深圳市龙桥科技发展有限公司

SHENZHEN DRAGON BRIDGE TECHNOLOGYLIDE COMPANY

Application :Rental cars, insurance cars, trucks, buses

Wireless Fleet management Solution Innovator

GSM/GPRS/GPS Tracker

User Manual

G-V303

ROADRAGON®

路特龙

www.roadragon.com

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1 Introduction

1.1 product description

G-V303 is an intelligent driving assistant system based on image recognition technology. This technology can not only monitor the unsafe behavior of driver's fatigue driving, distraction driving, lane deviation, front car proximity, blind area pedestrian and so on, but also cooperate with the monitoring driving platform to upload data and dispatch intervention. It suggests that the driver should regulate driving, bring the driver more active and intelligent safety guarantee, and reduce the accident rate.

1.2 Product Feature

◆ In line with relevant national policy standards: Beidou Standard Protocol （JT/T 794-2011、JT/T 808-2011），National Standard Protocol （GB/T 19056-2012），Beidou Standard Video Protocol（JT/T 1076-2016、JT/T 1078-2016）

◆ Support 6 channels 720P HD video real-time storage and upload.

◆ Support for built-in printers.

◆ Support for remote intercom.

◆ Support one 2.5-inch hard disk (solid/mechanical) and two SD card cyclic storage

◆ Built-in driving recorder, that is, the car "black box". Provide an important basis for the determination of liability for accidents.

◆ Multiple expansion interface, support to connect to fuel sensor, advertising screen, broadcast station, etc.

◆ It can be connected to the ADAS intelligent driving assistance system to provide voice warning prompts for dangerous driving behaviors such as vehicle deviation and collision risk; provide voice warnings for drivers' dangerous driving, such as fatigue, smoking, making phone calls, chatting and other dangerous driving behaviors.

◆ Blind area detection system, exclude the blind area of rearview mirror, detecting pedestrians in the blind area of rearview mirror on the side of the vehicle through the camera, reminding drivers and pedestrians, so as to avoid accidents caused by pedestrians moving to the blind area of rearview mirror during driving.

◆ Through the USB connection of senior assistant (APP), the equipment parameters can be configured flexibly, the active safety intelligent prevention and control and blind area detection system can be calibrated, and the camera angle adjustment and fault query can be facilitated.

1.3 Product Nameplate

Product Name: Car Video Monitoring Terminal

Product Model: G-V303 4G

Product Specifications: L172mm*W188mm*H59mm

Implementation Standards: GB/T 19056-2012, JTt/T 794-2011, JT/T 808-2011, JT/T 1076-2016, JT/T 1078-2016

1.4 The Product Configuration List

Table 1 Product Standard List

No	Name	Quantity	Remark
1	Host	1	
2	Power Cable	1	16PIN
3	Audio and video	1	Connect camera, AV display screen
4	T7 Audio Transfer Line	1	Connect the TTS speaker and pickup
5	4G Communication Antenna	1	
6	Positioning antenna	1	
7	TTS Speaker	1	
8	Color IC Card	1	Pink high temperature card
9	Key	1	
10	Iron Bracket	2	With screws
11	Specification, warranty card, certificate of qualification	1	Three-in-one
12	Car Video Neutral Packing box	1	
13	ADAS camera	1	720P
14	ADAS extension line/3m	1	
15	DSM camera	1	6PIN/720P

16	Hard disk carrier assembly	1	With screws
Note: The above is a list of the standard configuration of the complete set of products, and accessories that are out of the above range must be paid extra fee			

Table 2 Product Optional List

No.	Name	Quantity	Remark
1	V511H/AHD 720P plastic big conch camera (with infrared and audio) red head	1	Line length is 0.5 m
2	Camera extension cable (5 m)	1	Extension cord can be connected to extension cord to achieve greater length
3	Camera extension cable (10 m)	1	
4	AV screen	1	7 inch
5	Emergency SOS Button	1	
6	Velcro	1	
7	Pickup	1	
8	IC Card	1	Green High Temperature Card
9	National standard integrated machine anti-theft box and accessories	1	
Note: Pickup intercom needs to be equipped with pickups and TTS speakers.			

