Double security
- Detect 3*80m long distance and wide area behind the car
- Open door early warning function
- All-day work, not affected by the weather
- No need to pierce holes, does not affect the appearance of the car



Side collision early warning



Rear collision early warning



HD Monitor

7"

CA-7003B



CA-7049



Display	CA-7003B
Screen size	7"
Dot Resolution	1024(RGB)*600Pixel
TV Mode	PAL/NTSC
Brightness	500cd/m ²
Power supply	DC12V -24V
Contrast	500:1
Operation Temperature	-20~+70℃
Storage Temperature	-30~+80℃

Display	CA-7049 (AHD) 4-way input
Screen size	7"
Dot Resolution	1024(RGB)*600Pixel
TV Mode	PAL/NTSC
Brightness	500cd/m ²
Power supply	DC12V -24V
Video Input	1080P/960P/720P/960H/D1 (CVBS)
Contrast	500:1
Operation Temperature	-20~+70℃
Storage Temperature	-30~+80℃

9"

CA-9049



CA-9004



Display	CA-9049 (AHD) 4-way input
Screen size	9"
Dot Resolution	1024(RGB)*600Pixel
TV Mode	PAL/NTSC
Brightness	500cd/m ²
Power supply	DC12V -24V
Video Input	1080P/960P/720P/960H/D1 (CVBS)
Contrast	500:1
Operation Temperature	-20~+70℃
Storage Temperature	-30~+80℃

Display	CA-9004
Screen size	9"
Dot Resolution	1024(RGB)*600Pixel
TV Mode	PAL/NTSC
Brightness	500cd/m ²
Power supply	DC12V -24V
Contrast	500:1
Operation Temperature	-20~+70℃
Storage Temperature	-30~+80℃

12.3"

12.3 inch rearview monitor

1920X1080px



- Can see clear even its raining
- Reduce the blind area and improve the safety
- Enhance visual field, improve weak light, restrain strong light
- Can record driving process in real time and avoid disputes



DIVERSIFICATION

1920*1080 display resolution
1080P camera or 720p camera access
Double segmentation, double recording,
image does not deform

REAL TIME RECORDING

All day record, recording Whole process
of driving

HIGH-PERFORMANCE

Wide voltage design, maximum output can up to
24V Can provide 12V / 3A current output for the
camera

CUSTOMIZATION FUNCTION

According to the different application to customized
product function by requirements, which make the
product has more characteristics

