

Radar ANPR System Installation Manual

Overseas Business Center



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Radar ANPR System (radar detection and radar video switch) Installation Manual

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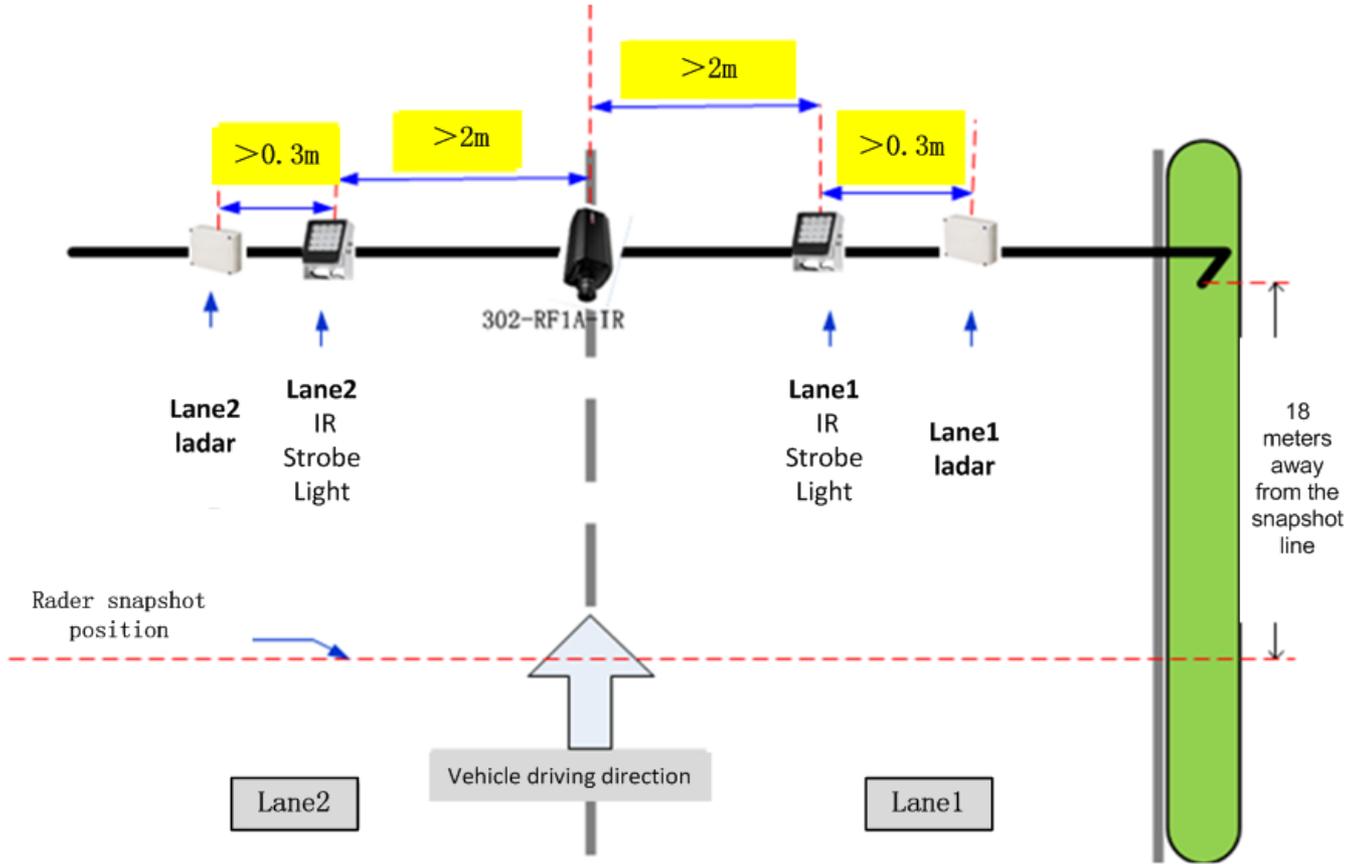
2.1 System Composition

- 3MP Front-end System composition (Two lanes)

No.	Device Name	Model	Q'ty	Note
1	HD Camera	DHI-ITC302-RF1A-IR	1	
2	16mm HD Fixed-focal Lens	OPT-11C16M-MP	1	C port
3	Ladar	DHI-ITARD-024SA	2	One per each lane
4	Power adapter	AC90~300V-DC12V/40W-V	2	Power for ladar
5	IR strobe light	DHI-ITALE-080BA-IR7-P	2	One per each lane
6	Housing	DHI-ITABX-018BA	1	
7	Front-end storage device	DHI-ITSE0804-GN5B-D	1	Support Max 12 HD cameras、 4 analog cameras; With Max four 3.5 " /2.5 " Hard Disks.