2 Product Overview

2.1 Parts List

Property	description
Product size	Host size: L172mm*W188mm*H59mm DMS anti-fatigue camera size:76mm *38mm *92mm ADAS camera size : 62mm *43mm *75mm BSD camera size: 90mm*64mm*58mm Acousto-optic alarm: 143mm*125mm*37mm AV display :172 mm*112mm*47mm (without bracket)
Product renderings	

2.2 Specifications

2.2.1 Specifications

Category	Name	Parametric description
Host	RAM	ARM : 64Mb (external FLASH) T707: EMMC :8GBT707: DDR :4GB*2
	External storage unit	Single hard disk (maximum support 2 T) and double SD card (maximum support 128 G)
	2G/3G/4G	Mobile TD-LTE, Unicom TD-LTE, Unicom FDD-LTE, Telecom TD-LTE, Telecom FDD-LTE, Mobile 3 G (TD-SCDMA), Unicom 3(WCDMA), Telecom 3 G (CDMA2000), Unicom 2 G/ Mobile 2(G SM)
	Positioning	GPS/BD double mode, precision <10 m, cold start time <40
DMS fatigue	Resolution	1280*720

camera	Lens parameters	4G，6mm, D=65° H=56° V=31°
	Frame rate	25fps
	Video format	PAL system
ADAS camera	Resolution	1280*720
	Lens parameters	4G，3.6mm, D=85° H=60° V=53°
	Frame rate	25fps
	Video format	PAL system
	Other	With the speaker
BSD camera	Resolution	1280*720
	Lens parameters	4G，6mm, H=75° V=40°
	Frame rate	30fps
	Video format	PAL system
AV display	Screen size	7 inches
	Resolution	800*480
	Video format	PAL&NTSC
	Video input	CVBS
	Interface	4PIN Aviation Head

2.2.2 Parameter index

Technical Item		Technical Specifications
Operating System	Operating System	Linux
	Control Mode	Panel Key, Network, Phone App
	AHD720P	6 channels 720P
	Output	1 channels CVBS

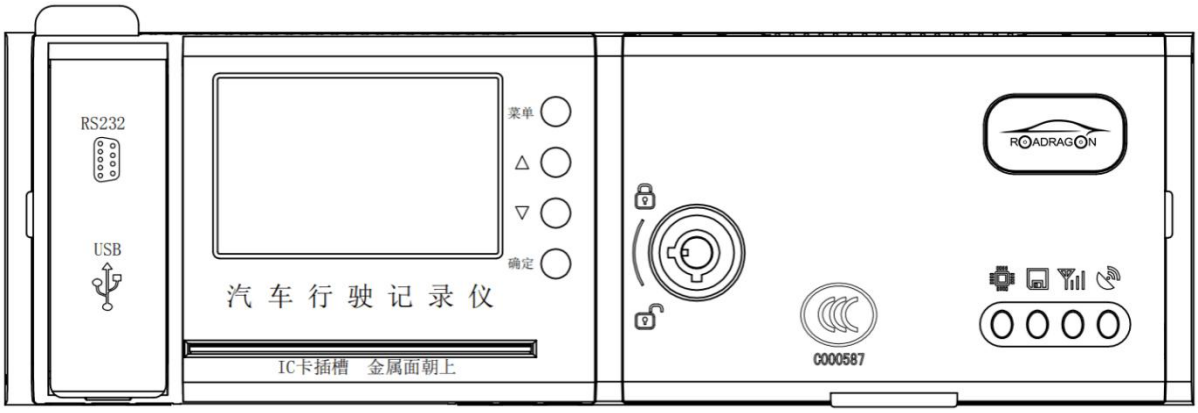
	Video signal	PAL
Audio	Input	Most 5 channel audio
	Output	Most 2 channel audio
Display	Screen Shows	1 /2 /4 /6 screen display
Video	Video and audio compression format	Video H.264, audio g711a
	Image resolution ratio	CIF、HD1、D1、720P
	Video mode	Boot/manual/timing/planning/alarm video events
	Real-time video	Support
	ACC off delay video	Delay parameter range :10-65535 s, default 300 seconds
	Mirror video	Support
	Alarm video	Support
	Video Download	Support
Playback	Playback Channel	Support local multi-channel synchronous playback, PC software remote single-channel playback
	Browse Mode	Time，Channel
Network	2G/3G/4G	GSM/CDMA/WCDMA/TD-SCDMA/EVDO/FDD-LTE/TDD-LTE
Storage	SD Card	Double SD Card（Maximum Of Single Card Is 128G）
	Hard Disk	Support 1 Hard Disk，Maximum Of Hard Disk Capacity Is 2T

