PICTOR®

T98 AI
DUAL CHANNEL
Product Manual

Contents

1.Product Description

1.1 Product Overview

The H20P is a comprehensive automotive active safety product integrating satellite positioning, video monitoring, and active safety features. Designed for fleet monitoring, management, driving safety, and standardized driving behavior, it incorporates advanced algorithms such as Advanced Driver Assistance Systems (ADAS) and Driver Monitoring Systems (DMS). It enhances traffic safety and efficiency in complex driving scenarios while improving user experience.

The product complies with JT/T 808 and JT/T 1078 standards, meeting the needs of ride-hailing, taxi, and logistics fleets for video monitoring and driving behavior management.

1.2 Product Diagram

1.3 Package Contents

The package includes:

1、H20P device (dual recording)

2、Power cable，SOS cable

3、TF card bracket with small screws x 2

4、SIM card tray

5、Camera mounting screws x 2

H20P Device(dual recording)	
Power Cable， SOS cable	 
Accessories: (TF card bracket, small screws x 2, SIM card tray, camera mounting screws x 2)	

2.Hardware Specifications

2.1 Motherboard Detailed Specifications

Item		Description
System	OS	Linux
Storage	RAM	Embedded 1Gb DDR3L
	ROM	128Mb SPI NOR Flash
	TF Card	Single slot (supports up to 512GB)
Function Interface	Camera 1	MIPI，1080P/25fps
	Camera 2	MIPI，1080P/25fps，with light sensor and IR switching
	4G	FPC antenna
	GPS/BD	Built-in positioning antenna
	WIFI	IEEE802 b/g/n，built-in FPC antenna
	G-sensor	3-axis
	Speaker	1.1W/8Ω，1.25mm pitch socket
	MIC	Onboard
	SOS Button	1channel
	Relay(fuel/ power cut-off)	1channel(reserved)
	Indicators	Recording, network, positioning status
	Power Input	DC 9~36V

2.2 LED Indicators

The table below shows the status of the LED：

LED	Color	State	Description
Recording	Purple/Blue/Red	Off	Power off
		Purple	Device powered on/updating
		Blue	System running (no recording)
		Red (steady)	Normal recording
Network	Yellow	Off	No 4G signal
		Blinking	4G signal detected but not connected to platform
		Steady	4G signal connected to platform
Positioning	Green	Off	No positioning signal
		Blinking	Positioning signal detected but not locked
		Steady	Positioning signal locked

3.Device Features

3.1 Product Highlights

- Highly integrated design with built-in positioning antenna, 4G antenna, and dual 1080P cameras for easy installation.
- Linux OS with 4G connectivity and satellite positioning.
- Support dual-channel 1080P recording (front and cabin).
- Comply with JT/T 808+JT/T 1078 standards.
- Support real-time video, playback, emergency alerts, and TTS text messages.

- Feature ADAS/DMS AI algorithms.
- Support up to dual 1080P recording (algorithm-enabled version supports 2 channels of 720P).
- Support dual IP reporting.

3.2 Functional Description

Function		Description
Positioning	Location Reporting	Timed reporting
Recording	Video Recording	Local video recording
Alerts	Overspeed Warning	Vehicle speed is below the maximum speed but meets the overspeed warning threshold
	Overspeed Alarm	Vehicle speed exceeds the maximum speed
	Emergency Alarm	Triggered by pressing the emergency alarm button
	Manual Confirmation Alarm	Support
Parameter Query	Query Terminal Attributes	Terminal parameters, including online IP, port, etc.
Parameter Settings	Set Terminal Parameters	Terminal attributes, including terminal type, terminal model, etc.
Upgrade	Remote Upgrade	Support
	Text Information	Set command parameters, including FTP remote upgrade,

	Dispatch	parameter modification, etc.
Multimedia	Instant Capture	Remote Photo Capture
	Multimedia Upload	Support
	Multimedia Retrieval	Support
Audio & Video	Real-time Video	Support
	Video Playback	Support
	Audio & Video Download	Support
	Intercom	Support
	Listening	Support
Other	Geofence settings	Support

4.AI Functions

The device utilizes machine vision technology based on video analysis to automatically identify road hazards and unsafe driving behaviors. Any detected events will trigger audible alerts to warn the driver in real-time, while simultaneously synchronizing these events to the platform.