2.2 System Installation

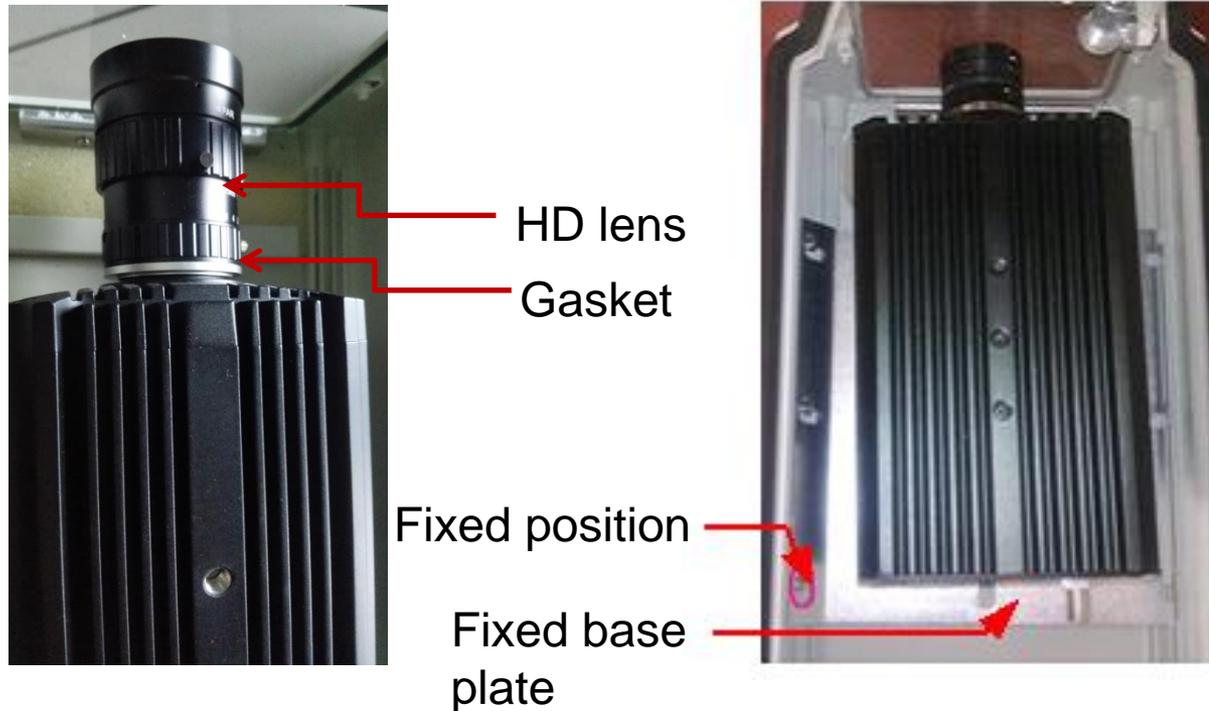
- Radar, camera and strobe light Installation planform



- Note: 080 strobe light 2m away from camera; Ladar 0.3m away from other devices .

300Mega camera System Installation

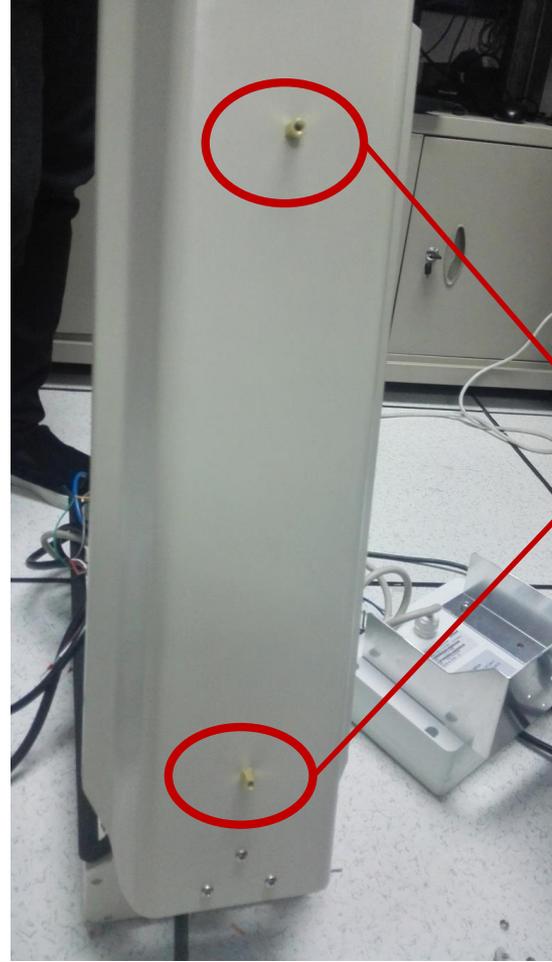
- Fix the camera



- Please note that the distance between the lens and cover glass, if the distance is too large, the vehicle's headlights at night will reflect on the glass, which can lead to form a "light" in the picture, affect image quality. So, appress the lens to the glass to the greatest extent.