2.3 Interface Characteristics

Interface Characteristics		Parameter Description
Interface	DB9 Serial	Used for accident suspect data export
	Front USB Interface	Data export, ADAS calibration and parameter setting of part mark for driving recorder
	Driver signs IC card	Driver Sign Card
	SATA interface	Connect the hard disk
	SIM card	Single card (for GPS data upload and video data transfer)
	SD card slot	Support dual cards, SD1 and SD2
	4G antenna interface	Connect 4G antenna
	GNSS antenna interface	Connected positioning antenna
	AV1-AV6/AV OUT interface	Connect video wires and AV screens
	Pass mouth	Connections to load sensors / LED advertising screens / meters and other peripherals
	Gorge line	Connect oil rod/card reader and other peripherals
	SPK/TTS	Interphone, TTS voice broadcast
	485/ CAN interface	Connect fingerprint instrument / cloud head and other peripherals / CAN data acquisition
	Power interface	Connect 16 pin power cord
Other Characteristics	Working Voltage	DC 9-36V
	Working Current	600mA@12V；300mA@24V (No load)
	Backup Battery	3.2V 1200mah Lithium Iron Phosphate Battery
	Working Temperature	-25℃ — +80℃
	Storage Temperature	-40℃ — +85℃

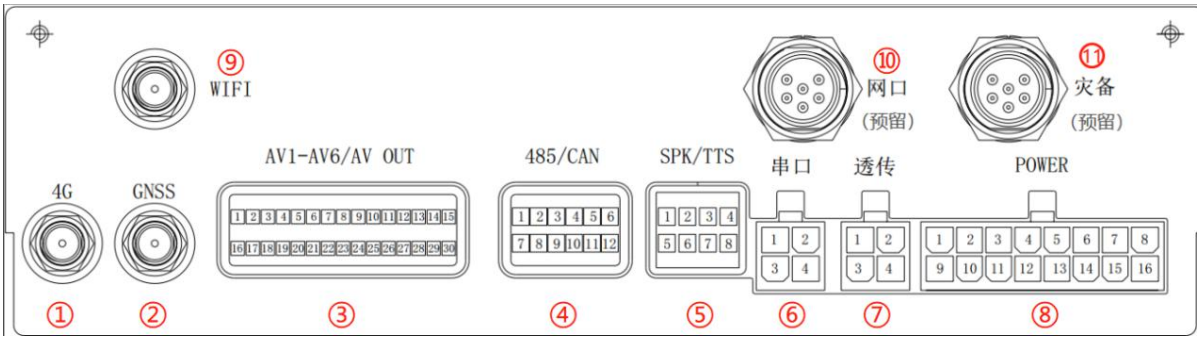
3 Product Interface Definition And Wiring Instructions

3.1 Drawing



G-V303 Terminal Front

No.	Connect	Interface Specifications
1	RS232	Used for accident suspect data export
2	USB	Connect mobile phone for ADAS calibration, parameter setting, etc
3	IC card slot	Driver Sign Card
4	Hard drive slot	Hard disk (maximum support 2 T)
5	SIM	Single card (for GPS data upload and video data transfer)
6	SD1	SD card can be inserted, maximum support 128G
7	SD2	SD card can be inserted, maximum support 128G