Note: The AI functions must be calibrated and configured according to the installation instructions. Otherwise, the accuracy of AI performance may be compromised.

Algorithm Alert Trigger Condition: Activation speed >30 km/h.

Field Testing: Ensure the device GPS has achieved positioning lock and is using GPS speed data.

Indoor Testing: Turn on the device’ s WiFi hot spot — connect your phone to the hot spot (the name is the device’ s IMEI number), password: 12345678. On your phone’ s browser, enter the address 192.168.169.1/set to access the AI settings. Set the simulated speed to 60. Make sure the device camera is facing a human face. The simulated speed takes effect immediately after setting, but will revert to using GPS speed after a reboot.

4.1 ADAS Features

Alarm Priority: Forward collision > Pedestrian collision > Car distance too close > Lane departure.

When multiple alarms are triggered simultaneously, the system will follow the priority order to issue alerts. A higher-priority alarm can override and interrupt the voice alert of a lower-priority alarm.

4.1.1 Forward collision alarm

Function: During driving, the system continuously detects the relative speed between the vehicle and the one in front. It alerts the driver when a potential collision is detected to ensure sufficient emergency braking time.

Trigger Conditions: A warning is issued when the vehicle speed exceeds the minimum warning threshold, there is a vehicle directly ahead in the

driving path, and the estimated time to collision is less than the safe collision time.

Minimum Warning Speed (km/h): Default value >30.

Sensitivity: High / Medium / Low (default: Medium)

Voice Alert: "Watch out for the vehicle ahead."

4.1.2 Pedestrian collision alarm

Function: During driving, the system continuously detects pedestrians, bicycles, and motorcycles in front of the vehicle. If there is a potential risk of collision, it alerts the driver to ensure sufficient emergency braking time.

Trigger Conditions: A warning is issued when the vehicle speed is within the warning speed range and a pedestrian is detected within 5 meters directly in front of the vehicle.

Minimum Warning Speed (km/h): Default range: 10-60.

Sensitivity: High / Medium / Low (default: Medium)

Voice Alert: "Watch out for pedestrians."

4.1.3 Lane departure alarm

Function: Detect lane departure behavior in real-time during driving. If unintentional lane departure is detected, the system will alert the driver to ensure driving safety.

Trigger Conditions: The vehicle's speed exceeds the minimum warning speed. No turn signal is activated (if signal access is available). The vehicle deviates from the center of the lane and crosses a clearly visible lane marking.

Minimum Warning Speed (km/h): Default value: >30 km/h.

Sensitivity: High / Medium / Low — default is Medium.

Voice Alert: "Lane departure."

4.1.4 Car distance too close alarm

Function: When the vehicle is traveling at a low speed, it detects the relative speed between the host vehicle and the preceding vehicle. If there is a potential risk of collision, it alerts the driver to maintain a safe distance.

Minimum warning speed (km/h): 1-30.

Sensitivity: High, Medium, Low; default is Medium.

Voice prompt: "Close distance."

4.2 DMS Features

Alarm Priority: Fatigue driving > Phone call > Distracted driving > Smoking.

When multiple alarms occur simultaneously, the alarm is triggered based on the priority of the alarm type. A higher-priority alarm can override the voice prompt of a lower-priority alarm.

4.2.1 Fatigue driving alarm

Function: Detects the driver's fatigue state (such as eye closing, yawning) and issues a warning to ensure driving safety.

Minimum warning speed (km/h): Default value >30.

Sensitivity: High, Medium, Low, default is Medium.

Voice prompt: Please take a rest.

4.2.2 Distracted driving alarm

Function: Detects the driver's behavior of not looking at the road ahead (such as looking left or right, looking down for something, etc.) while driving and issues an alarm to ensure driving safety.