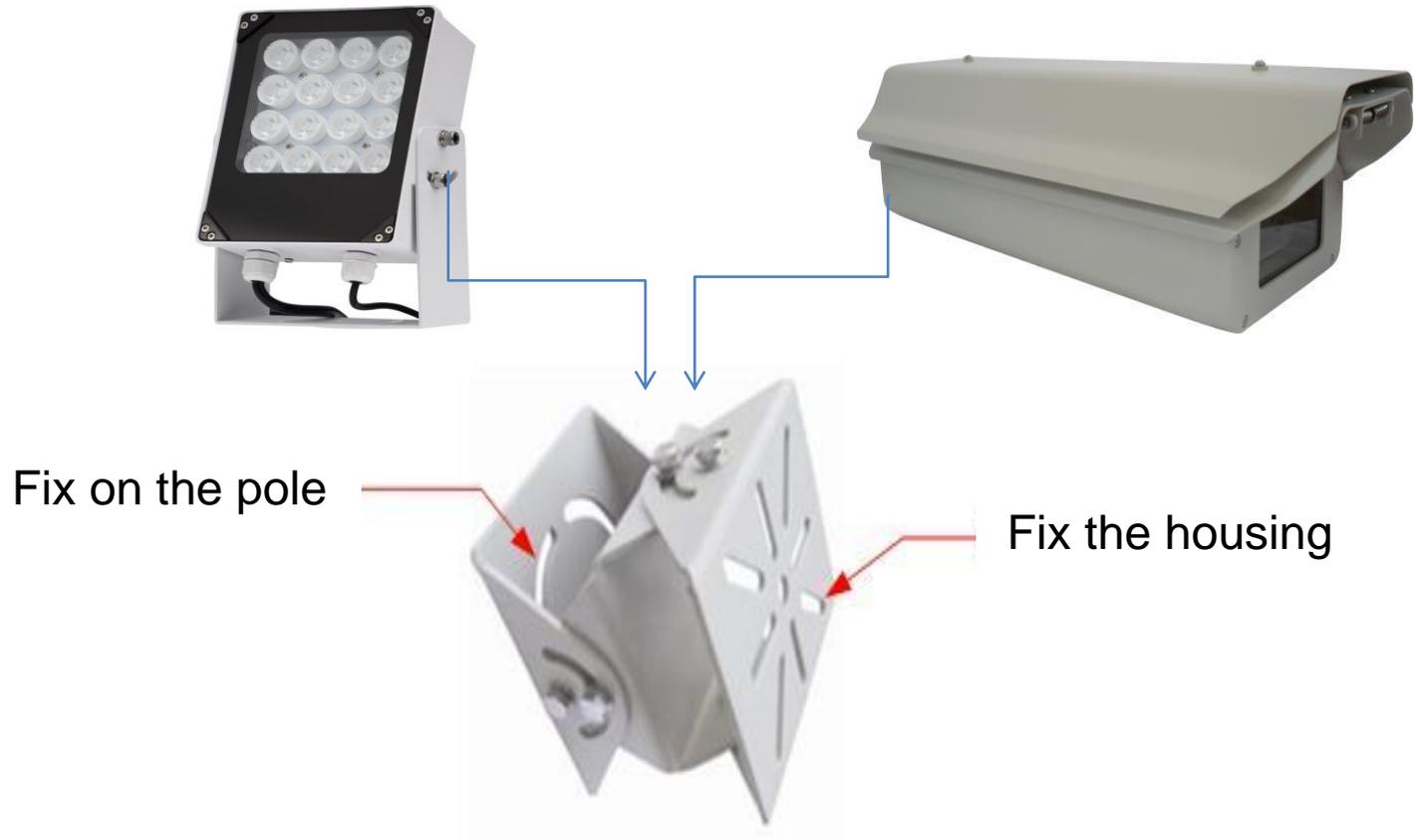
- Fix the camera

Fix the camera
on the plate



Install the
thermal-
protective
coating

- Fix housing and LED lamp

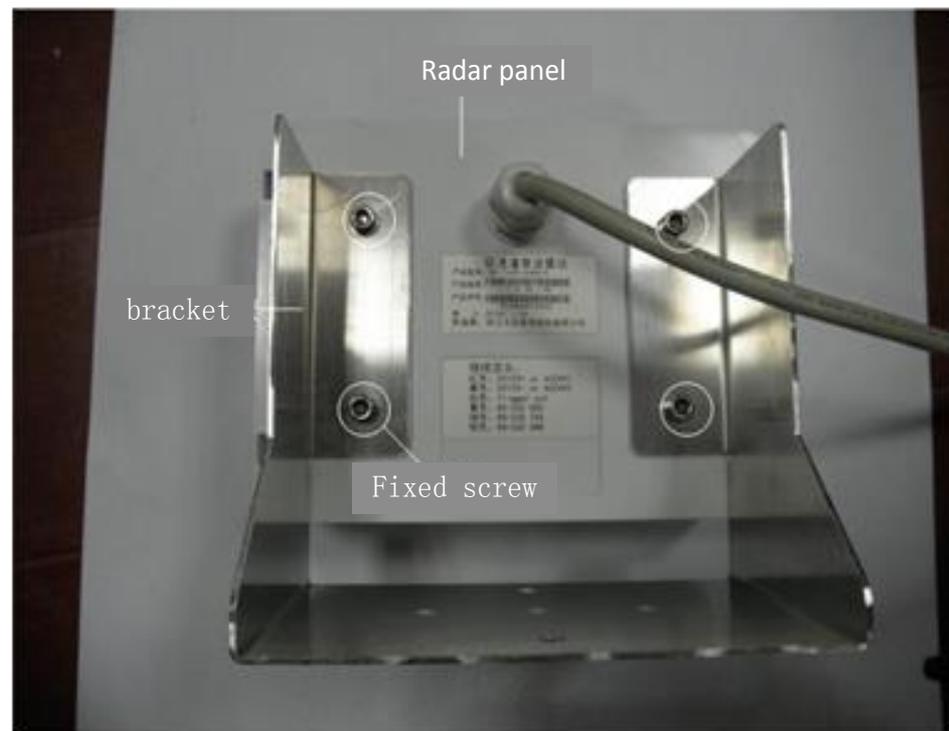


Universal joint is divided into two sides, one side is used to install the housing or lamp, the other side is fixed on the pole