G-V303 Terminal Back

No.	Connect	Interface Specifications
1	4G	Connect 4G antenna
2	GNSS	Connected positioning antenna
3	AV1-AV6/AV OUT	Connect GF06T audio and video cable, camera and AV screen
4	485/CAN	Connected finger meter / cloud head and other peripheral / CAN data acquisition
5	SPK/TTS	Connect pickups and speakers
6	Gorge line	Connect oil rod/swipe card and other peripherals
7	Pass mouth	Connections to load sensors / LED advertising screens / meters and other peripherals
8	POWER	Connect 16 pin power cord
9	WiFi	Connect WiFi antenna, reserved
10	Internet access	Reserved
11	Disaster preparedness	Reserved

Table 3 Definition of 16PIN master control interface

Pin	Function	Description	Pin	Function	Description
1	Custom High 1	Violet&Green	9	ACC	Orange
2	Custom High 2	Yellow&Black	10	Brake	Yellow
3	Low Beam	Brown	11	SOS Button	Pink
4	High Beam	Green	12	Custom Low 2	Red&Green
5	Door Magnet	White	13	Custom Low 1	Red&White
6	Turn Right	Gray&White	14	Turn Left	Gray
7	Fuel -	Purple	15	Speed Sensor	Blue
8	Power -	Black	16	Power +	Red

Table 4 Definition Of Transparent Transmission Port

Pin	Function	Description	Pin	Function	Description
1	RX	Receive	3	Ground	GND
2	TX	Transmit	4	5V	Power

Table 5 Definition Of 4 Pin Serial Port

Pin	Function	Description	Pin	Function	Description
1	RX	Receive	3	Ground	GND
2	TX	Transmit	4	5V	Power

Table 6 Definition SPK/TTS Interface

Pin	Function	Description	Pin	Function	Description
1			5	SPK-	
2	Intercom detection		6	SPK+	
3	Horn detection		7	GND	
4	MIC+		8	MIC-	

Table 7 Definition 485/CAN Interface

Pin	Function	Description	Pin	Function	Description
1	RX		7	TX	
2	GND		8	TX_RX	
3	485B		9	485A	
4	CANH		10	CANL	
5	REST		11	ACIN (5V power)	