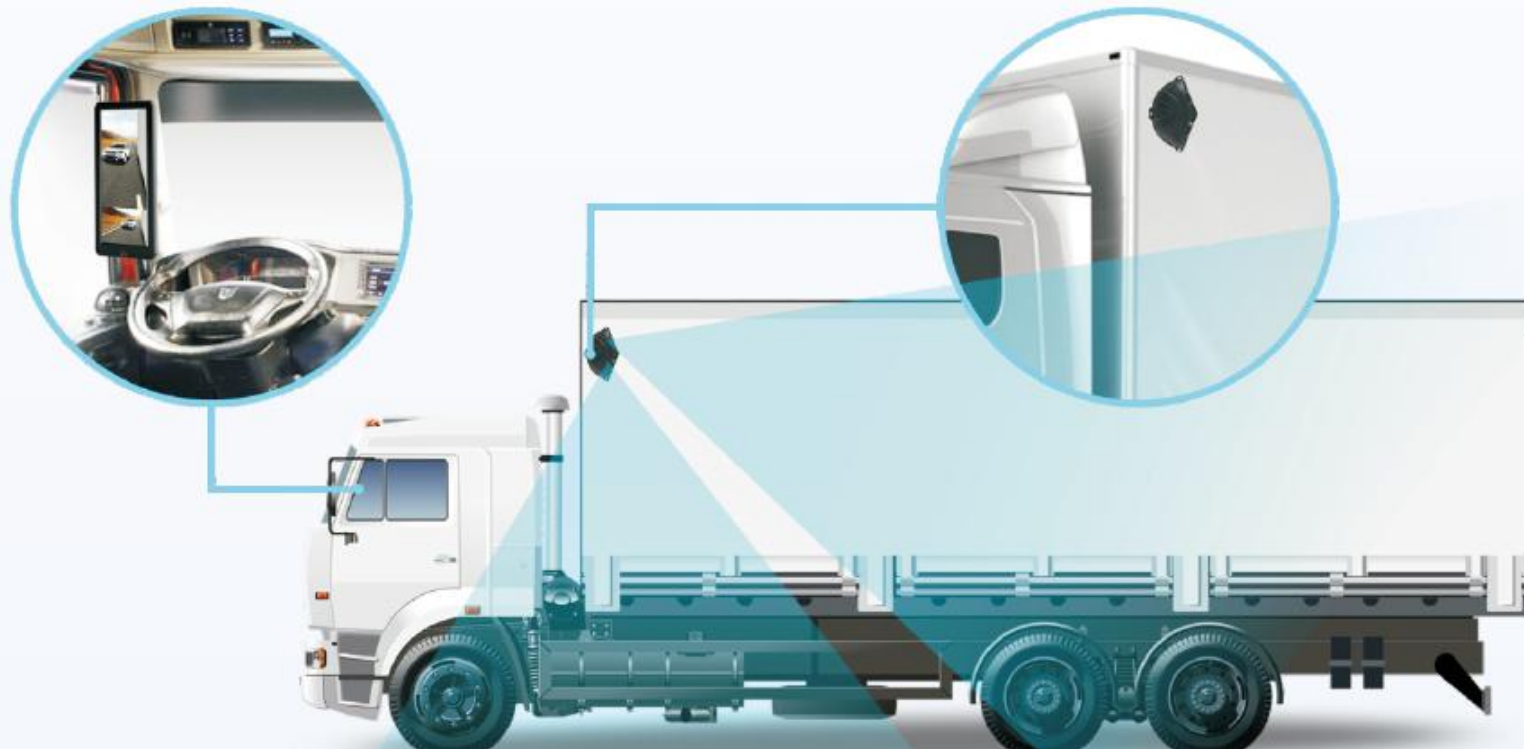




image sensor	SONY IMX307(AHD)
TV mode	PAL/NTSC
Image Sensor	1/2.8 inch
Operation voltage range	DC12V(7.5–16V)
working voltage	94mA ± 10mA
Power Consumption	1.128W DC12 V
Video Output	1.3 ± 0.2Vpp 75Ω
Pixsls	1945*1109
Minimum Lomination	0.01Lux
Signal to Noise Ratio	46dB
Definition	1080p
IP rating	IP67
Operation Temperature	-20°C~ +70°C
Storage Temperature	-40°C~+85°C

Item	Parameter
Monitor Type	TFT
Monitor Size	12.3 inch (8 : 3)
Monitor Resolution	1920 RGB (H) × 720(V)
Image Brightness	700cd/m ²
Image Contrast	1000:1
Visible Range	292.032(H) X 109.512(V)[mm]
Visible Angle	U/D/L/R/ 85/85/85/85
Programme	HI 3520 (V300) HD programme
System Language	Chinese, English, other (customizable)
Video compression format	H.264 Compression Format
OSD	Character overlay function, supporting image overlay such as time and date, channel character, segmentation border, vehicle information, etc.
Video Input	2-way 1080P, 960P, 720P, 960H, D1 (CVBS) video input Compatible with input of CVBS and AHD signals; Compatible with PAL and NTSC mixed input
Memory Card	Support 256G memory card, full disk automatic deletion, cyclic coverage

Power Management	Adaptive wide-band power supply input, with low voltage, over-voltage, reverse short circuit protection functions
Input Voltage	DC:+10.5V~+24V
Output Voltage	+11.5V/3A
Power	MAX 15W
Video Format	PAL&NTSC/AUTO
Language Menu	Languages: Chinese/English
Temperature	-30° C to +70° C
Storage Temperature	-40° C to +80° C