- Radar Installation (1)



Radar Bracket



Bracket Fixed

- Radar Installation (2)

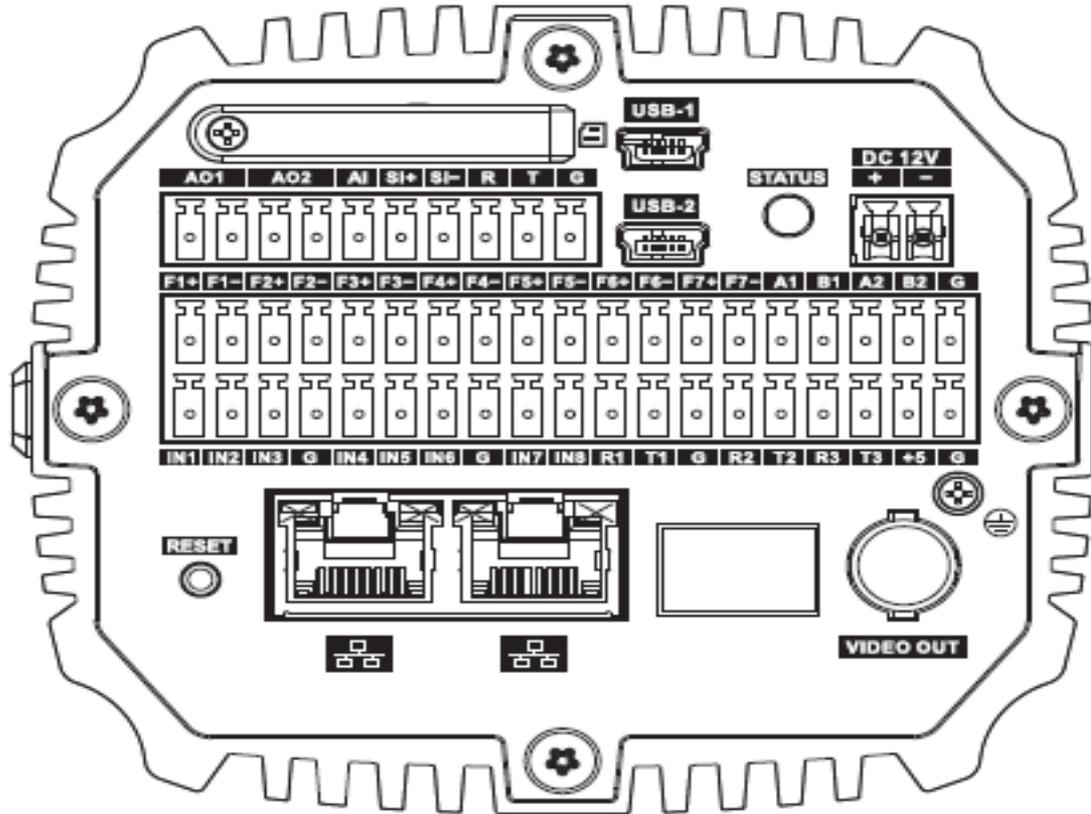


Radar Bracket



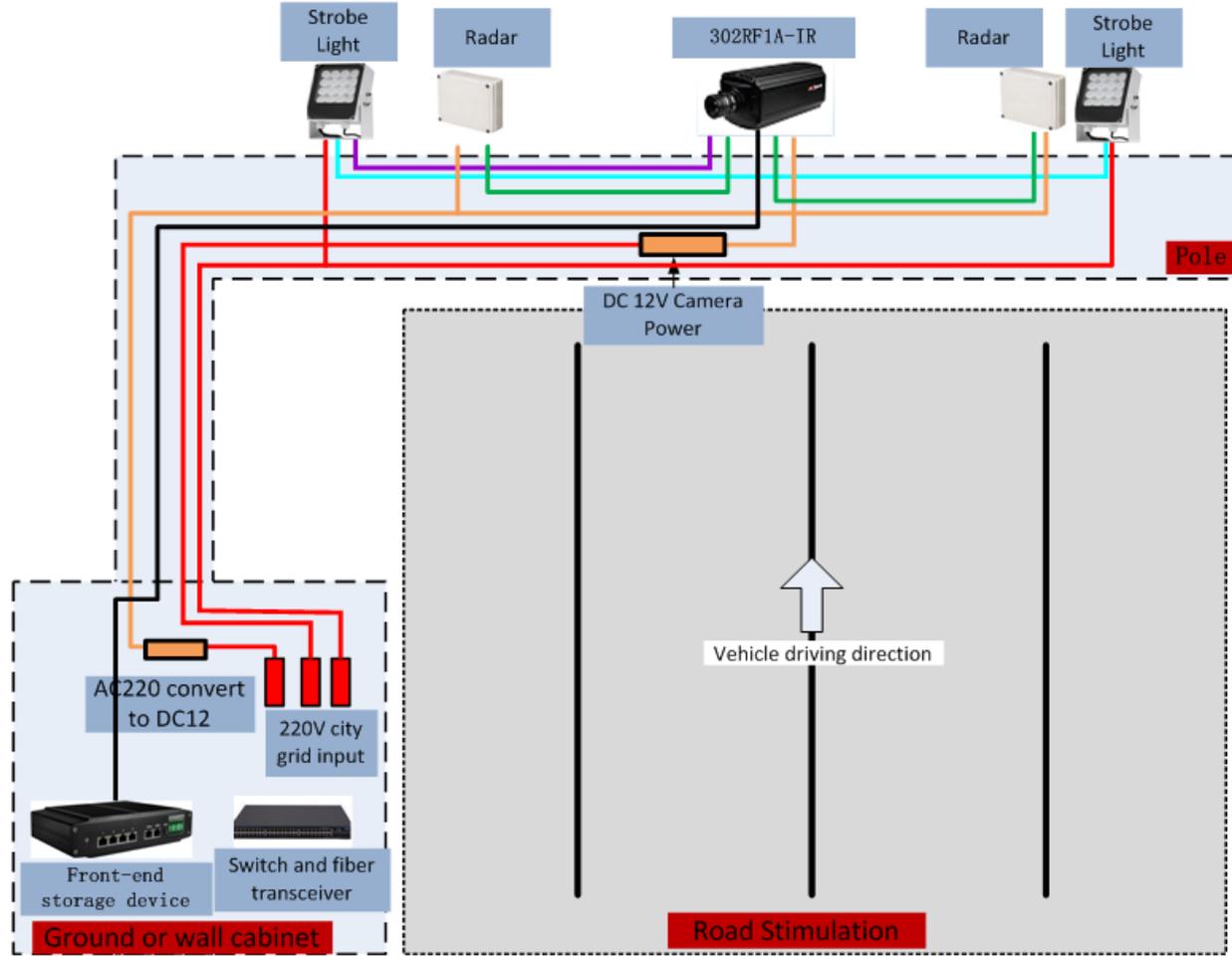
Fixed Radar bracket and 8018 bracket

- Camera Rear Panel interface



