

Vehicle Terminal Device

Product User Manual



Product Name: Mobile Digital Video Recorders
Product Model Number: GD02R

I Product composition

1.1 Product overview

The vehicle video monitoring terminal device integrates 4G communication, GNSS positioning, ADAS and DMS, supports audio and video recording, SD card storage, driving data recording, two-way calling initiated by the monitoring platform, real-time monitoring and other functions. Support seamless integration with customer platforms. Widely used in taxis, online hailing, minivans, construction vehicles and other industries.

1.2 Product Specification

Product Name: Mobile Digital Video Recorders
Product model: GD02R
Product size: L161mm*W124mm*H41mm

1.3 Product Configuration List

Table 1 Standard list

Name	Quantity	Remark
host	1 Set	
Power Cable	1 PCS	1 0 PIN, including power cable and IO detection cable
GNSS positioning antenna	1 PCS	
4G Communication Antenna	1 PCS	
Power Key	1 PCS	For device opening and closing
Screw	4 PCS	fixed equipment
User manual	1PCS	
Neutral Packing Box	1 PCS	
ADAS camera	1 PCS	720P/1080P, built-in AI alert speaker
ADAS camera extension harness	1 PCS	3 M
DMS camera	1 PCS	720P/1080P

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

Optional List

Name	Remark
V512H Plastic conch camera	AHD 720P(With infrared and audio)
Camera extension cable	5/10meters
AV screen	7 inch
RS232 wire harness	Connect external facility, such as fuel sensor, temperature sensor and so on.
SD card	Class 10
Intercom pick-up	For hands-free intercom
Speaker	Used for call, voice broadcast (Overspeed broadcast, etc.)
Audio conversion wire	Connect the speaker and intercom pickup
Velcro	Fixed host
SOS Button	
Nylon cable ties	Fixed wiring harness

Note: Have to equip the intercom pickup, speaker and audio conversion wire if want the remote intercom function which initiated by the monitoring platform.

II Machine Parameters

2.1 Technical indicators

Technical Item	Technical Specifications	
Operating System	Operating System	Linux
Hardware	MCU	4 cores A7
	ROM	8GB
	RAM	1GB
Video	AHD720P/1080P	4 channels 720P (1280*720) or 1 080P (1920*1080)
	Output	1 channel VGA
Audio	Input	3- channel audio (Format:PCM), AV3,AV4,MIC
	Output	2-way audio (Format:PCM), speaker and AI reminder speaker
Display	Screen display	Quad split screen display
Video Recording	Video and audio compression format	Audio g711A, video H.264
	Image Resolution	20P (1280*720) or 1080P (1920*1080)