SUITABLE VEHICLE MODEL

BUS、TRUCK、VAN、FORKLIFT、POLICE VEHICAL



Wireless HD system



1CH



2CH



3CH



4CH



Model	CA-7006
Screen size	7"
Dot Resolution	1024(RGB)*600Pixel
Interface	1/2/3/4 Video in
Brightness	500cd/m ²
Power supply	DC12V -24V
Contrast	500:1
Operation Temperature	-20~+70℃
Storage Temperature	-30~+80℃

Model	CA-9880
TV Mode	PAL/NTSC
Image Sensor	1/3.7 inch
Pixls	682*496
Signal to Noise ratio	≥47dB
Operation voltage range	DC12V(6-16V)
Video Output	1 ± 0.2 Vpp 75Ω
IP rating	Ip68
Minimum Illumination	0.4Lux

2.4G Digital Wireless Transmitter Receiver



Specification

	Item	Parameter
Transmitter (TX)	Power supply	11-32V
	Video input	CVBS 1.0VP-P,75 Ω
	Audio input	AUDIO MAX 2VP-P,50 Ω
	TPU cable length	Approx. 400cm
	Dimensions	131 x 100 x 25.6mm
	Weight	0.28KG
Receiver (RX)	Power supply	11-32V
	Video input	CVBS 1.0VP-P,75 Ω
	Audio input	AUDIO MAX 2VP-P,50 Ω
	Pixels	720x576
	TV system	PAL
	Frame rate	25-30 frames/sec
	TPU cable length	Approx. 600cm
	Dimensions	131 x 100 x 25.6mm
Weight	0.28KG	

4 channel 1080p recorder



Can adapt all kind of commercial vehicle

- 1080P
- 8-36V wide voltage
- H.265 compact mode
- Regularly alarm recording
- Double card storage recording
- Double card language intercom
- mobile phone remote monitoring
- Turn off and the delay recording function

Commercial Vehicle Camera

CA-9770



Model	CA-9770	CA-9770
Image Sensor	SONY 225(AHD)	Sony HD Decoding
TV Mode	PAL/NTSC	PAL/NTSC
Image Sensor	1/2.9 inch	1/3 inch 1/4inch
Pixsls	1312*993	PAL 795*596/NTSC 811*508
Signal to Noise ratio	46dB	≥52dB
Operation voltage range	DC12V(6-16V)	DC12V(9-16V)
Video Output	1±0.2 Vpp 75Ω	1±0.2 Vpp 75Ω
IP rating	Ip68	Ip68
Minimum Illumination	0.1Lux	0.3 Lux
Operation Temperature	-20℃~ +70℃	-20℃~ +70℃
Storage Temperature	-40℃~+85℃	-40℃~+85℃

CA-9880



Model	CA-9880	CA-9880
Image Sensor	SONY 225(AHD)	Sony HD Decoding
TV Mode	PAL/NTSC	PAL/NTSC
Image Sensor	1/2.9 inch	1/3 inch 1/4inch
Pixsls	1312*993	PAL 795*596/NTSC 811*508
Signal to Noise ratio	46dB	≥52dB
Operation voltage range	DC12V(6-16V)	DC12V(9-16V)
Video Output	1±0.2 Vpp 75Ω	1±0.2 Vpp 75Ω
IP rating	Ip68	Ip68
Minimum Illumination	0.1Lux	0.3 Lux
Operation Temperature	-20℃~ +70℃	-20℃~ +70℃
Storage Temperature	-40℃~+85℃	-40℃~+85℃



T-132

Model	T-132
Image Sensor	SONY 225(AHD)
TV Mode	PAL/NTSC
Image Sensor	1/2.9 inch
Pixsls	1312*993
Signal to Noise ratio	46dB
Operation voltage range	DC12V(6-16V)
Video Output	1 ± 0.2 Vpp 75Ω
IP rating	Ip68
Minimum Illumination	0.1Lux
Operation Temperature	-20℃~ +70℃
Storage Temperature	-40℃~+85℃