A、B—RS485 interface , external signal detectors, vehicle detector and so on ; F1-7—strobe light interface ; R1-3、T1-3、G —RS232 (Radar)

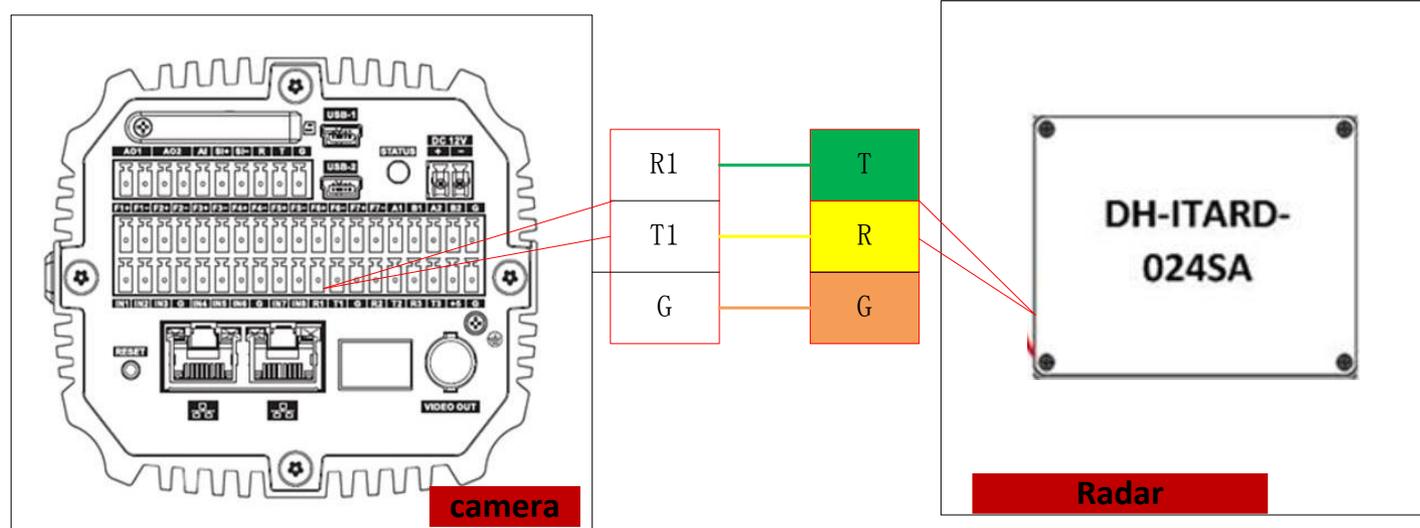
• System Wiring (1)



Note:

Power line	Network line	Strobe sync line	AC220 convert to DC12
Strobe Cascading line	Radar signal extension line		

• System Wiring (2)