Minimum warning speed (km/h): Default value >30.

Sensitivity: High, Medium, Low, default is Medium.

Voice prompt: Please focus on driving.

4.2.3 Smoking alarm

Function: Detects the driver's smoking behavior while driving and issues a warning to ensure driving safety.

Minimum warning speed (km/h): Default value >30.

Sensitivity: High, Medium, Low, default is Medium.

Voice prompt: Please do not smoke.

4.2.4 Phone call Alarm

Function: Detects the driver's mobile phone usage while driving and issues a warning to ensure driving safety.

Minimum warning speed (km/h): Default value >30.

Sensitivity: High, Medium, Low, default is Medium.

Voice prompt: Please do not use your phone.

5.Installation Guide

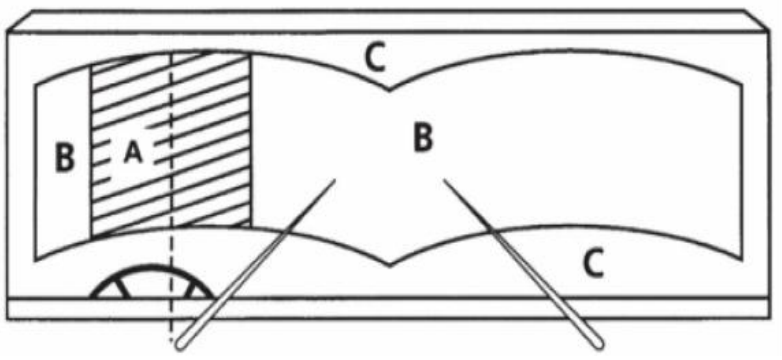
5.1 Installation Regulations

Note: The following suggestions do not constitute legal advice. Please comply with local laws and regulations.

To determine the location of the dash cam, the windshield is divided into several areas:

- Area A: A vertical area 29 cm wide centered on the steering wheel (35 cm wide for vehicles over 3.5 tons), swept by the windshield wipers.
- Area B: The remaining part of the windshield swept by the wipers, excluding Area A.

No part of the dash cam (including the bracket and wires) should extend more than 10 mm (1 cm) into Area A, or more than 40 mm (4 cm) into Area B.



5.2 Recommended Installation Positions

It is recommended to install the H20P at the upper edge of the windshield directly above the steering wheel, as shown in the diagram.

To ensure safe driving and maximize the accuracy of the AI algorithm, the selection of the device installation location should be based on the following principles:

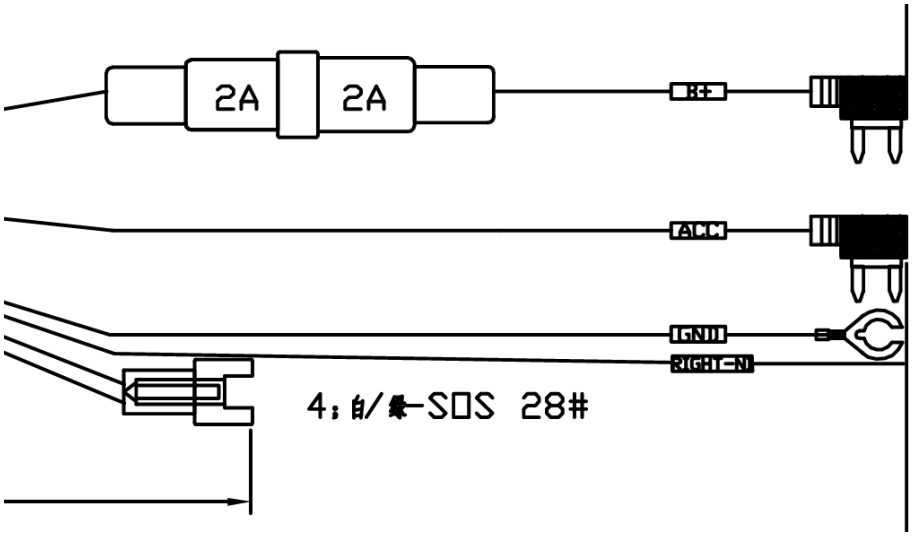
- Do not obstruct the driver's line of sight.
- Do not interfere with the driver's driving.
- The device should remain level and not be tilted.