T-145

Model	T-145
Image Sensor	ASX 340
TV Mode	PAL/NTSC
Image Sensor	(1/4" 4:3 IT CMOS)
Pixsls	728*560
Signal to Noise ratio	≥46dB
Operation voltage range	DC12V(3.3-16V)
Video Output	1 ± 0.2 Vpp 75Ω
IP rating	Ip68
Minimum Illumination	1.0Lux
Operation Temperature	-20℃~ +70℃
Storage Temperature	-40℃~+85℃

T-9997**T-9996**

Model	T-9997	CA-9996
Image Sensor	SONY IMX307(AHD)	SONY IMX307(AHD)
TV Mode	PAL/NTSC	PAL/NTSC
Image Sensor	1/2.8inch	1/2.8inch
Pixsls	1945*1109	1945*1109
Signal to Noise ratio	≥46dB	≥46dB
Operation voltage range	DC12V(7.5-16V)	DC12V(7.5-16V)
Video Output	1 ± 0.2 Vpp 75 Ω	1 ± 0.2 Vpp 75 Ω
IP rating	Ip68	Ip68
Minimum Illumination	0.01 Lux	0.01 Lux
Operation Temperature	-20℃~ +70℃	-20℃~ +70℃
Storage Temperature	-40℃~+85℃	-40℃~+85℃

T-008

Model	T-008	T-008
Image Sensor	SONY 225(AHD)	Sony HD Decoding
TV Mode	PAL/NTSC	PAL/NTSC
Image Sensor	1/2.9 inch	1/3 inch 1/4inch
Pixsls	1312*993	PAL 795*596/NTSC 811*508
Signal to Noise ratio	46dB	≥52dB
Operation voltage range	DC12V(6-16V)	DC12V(9-16V)
Video Output	1 ± 0.2 Vpp 75 Ω	1 ± 0.2 Vpp 75 Ω
IP rating	Ip68	Ip68
Minimum Illumination	0.1Lux	0.3 Lux
Operation Temperature	-20℃~ +70℃	-20℃~ +70℃
Storage Temperature	-40℃~+85℃	-40℃~+85℃

CA-096



CCD

IP rating IP 68

Pixels PAL 795*596/NTSC 811*508

Lens Angle(Deg.) 170°

CMOS

IP rating IP 68

Pixels 756*504

Lens Angle(Deg.) 170°

AHD

IP rating IP 68

Pixels 720P/1080P Ultra High definition Night Vision

Lens Angle(Deg.) 170°

CA-088



CCD

IP rating IP 68

Pixels PAL 795*596/NTSC 811*508

Lens Angle(Deg.) 170°

CMOS

IP rating IP 68

Pixels 756*504

Lens Angle(Deg.) 170°

AHD

IP rating IP 68

Pixels 720P/1080P Ultra High definition Night Vision

Lens Angle(Deg.) 170°

CA-050

Image Sensor	Pc3089	Sony HD Decoding
TV Mode	PAL/NTSC	PAL/NTSC
Image Sensor	1/3 inch	1/4inch
Pixsls	756*504	PAL 795*596/NTSC 811*508
Signal to Noise ratio	≥47.1dB	≥52dB
Operation voltage range	DC12V(6-16V)	DC12V(10-16V)
Video Output	1 ± 0.2 Vpp 75Ω	1 ± 0.2 Vpp 75Ω
IP rating	Ip68	Ip68
Minimum Illumination	0.4Lux	0.3Lux
Operation Temperature	-20℃~ +70℃	-20℃~ +70℃
Storage Temperature	-40℃~+85℃	-40℃~+85℃

CA-022

Image Sensor	Pc3089	Sony HD Decoding	SONYCMOS 225(AHD)
TV Mode	PAL/NTSC	PAL/NTSC	PAL/NTSC
Image Sensor	1/3 inch	1/4inch	1/2.9 inch
Pixsls	756*504	PAL795*596/NTSC811*508	1312*993
Signal to Noise ratio	≥47.1dB	≥52dB	46dB
Operation voltage range	DC12V(6-16V)	DC12V(10-16V)	DC12V(6-16V)
Video Output	1 ± 0.2 Vpp 75Ω	1 ± 0.2 Vpp 75Ω	1 ± 0.2 Vpp 75Ω
IP rating	Ip68	Ip68	Ip68
Minimum Illumination	0.4Lux	0.3Lux	0.1Lux
Operation Temperature	-20℃~ +70℃	-20℃~ +70℃	-20℃~ +70℃
Storage Temperature	-40℃~+85℃	-40℃~+85℃	-40℃~+85℃