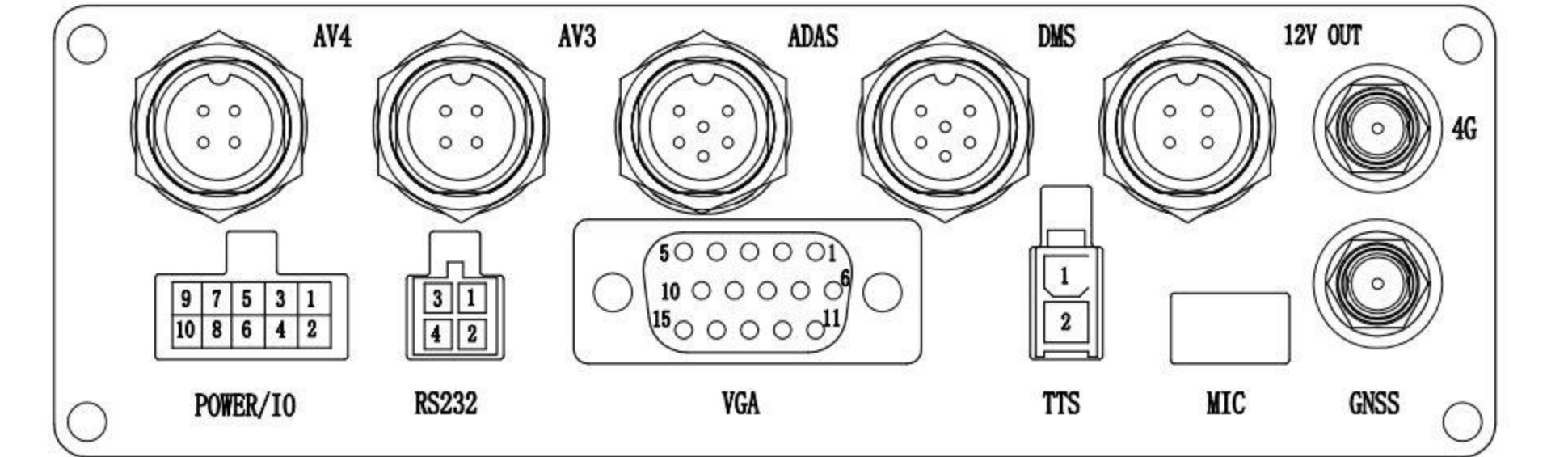
Video Recording	Real-time Video	4 channels
	ACC off, time-lapse video	Default:300s, Delay parameters range : 10-65535s
Playback	Playback Channel	Support local 4-channel synchronous playback, single-channel playback in monitor terminal
Network	3G/4G	WCDMA:B2/4/5 LTE:B2/4/5/12/13/14/66/71 Note: Different countries or regions need to choose different communication modules due to the differences of communication operators, please ask sales for details.
	SD	Double SD cards(Maximum of Single Card is 256 GB)

2.2 Interface Characteristics

Interface Characteristics	Interface Description	
Interface	Front USB interface	AI (ADAS and DMS) calibration, parameter setting
	SIM Card	Single card (for GNSS data upload and video data transmission)
	SD Card	Double SD cards(single card supports up to 256 GB)
	DMS	Connect to DMS camera

Interface	ADAS	Connect ADAS camera
	AV3-AV4	Connect AHD camera
	12V OUT	Power supply for VGA display
	VGA	VGA signal output, optional external VGA display
	MIC	Pickup for two-way intercom and audio monitoring
	TTS	Two-way conversation, voice broadcast
	RS232 interface	Connect to external facility: such as fuel sensor, temperature sensor and so on
Other Characteristics	Working Voltage	DC 9-36V
	Working Current	300 mA@12V; 150 mA@24V (No load)
	Stand-by power consumption	60mA @12V; 30mA @24V
	Backup Battery	It can work for 15S after the device is powered off
	Host dimension	L161mm*W124mm*H41mm
	Host weight	About 600g
	Working Temperature	-25°C — +85°C
Storage Temperature	-40°C — +85°C	

2.3 Product Interface Definition and Wiring Instructions



Interface Definition Drawing of the Back Panel

Table 1 POWER/IO interface definition

Pin	Function	Description	Pin	Function	Description
1	Negative	Black	2	Positive	Red
3	Output 1	Green	4	ACC	Orange
5	Input 1	White	6	SOS	Pink
7	Speed pulse wire	White&black	8	Left turn signal	Red&Black
9	Brake	Black&white	10	Right turn signal	Red&White