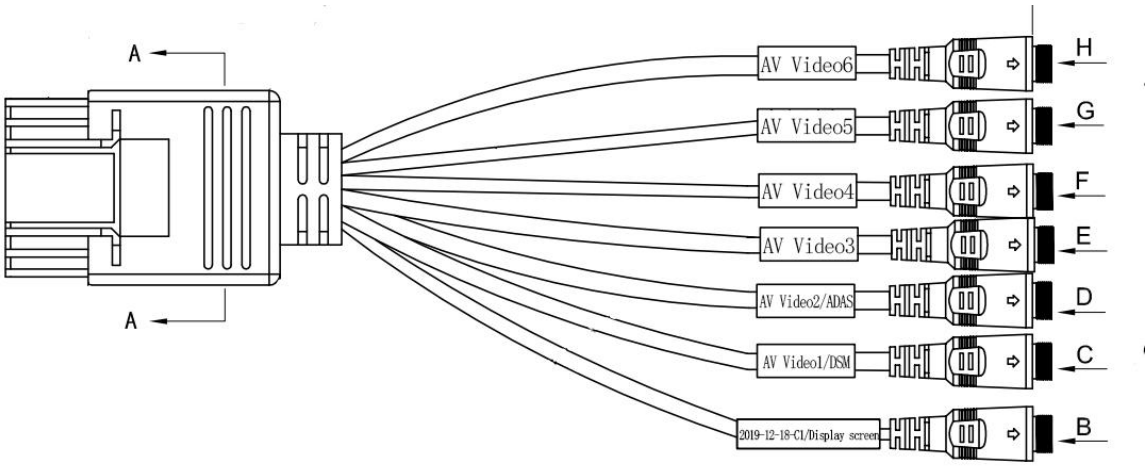
6	ID		12	FEL	

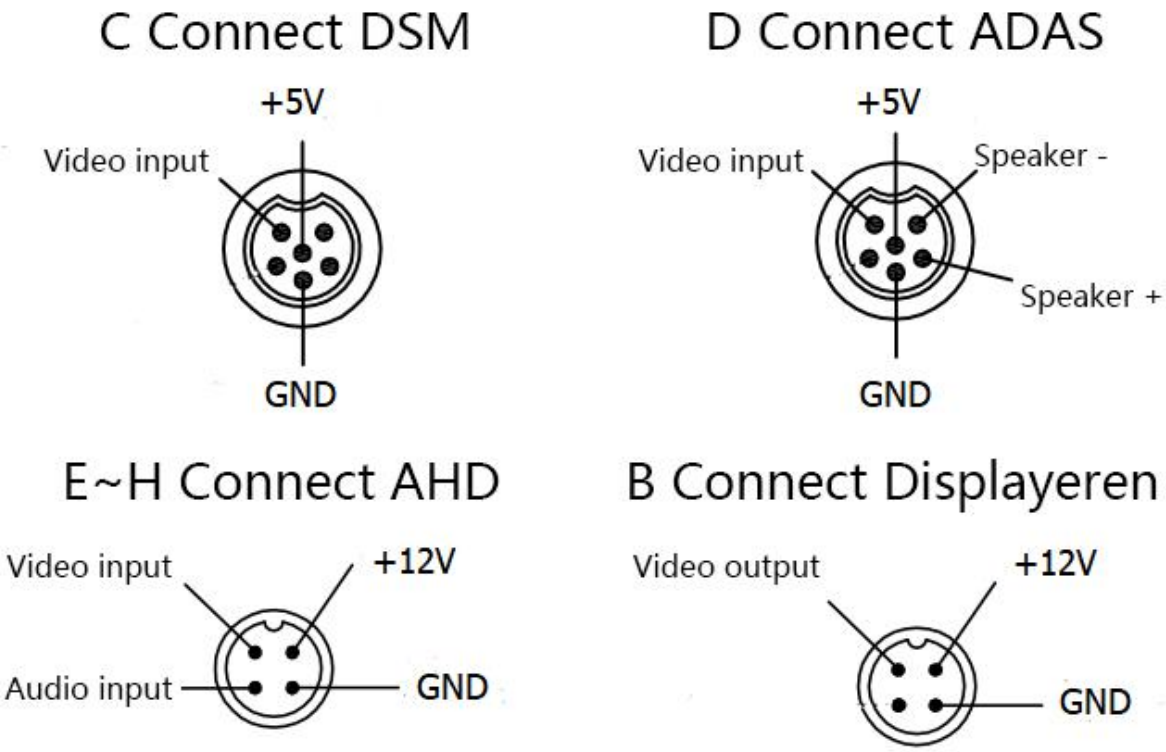
Table 8 Definition AV1-AV6/AV OUT Interface