Passenger vehicle camera

CA-701B



Image Sensor	Pc3089	Sony HD Decoding	SONY 225(AHD)
TV Mode	PAL/NTSC	PAL/NTSC	PAL/NTSC
Image Sensor	1/3 inch	1/4inch	1/2.9 inch
Pixsls	756*504	PAL795*596/NTSC 811*508	1312*993
Signal to Noise ratio	≥47.1dB	≥52dB	46dB
Operation voltage range	DC12V(6-16V)	DC12V(10-16V)	DC12V(6-16V)
Video Output	1±0.2 Vpp 75Ω	1±0.2 Vpp 75Ω	1±0.2 Vpp 75Ω
IP rating	Ip68	Ip68	Ip68
Minimum Illumination	0.4Lux	0.3Lux	0.1Lux
Operation Temperature	-20℃~ +70℃	-20℃~ +70℃	-20℃~ +70℃
Storage Temperature	-40℃~+85℃	-40℃~+85℃	-40℃~+85℃

CA-959



Image Sensor	Pc3089	Sony HD Decoding	SONY 225(AHD)
TV Mode	PAL/NTSC	PAL/NTSC	PAL/NTSC
Image Sensor	1/3 inch	1/4inch	1/2.9 inch
Pixsls	756*504	PAL795*596/NTSC811*508	1312*993
Signal to Noise ratio	≥47.1dB	≥52dB	46dB
Operation voltage range	DC12V(6-16V)	DC12V(10-16V)	DC12V(6-16V)
Video Output	1±0.2 Vpp 75Ω	1±0.2 Vpp 75Ω	1±0.2 Vpp 75Ω
IP rating	Ip68	Ip68	Ip68
Minimum Illumination	0.4Lux	0.3Lux	0.1Lux
Operation Temperature	-20℃~ +70℃	-20℃~ +70℃	-20℃~ +70℃
Storage Temperature	-40℃~+85℃	-40℃~+85℃	-40℃~+85℃

Universal camera

T-205



AHD

IP rating	IP 68
Pixsls	1945*1109
Lens Angle (Deg.)	170°
Image Sensor	1/2.8inch
TV Mode	PAL/NTSC
Video Output	1 ± 0.2 Vpp 75Ω
Signal to Noise ratio	≥46dB

T-206



AHD

IP rating	IP 68
Pixsls	1945*1109
Lens Angle (Deg.)	170°
Image Sensor	1/2.8inch
TV Mode	PAL/NTSC
Video Output	1 ± 0.2 Vpp 75Ω
Signal to Noise ratio	≥46dB

T-207



AHD

IP rating	IP 68
Pixsls	1945*1109
Lens Angle (Deg.)	170°
Image Sensor	1/2.8inch
TV Mode	PAL/NTSC
Video Output	1 ± 0.2 Vpp 75Ω
Signal to Noise ratio	≥46dB

T-208



AHD

IP rating	IP 68
Pixsls	1945*1109
Lens Angle (Deg.)	170°
Image Sensor	1/2.8inch
TV Mode	PAL/NTSC
Video Output	1 ± 0.2 Vpp 75Ω
Signal to Noise ratio	≥46dB

CA-203



CMOS

IP rating	IP 68
Pixsls	756*504
Lens Angle (Deg.)	170°
Image Sensor	1/3 inch
TV Mode	PAL/NTSC
Video Output	1 ± 0.2 Vpp 75Ω
Signal to Noise ratio	≥47.1dB

CA-508



CMOS

IP rating	IP 68
Pixsls	756*504
Lens Angle (Deg.)	170°
Image Sensor	1/3 inch
TV Mode	PAL/NTSC
Video Output	1 ± 0.2 Vpp 75Ω
Signal to Noise ratio	≥47.1dB

THANK YOU