Table 2 Definition of RS232 port

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

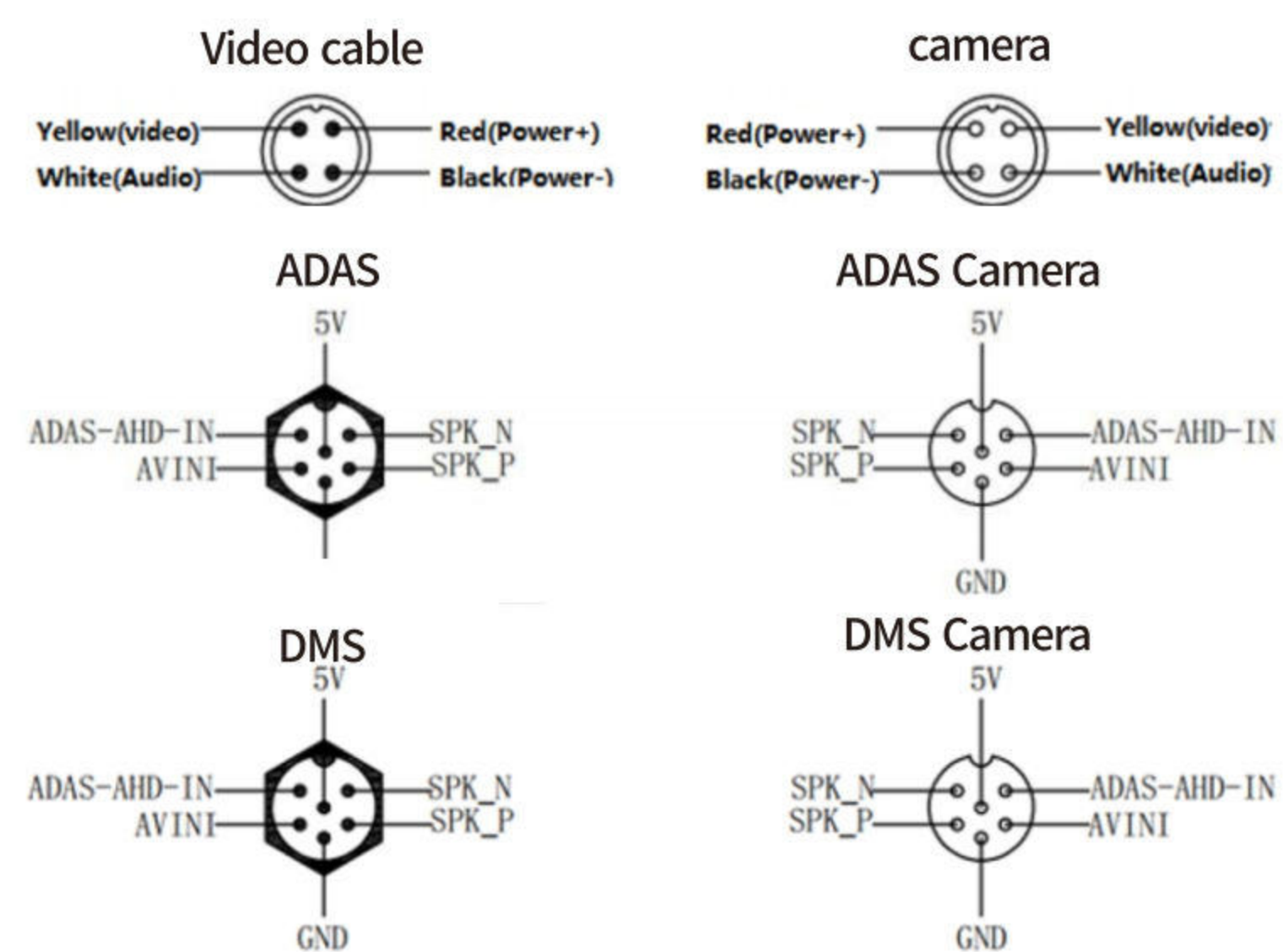
Table 3 TTS interface definition

Pin	Function	Description	Pin	Function	Description
1	SKP_N	Trumpet negative	2	SKP_P	Trumpet positive