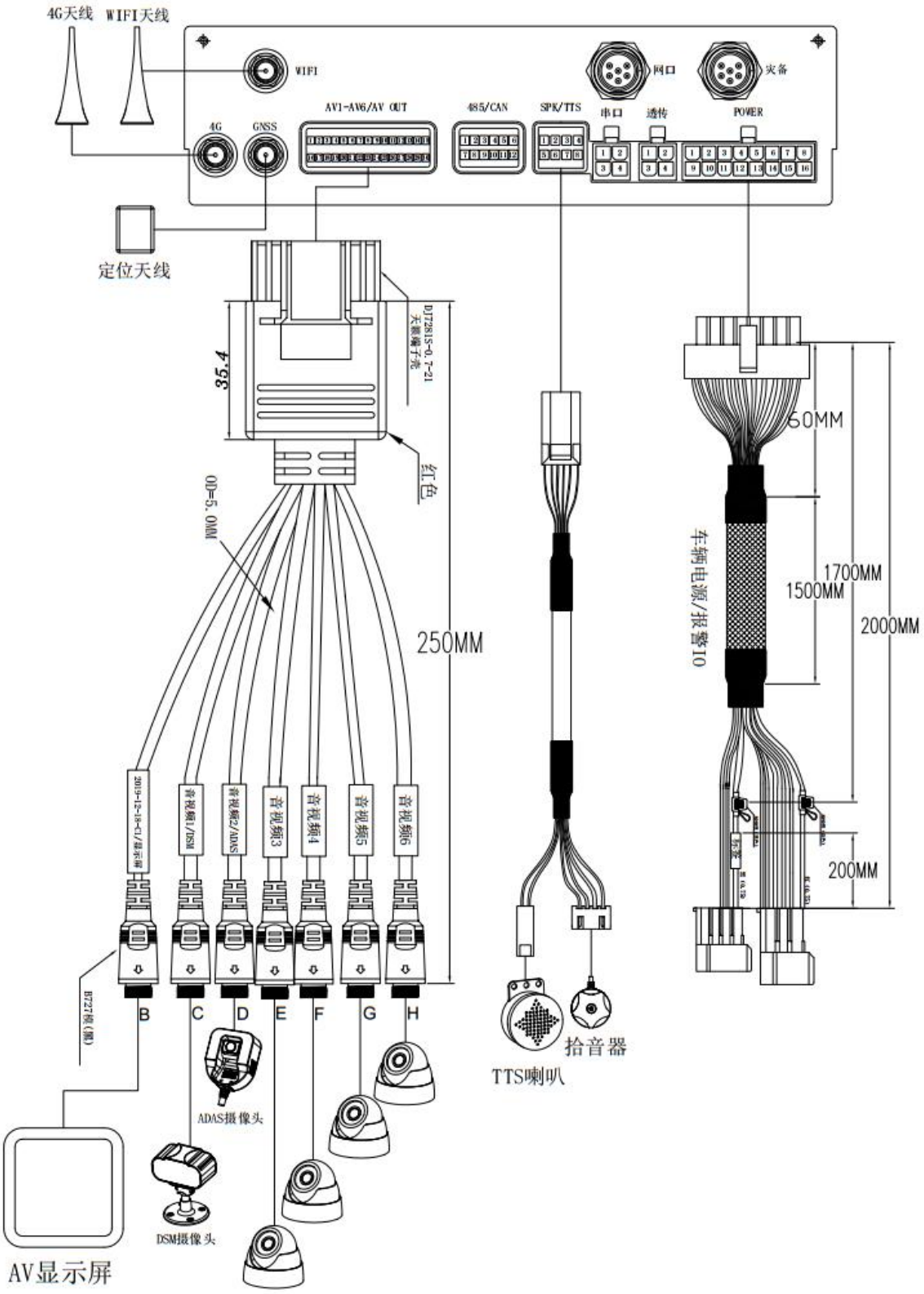
Pin	Function	Description	Pin	Function	Description
1	12V		15	GND	
2	12V		16		
3	12V		17		
4	12V		18	12V	
5	GND		19	Audio input 6	
6	Video output		20	Audio input 5	
7	Audio input 4		21	Audio input 3	
8	Audio input 2		22	Audio input 1	
9	Video input 6		23	GND	
10	Video input 5		24	GND	
11	Video input 4		25	SPK-	
12	Video Input 3		26	SPK	
13	Video Input 2		27	GND	
14	Video Input 1		28	5V	

3.2 Interface Definition

Interface Definition Of Video Line







Device connection diagram (hard disk version)

3.3 Instructions

3.3.1 Menu Indication

Menu		
Information Box	Text Message	
	Information on demand	
	Information service	
	Phone book	
	Default number	
WIFI Mode	Turn off WIFI	
	Client Mode	
	Hotspot sharing mode	
	Senior assistant mode	
Online parameter settings	IP setting	Single IP/domain name setting
		Double IP/domain name setting
		Zhongjiao IP setting
		Video IP Setting
	Terminal Phone Number	
	Province ID	
	City ID	
	Car plate number	
	Colour of car plate	
	Terminal number	
	Vehicle VIN number	
	Vehicle classification	