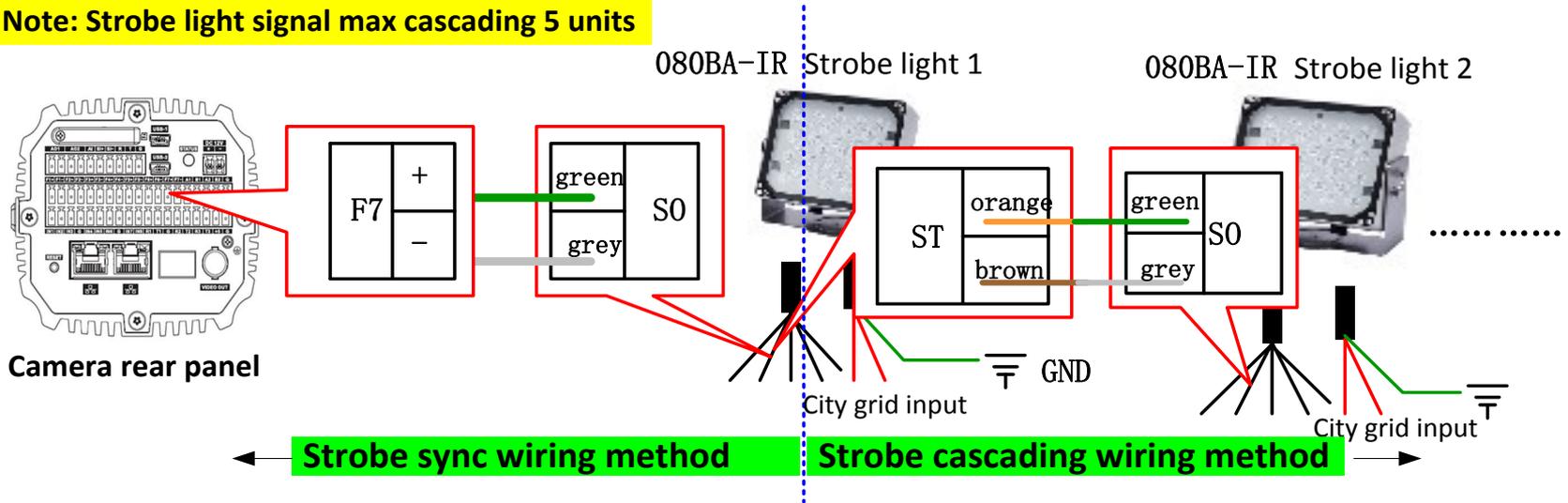


Radar Side		Wire	Host Side
Line color	Terminal		Terminal
Yellow	RXD	↔	TXD
Green	TXD	↔	RXD
Brown	GND	↔	GND

Connection structure between Radar and Camera

• System Wiring (3)

Note: Strobe light signal max cascading 5 units



Strobe light wiring

- System Wiring

Line type	Line specification	Line function	quantity
Camera power line	RVV3*1.5 ²	cabinet led to the corresponding installation rod hole	1
Strobe light power line	RVV3*1.5 ²	cabinet led to the corresponding installation rod hole	1
Network line	Outdoor super five types of copper wire twisted pair	cabinet led to the corresponding installation rod hole	1

3.3 System Testing

- Strobe Light Testing

Adjust the lighting Angle to make the strongpoint of light on the head of the car , and make the license plate won't excessive exposure, if license plate still exposure, Angle to fine tune.

- Lens testing

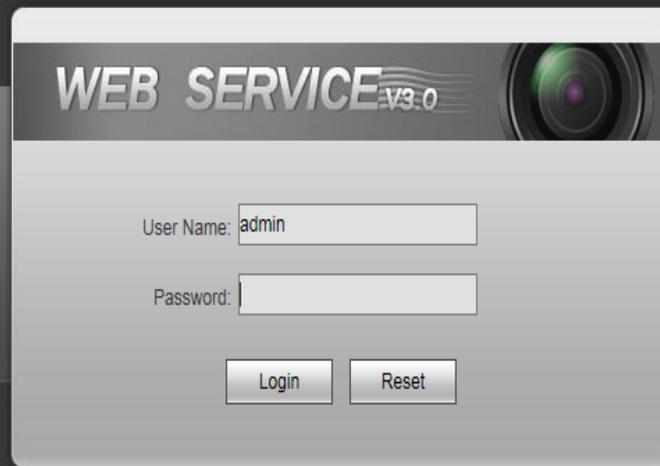


Fixed focal lens has two rotary knobs, the inner is aperture rotary knob, the outer is focus rotary knob. Firstly, adjust the aperture, make sure the brightness of the picture is suitable, then, adjust the focus rotary knob until the picture is clear. At last, lock the focus rotary knob and aperture rotary knob

Aperture rotary knob

Focus rotary knob

- Camera Debugging (1)

A screenshot of a web browser showing a login form titled "WEB SERVICE v3.0". The form has a header with the title and a camera lens icon. Below the header, there are two input fields: "User Name:" with the text "admin" entered, and "Password:". At the bottom of the form, there are two buttons: "Login" and "Reset".

WEB SERVICE v3.0

User Name:

Password:

Log in the WEB browser, enter the Camera IP address in the address bar, (address 1: 192.168.1.108, address 2 : 192.168.0.108), user name: admin; Password: admin.