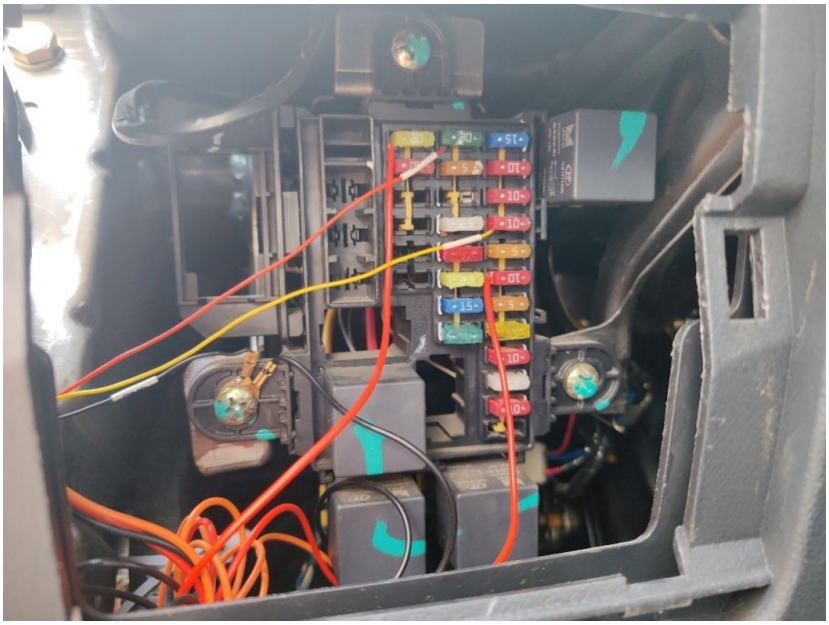
5.3 Installation Instructions

Memory Card Installation Diagram:

4G Card Installation Diagram: Insert the 4G card into the SIM card tray, then insert the tray into the SIM card slot.

Wiring Instructions:





SOS Button:

6.Parameter Settings

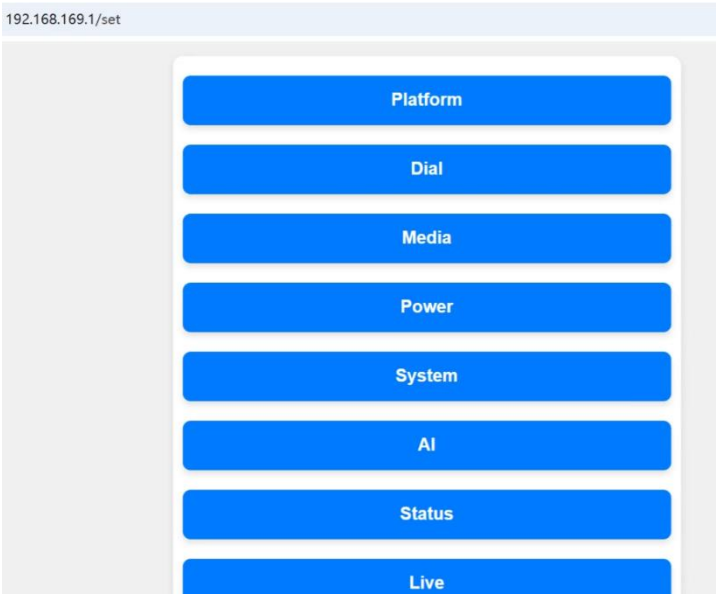
Press the WiFi button on the side of the device. A voice prompt will indicate that WiFi is turned on. Use your phone or computer to connect to the WiFi and follow the steps below to complete the setup.