	Registration online	
	Logout	
Online parameter checking	IP setting	Single IP/domain name setting
		Double IP/domain name setting
		Zhongjiao IP setting
		Video IP Setting
	Terminal Phone Number	
	Province ID	
	City ID	
	Car plate number	
	Colour of car plate	
	Terminal number	
	Vehicle VIN number	
	Vehicle classification	

Factory settings	Display setting	Backlight mode
		Contrast
	Write card settings	Write
		Name of issuing authority
		Identity number
		Driver's license number
		ID card number
	Password setting	Modify factory password
	Host upgrade	
	Font library upgrade	

	Speed type	Set Speed type
		Check Speed type
	Electronic coefficient	Set Electronic coefficient
		Check Electronic coefficient
	APN access point	
	Back to factory settings	
	Unlock settings	Unlock sim card
		Modify unlock password
	Camera settings	6-channel D1 (default)
		6-channel 720P
		4-channel 1080P
		4-channel 720P+2-channel 1080P
		4-channel D1+2-channel 1080P
		4-channel 720P+2-channel D1
		4-channel D1+2-channel 720P
Version checking	ARM version checking	
	Expander version checking	
	Haisi version checking	
Recording checking	Disk status	
	Camera recording status	
	Delayed shutdown time	
Recorder data		

Other settings	I/O port status checking	GPS positioning status
		GPS antenna status
		Main power status
		Power saving status
		Right steering status
		Left steering status
		Fuel status
	Terminal model number	
	Manufacture ID	

3.3.2 Definition Of Indicator Light

Name	Definition	
Definition Of Indicator Light	Red	Long bright：No sim card was detected. Flash(slow)：GPRS has signal but not be online Flash(fast)：Has been online Flash(Very Fast)：Receive the data from the service center
	Yellow	Long bright：The positioning antenna is not connected well or not connected Flash(slow)：Not positioned Flash(fast)：Positioned Not bright：Positioning module is abnormal.
	Blue	Not Light: ACC off or safety door is not closed or the power supply voltage is too low Long bright: System exception Flash: The system is working properly

	 Green	Not Light: No SD card or hard disk detected Long bright: SD card or hard disk failure Flash: SD card or hard disk works fine

3.3.3 Operation

Online parameter checking	Host parameter checking	**Online parameter checking**, you can check **IP/domain name, video IP**, device number and vehicle information.
Version Checking	ARM checking	**Eg:** ARM version: GF066TB1.0(2019-12-17)[checksum：1D4D841]
	T7 version checking	**Eg:** SW_Ver:JT1078_JS_CC10<6-6-0>-DGGF06T-B01R01-3-T22 (2020-01-07 14:51:10)
Recorder data	LCD screen settings	Directly export recorder data via USB interface

Online Setting	IP Setting	Single IP/domain name setting: Online parameters → single IP / domain name settings; Enter the IP/domain name and related parameters, and then select "Register Online" to complete the online configuration. Or send SMS command： <SPBSJ*P:BSJGPS*D:219.133.034.198,7788*A:CMNET*N:13000011111>； Single IP/domain name setting: Online parameters → double IP / domain name settings; Enter the IP/domain name and related parameters, and then select "Register Online" to complete the online configuration. Or send SMS command： <SPBSJ*P:BSJGPS*D:219.133.034.198,7788*T:219.133.034.199,7788*A:CMNET*N:13000011111>
	Zhongjiao IP setting	Freight online setting → **Zhongjiao IP setting (already preset)** + customer IP setting, SMS command: <SPBSJ*P:BSJGPS*D:219.133.034.198,7788*Q:jt1.gghypt.net,7008*A:CMNET*N:13000011111>

	Video IP setting	Online parameters → **Video IP setting**, input video IP, domain name, complete setting, send SMS Command: <SPBSJ*P:BSJGPS*G9SET*3G:1,1,219.133.034.198,9966>
	Terminal phone number	Online parameter → **terminal phone number**; enter 11 digits to complete the setting, send SMS Command: <SPBSJ*P:BSJGPS*N:13000011111>
Note: The IP unified format is: 219.133.034.098, 7788, where the IP field, less than 3 digits, is padded with 0; The unified format of the domain name is: jt1.gghypt.net, 7008 Terminal Settings Menu Default Password: 66666666		