• Camera Debugging (2)

WEB SERVICE v3.0

- Live
- Playback
- Query
- Setup
- Alarm
- Logout

ITC

- > Lane Property
- > Traffic Flow
- > Snapshot
- > Intelligent
- > Intelligence Default
- > Extra Device
- > Snap Mosaic
- > Snap Cutout
- > OSD Config

Camera

Network

Event

Storage

System

Information

RS485/IO	Radar	Video Analyse
<input checked="" type="checkbox"/> Enable Radar		
COM SET		
COM Port	COM1 (Lane1)	
Radar Type	RD-024S-T	
Data Bits	8	
Stop Bits	1	
Baudrate	9600	
Check Mode	None	
RD-024S-T		
Enable Lane 1 2 3		
Enable Lane <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>		
Work Mode	Single	
Interval	200 ms(0~65535)	
DetectMode	Approaching Forward	
Angle	20 °(0~45)	
Sensitivity	3	
Trigger Speed	100 km/h(1~255)	
Pre Speed Wait	0 ms(0~10000)	
Delay Speed Wait	0 ms(0~10000)	
Default Refresh Save		

Parameter	Function
Enable radar	If select this function, radar function will be on.
Serial no.	Select corresponding serial, serial 1/2/3 correspond to lane 1/2/3 respectively.
Data bit	Cannot set and the default is 8.
Stop bit	Cannot set and the default is 1.
Baud rate	9600

Work mode	send once, send continuously and manually send Optional .choose send once.
Min interval	Defult 200
Angle	Angle between radar beam and vehicle moving direction.
Sensitivity	Defult 3

• Camera Debugging (3)

WEB SERVICE v3.0

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- ▶ Camera
- ▶ Network
- ▶ Event
- ▶ Storage
- ▶ System
- ▶ Information

Lane Property

1 2 3 4 5

SnapEnable Related Record

Working Road General Road BV In Road Limit 60 km/h(0~180) ~ 120 km/h(0~180)

Roadway Code For Size

Route Code Low SpeedLimit 20 km/h(0~180) - 0 km/h(0~180)

Lane 1 High SpeedLimit 70 km/h(0~180) + 0 km/h(0~180)

Customized Lane No. 1 WhiteLine Sensitivity - + 5

Direction

↑ ↶ ↷ ↵

CarWay Type Small Lane

Left Lane Line Type Solid White Line

Right Lane Line Type Solid White Line

RoadDirection South To North

Illegal Type Config

Event Type	Snap Amount	Video Analyse	RS485/IO	Radar	Advance Config
<input checked="" type="checkbox"/> ANPR	1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<input checked="" type="checkbox"/> Over WhiteLine	2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<input checked="" type="checkbox"/> Retrograde	2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

Parameter	Function	Parameter	Function
Enable snapshot	Select lane to enable. The no. corresponds to actual lane no.	vehicle direction	Set vehicle direction.
Working road	Select road type.		
Lane	Select lane to snapshot.	Lower limit	Set lower speed limit.
Customized lane no.	Set different no. for each lane.		
Direction	Select lane direction to snapshot.	Upper limit	Set upper speed limit.

Event	Function	Note
ANPR	Select snapshot ANPR vehicle.	
Retrograde	Choose whether to capture retrograde vehicles.	Invalid for Radar detection mode
Under Speed	Choose whether to capture less speed vehicles.	
Over Speed	Choose whether to capture speeding vehicles.	

- Camera Debugging (4)

ITC

> Lane Property

> Traffic Flow

> Snapshot

> Intelligent

> Intelligence Default

> Extra Device

> Snap Mosaic

> Snap Cutout

> OSD Config

Camera

Network

Event

Storage

System

Information

Snapshot

General Setup

Work Mode

Auto Current : Video

Manual

Speed Adjust

Max Speed km/h (0-180)

Frame Mode

Frame Interval

Self-adpative

0km/h ≤ LowSpeed < ≤ MediumSpeed ≤ < Highspeed ≤ 180km/h

LowSpeed Interval

MediumSpeed Interval

HighSpeed Interval

Snap Match Mode

Refresh

Save

Parameter	Function
Work Mode	<p>Select auto or manual mode. Manual mode includes video trigger and coil trigger.</p> <p>Note: Under auto mode, there is switch between video detect and RD485. When PR485 is abnormal, switch to video detect. IO does not support auto mode.</p>
Max Speed	The maximum speed supported by the device speed.
Snap Match Mode	<ul style="list-style-type: none">● Common mode: The default mode, it will flash when the linkage capture.● Priority mode: In this mode, triggered by the video capture will not detect linkage flash.

• Camera Debugging (5)

WEB SERVICE v3.0

Live Playback Query Setup Alarm Logout

ITC

RS485/IO

Radar

Video Analyse

Video Analyse

Scene Setup

Speed Measuring

Recognition

Advance Config



Direction Vehicle Head Vehicle Rear

Region

LaneLine

Detect

Redraw

Virtual Lane	Physical Lane	Left Lane Line Type	Right Lane Line Type	Setup	Edit	Delete
LaneLine1	Lane1	Solid White Line	Solid White Line			

Refresh

Save

Parameter	Function	Parameter	Function
Virtual lane	Select virtual lane no. according to actual condition.	Region	Set detect region. Select and click on redraw to drawn region as green box.
Lane line	<ul style="list-style-type: none"> • Draw lane according to actual condition. • Each lane requires two lines. • Arrow of lane represents moving direction. • Select and click on redraw to drawn region as blue box . • You can only draw in up/down direction. 	Detect line	<ul style="list-style-type: none"> • Draw border line to trigger snapshot which is similar to actual coil. When vehicle reach this line, snapshot will be triggered. • Detect line is available inside drawn region only. • Select and click on redraw to drawn region as red box
Front/Rear	When you select front, lane arrow is downward. When you select rear, lane arrow is upward. These are vehicle moving direction with different representations.		