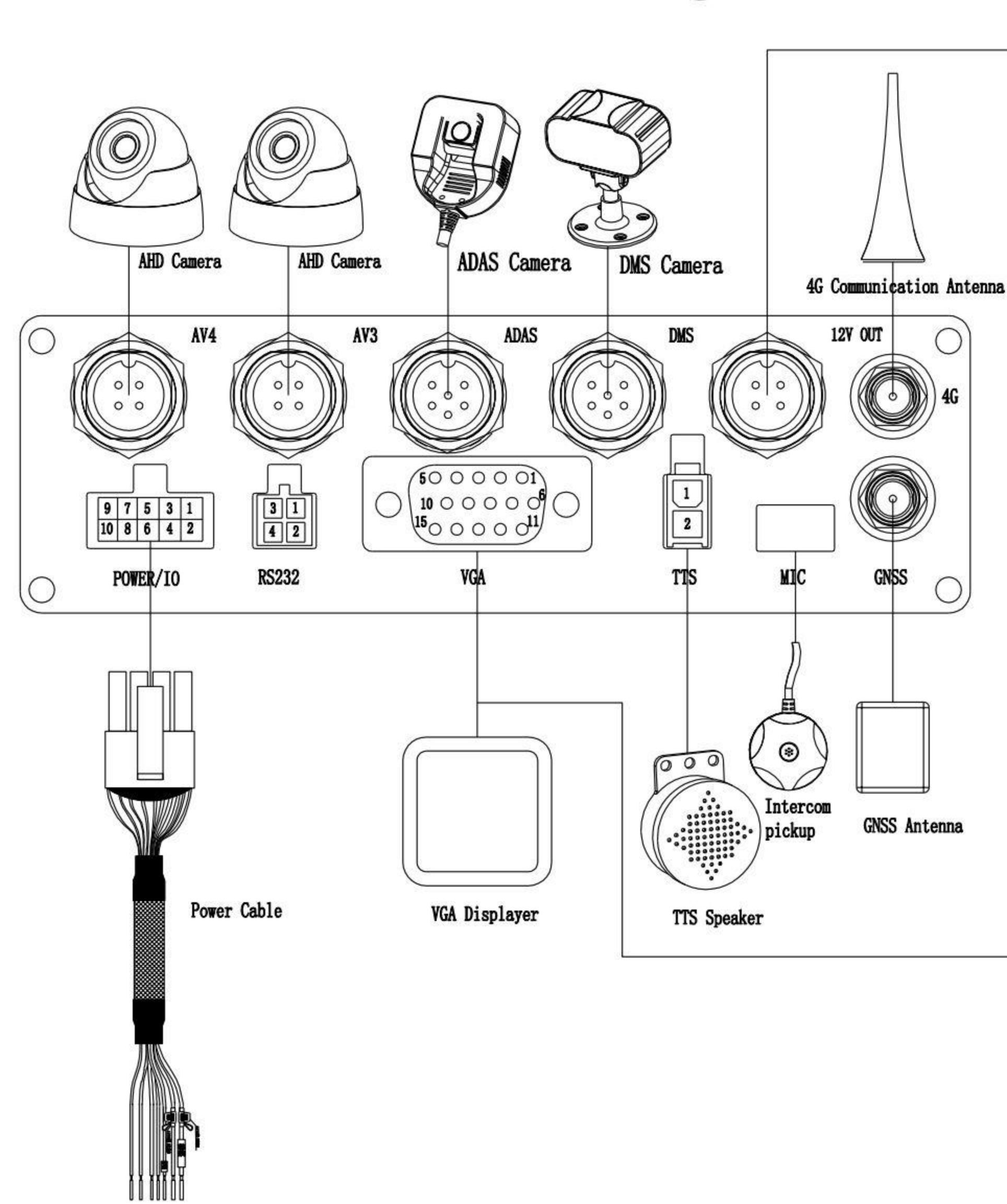
Table 4 VGA interface definition

Pin	Function	Description	Pin	Function	Description
1	VGA_R	Red component signal	2	VGA_G	green component signal
3	VGA_B	Blue component signal	4	NC	NC
5	GND	Ground	6	GND	Ground
7	GND	Ground	8	GND	Ground
9	NC	NC	10	GND	Ground
11	NC	NC	12	NC	NC
13	VGA_HS	Horizontal sync (line)	14	VGA_VS	Vertical Sync (Vertical)
15	BOOT	Self test	/	/	/

Interface definition



GD02R Connection Diagram



2.4 Definition of Indicator Light

Name	Definition
Red	Bright always: No SIM card was detected. Blinking (slow): SIM card was detected, but not online yet. Blinking (fast): Has been online. Blinking (short and fast): Received data from the service center.
Yellow	Bright always: The GNSS antenna is not connected well or not connected. Blinking (slow): Not positioned. Blinking (fast): Positioned. No bright: The positioning module is abnormal.
Blue	No light: ACC off or the safety cover is not closed or the power supply voltage is too low. Bright always: System abnormal. Blinking: The system is working properly.
Green	No light: No SD card was detected. Bright always: SD card abnormal. Blinking: SD card working fine.