4 Analysis of Common Problems and After-sales Service

4.1 Common Problem Analysis And Solution

Malfunction	Reason Analysis	Solution
LCD screen not light	Low battery	Charge Or Change The Battery
	Power Line Fuse Burnout	Eliminate the cause of the short circuit, Replace the fuse
	Terminal device breakdown	Return to manufacture to repair
Device is not online	SIM card has no effective 3G/4G traffic	Contact the network operator to recharge
	Online parameter setting error	Refer to the manual to reset the parameters.
	The device is locked	Need to manually unlock on the screen after changing cards
	SIM card installation is abnormal	Re-install SIM card
	GSM antenna is abnormal	Re-install or replace the GSM antenna

	vehicle is in an underground parking lot, tunnel, weak signal	Driving off the area with weak signal

Video can't open	SIM card has no effective 3G/4G traffic	Contact the network operator to recharge
	Lock is opened	Locked
	ACC off	Check ACC
	vehicle is in an underground parking lot, tunnel, weak signal	Driving off the area with weak signal
Unable to locate	vehicle is in an underground parking lot, tunnel	Driving off the area with weak signal
	Positioning antenna is blocked	Remove obstruction
	Positioning antenna open circuit	Tighten the positioning antenna interface or check the line
	Positioning antenna failure	Replace the positioning antenna
	Positioning antenna is installed close to the host	The antenna is more than 1 meter away from the device
	Positioning antennas are intertwined with other lines	Positioning antennas try to route separately
Can’t Video	SD/SSD failure	Replace new SD/SSD
	ACC off	Check ACC
	Lock is opened	Locked
	Manually stop the video	Turn on recording via LCD screen or remote command
Disk not recognized	SD/SSD failure	Please confirm whether the SD card is in place; please confirm whether the hard disk is installed well.
	SD card/hard disk is not in place	

4.2 Attention

1. Stay away from water

2. Please keep the car battery fully charged

3. Device working current is 9-36v, recommended 12v and 24v. Tracker will damage if the current is over this range.

4. Working temperature is -25to 75centigrade, please cut off power if the temperature is over this range.

5. When vehicle is in underground parks, tunnels or garage, maybe GPS signal not very good. Communication network blind area will be caused and cannot monitor vehicle. When the car is out of that area, it will working good automatically.

6. Please not repair by yourself when the device not working properly.r

7. Please do not entangle the 4G antenna and positioning antenna with the video cable and power cable during installation. They must be routed separately. In order to reduce interference, the distance between the 4G antenna and the positioning antenna installation position and the device should be kept at 50cm or more, and the antenna should not be blocked by metal special bodies.

8. The device can start recording only when the ACC is open and the door lock is closed. You can observe the blue and yellow indicator lights (refer to the indicator status description) to confirm whether the device is recording normally. The device will automatically detect the status of the storage medium every time it is powered on. If the storage medium is not inserted or the storage medium is damaged, the device will automatically restart and detect 3 times within an hour afterwards, and a voice prompts that the storage device is abnormal.

9. The device has a SIM card lock function. If the SIM card is changed midway, it needs to be unlocked before it can go online normally. To unlock the SIM card unlock item in the factory settings menu, enter the unlock password and automatically resume online (the card lock function is closed by default)

10. After removing the mechanical hard disk, please handle it gently to prevent damage from external forces during the movement.

11. For 12V battery vehicles, please connect the camera with 4 channels or less.

4.3 After-Sale Service

1.During the one-year warranty, please feel free to contact us if there is any problem or damage not caused by human factors, not maintenance:

1.1 not used in accordance with the instructions

1.2 client dismantled privately

1.3 force majeure (floods, accidents, etc.)

2. More than one year damage or faulty maintenance will need to pay for raw material.

3. Free to provide customers with the remote purchase, use, installation and other consultation and technical services.