Step1:

When the device is powered on, use your phone or computer to search for the WiFi network named after the device's IMEI number. Enter the password 12345678 to connect successfully.

Step2:

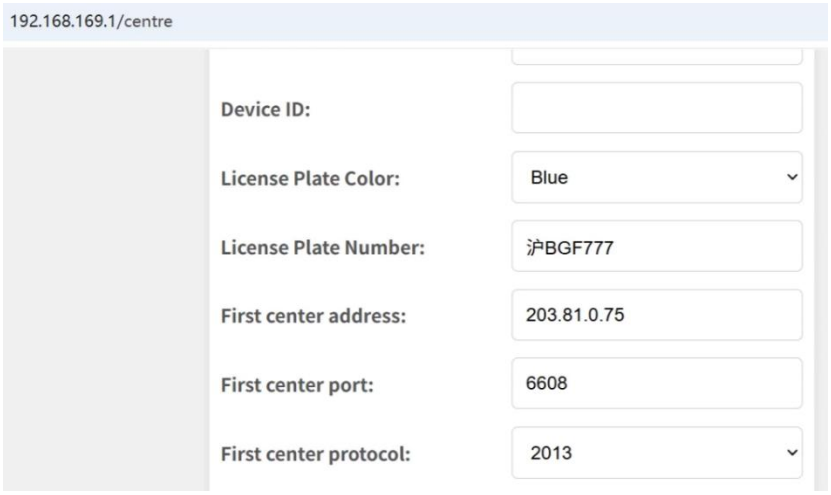
Enter the address 192.168.169.1/set in the browser on your phone or computer to open the dashcam settings page.



Step3:

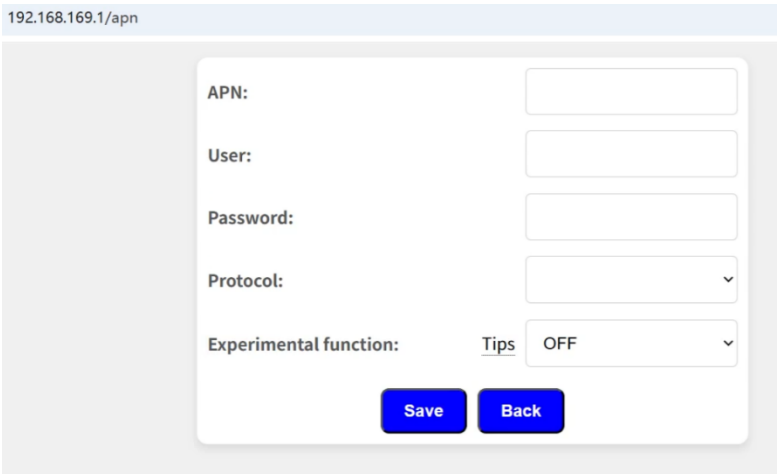
Set platform parameters, select protocol type 2013 for the center protocol.

Please don't configure the Device Number. Please don't configure center address and center port without switching platforms.



Step4:

Click the Dial, configure APN parameters.



Step5:

Configure other parameters sequentially. The AI setting defaults to small car configuration. If it is a large car that needs to be recalibrated, please contact FAE.

7.Common Troubleshooting

Fault Symptoms	Troubleshooting Steps
Browser cannot access the specified address	Please disable mobile data first
Live camera feed unavailable	1. Use the browser to view the camera feed. 2. Check if the SIM card has a whitelist mechanism, and if it does, whether it can access the server address configured in the platform parameters. 3. The recording indicator light is red; solid on indicates normal recording, blue when not recording, and purple during startup or upgrade processes. The yellow light is the network indicator; flashing indicates network connection but not connected to the platform, while solid on indicates network connection and platform connection established. The green light is the positioning indicator; solid on indicates positioning, and flashing indicates no positioning.
The device is not coming online on the platform	1. Check the platform parameters. 2. Check the device ID added to the platform; the default device ID reported by the device is the last 12 digits of the IMEI. 3. Check the SIM card status: whether there is poor contact or if it is out of credit.