- Camera Debugging (6)

WEB SERVICE v3.0

Live

Playback

Query

Setup

Alarm

Logout

RS485/IO

Radar

Video Analyse

Video Analyse

Scene Setup

Speed Measuring

Recognition

Advance Config

Vehicle Sign

Vehicle Type

SunShade Detect

CarSeries Detect

DriverFace Detect

SafeBelt Detect

Plate Size(Unit:Pixel)

Min Width Max Width (50-240)

Min Height Max Height (10-100)

Non-Motor Category

UnlicensedMotor Category

Analyse Mode

Refresh

Save

ITC

> Lane Property

> Traffic Flow

> Snapshot

> Intelligent

> Intelligence Default

> Extra Device

> Snap Mosaic

> Snap Cutout

> OSD Config

Camera

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Parameter	Function
Non-motorized vehicle snapshot	Select this parameter to snapshot non-motorized vehicle.
Unlicensed motor category	Select this parameter to snapshot unlicensed motors.
Plate size	Set min width, max width, min height, and max height of plate. Only min width and max width are valid.

• Camera Debugging (7)

WEB SERVICE V3.0

- Live
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- ITC
- Camera
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- Information

General | Shutter | Iris | Light Config | Metering Zone



2015-10-22 14:28:11

Brightness

Contrast

Hue

Saturation

Day&Night Mode:

Blue Plate: ON OFF

ICR Switch:

Rotate:

Sync Signal: Inner Sync Outside Sync

Day Phase

Night Phase

Parameter	Function	Parameter	Function
Brightness、 Contrast、 Hue、 Saturation	<p>Brightness: The value adjusts brightness of full image. Default value is 50.</p> <p>Contrast: The value adjusts contrast of full image. Default value is 50.</p> <p>Hue: The value adjusts hue of image. Default value is 50.</p> <p>Saturation: The value adjusts saturation of image. Default value is 50.</p>	Sync signal	Default : Outside Sync
		Day/Night mode	Default : Color
		Rotate	默认: No Rotate

• Camera Debugging (8)

WEB SERVICE v3.0

Live Playback Query Setup Alarm Logout

- ▶ ITC
- ▶ Camera
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- ▶ System
- ▶ Information

General
Shutter
Iris
Light Config
Metering Zone



Shutter Mode

Single Shutter

Double Shutter Full FPS

Video Shutter ▼

Exposure Mode

Auto

Manual 1/50

Value 15.00 ms (0~40)

Range 15.00 ~ 6.00 ms (0~40)

Gain Mode

Auto Gain 0 ~ 60 (0~100)

Fixed Gain 60 (0~100)

Scene Mode

Disabled

Auto Full Auto

Customized Home

Snap Shutter ▲

Parameter	Function	Parameter	Function
Shutter mode	single shutter and double shutter optional; Choose: double shutter, Half FPS.	Exposure mode	Video shutter : 0~10. Snapshot shutter: 0~3.
Gain mode	Video gain : 20 Snapshot gain: 20	Scene mode	Default: auto

- Camera Debugging (9)

- ITC
- Camera
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- System
- Information

General Shutter Iris **Light Config** Metering Zone

Port1	<input checked="" type="radio"/> Flash Lamp <input type="radio"/> Frequency Lamp	Port2	<input checked="" type="radio"/> Flash Lamp <input type="radio"/> Frequency Lamp
Port3	<input checked="" type="radio"/> Flash Lamp <input type="radio"/> Frequency Lamp	Port4	<input checked="" type="radio"/> Flash Lamp <input type="radio"/> Frequency Lamp
Port5	<input checked="" type="radio"/> Flash Lamp <input type="radio"/> Frequency Lamp	Port6	<input checked="" type="radio"/> Flash Lamp <input type="radio"/> Frequency Lamp
Port7	<input type="radio"/> Flash Lamp <input checked="" type="radio"/> Frequency Lamp		

Flash Lamp

Work Mode: ▾

Pulse Width: us(0 ~ 5000)

Delay Time: us(-1000 ~ 60000)

Burst Mode: ▾

Frequency Lamp

OutputMode: ▾

Delay Time: -3.0~6.0ms

Pluse Width: 0.0~6.0ms

Freq: ▾ HZ

Default Refresh Save

Parameter	Function
Output Mode	Select frequency mode. Including: OFF: disabled Always: Always ON. Auto: According to brightness turn on/off.
Delay Time	Usually set to -0.2.
Pulse Width	Set strobe pulse width value, the larger the width, strobe brighter. Usually set to 5.
Frequency	100 as the active mode, 50 to passive mode

Note: Strobe light default interface is F7, It need to set if want to use F1-F6.

A&Q
Thanks !