2.5 Functional operation

Online Setting	IP Setting	Send instructions via SMS or text messages on the monitoring terminal : <SPBSJ> P:BSJGPS *D:047.100.237.015,7788*T: 047.100.237.015,6608*A:CMNET,admin,1 23456*N:1333322344> Note:D is IP1; T is Ip2;
	Domain name setting	<SPBSJ> P:BSJGPS *D:vdata.car900.com,7788*T:vdata.car9 00.com*A:CMNET,admin,123456*N:1333 322344> Note:D is IP1; T is Ip2
Online parameter checking	Parameter checking	Send command via SMS: <CKBSJ> or platform text message:<EXTCB<CKBSJ>>
Check firmware version via SMS	Check firmware version	Send the command via SMS: <CKVER>
Check version via platform	Check all version	Send the command:<EXTFE0> through platform.

Note: The IP unified format is: 219.133.034.098,7788, where the IP field, less than 3 digits, is padded with 0; The uniform format of the domain name is: vdata.car900.com,7788

III Analysis of Common Problem and Solutions

Malfunction	Reason Analysis	Solution
Device is not online	SIM card is out of balance	Contact the network operator to recharge
	Online parameter setting error	Refer to the manual to reset the parameters
	SIM card Defective contact	Re-install SIM card
	Communication antenna is abnormal	Re-install or replace the communication antenna
	The vehicle is in an underground parking lot, or the tunnel signal is weak	Stay out of poor signal areas
Video can't open	SIM card is out of balance	Contact the network operator to recharge
	Security cover is opened	Please lock it
	ACC off	Check ACC wire
	The vehicle is in an underground parking lot, or the tunnel signal is weak	Stay out of poor signal areas

Unable to locate	Vehicles in underground parking lots, or the tunnel signal is weak	Stay out of poor signal areas
	The positioning antenna is installed too close to the host	The antenna is more than 0.8 meters away from the device
	Positioning antenna is blocked	Remove obstruction
	Positioning antenna open circuit	Tighten the antenna interface or check the line
	Positioning antenna failure	Replace the positioning antenna
Can't Video recording	Positioning antennas are intertwined with other lines	Positioning antenna try to route separately, away from the device by 0.8 meters or more
	SD card failure	Replace new SD card
	ACC off	Connect ACC wire
	Lock is opened	Locked
Unable to recognize disk	Manually stop the video	Turn on recording with remote commands
	SD card failure	Please confirm whether the SD card is inserted in place

Precautions:

1. Please do not intertwine the 4G antenna, positioning antenna, video cable, and power cable during installation. They need to be routed separately. In order to reduce interference, the position of 4G and positioning antenna and the device should be kept at 0.8 meters or more, and the antenna should not be blocked by metal objects.

2. The device will only start recording when the ACC is on and the door lock is off. You can observe the blue and yellow indicator lights (refer to the status description of the indicator lights) to confirm whether the device is recording normally. Every time the device is powered on, it will automatically detect the status of the storage medium. If the storage medium is not inserted or the storage medium is damaged, the device will give a voice prompt that the storage device is abnormal.

Warranty Card

Please fill in the following content:

product name: _____ Product number: _____

Product Serial Number: _____

User Name: _____

Contact address: _____

Zip code: _____ Telephone: _____

Fax: _____ E-mail: _____

Date of purchase: _____ Invoice number: _____

Operator name (stamp): _____

Thank you for purchasing this product, this card is your free warranty certificate, please keep it safe.

Warranty Notice:

- Please present it together with the purchase receipt during maintenance. If the information matches, the warranty will be valid.
- If you find that the model and code registered on this card have been altered or the model and code of the purchased machine are different, please contact our company in time.

FCC Warning:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Caution: Any changes or modifications to this device not explicitly approved by manufacturer could void your authority to operate this equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator and your body.