

VR202111

Vehicle Traveling Data Recorder

User Manual



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1 Product Summary

The VR202III series Vehicle Data Recorder (here in after referred to as“VDR”) is a new, intelligent and high-tech electronic product which meets all the function requirements of the international standard GB/T 19056-2003. The design of the product fully meets the users’ different needs. It can record, store, display, print and export the vehicle’s running speed, mileage, time and other current information. It also has the functions of self-checking, LCD display, alarming indication, the IC card login limit control, the U disk interface and demarcating automatically the characteristic parameters. The customers may choose to have the functions of I/O extension, C3 extension, CAN extension, GPRS extension, GPS extension, the printer, vehicle-carried battery and the big screen display. Combing with the VDR management and analysis software, the record can be kept long for further diagram statistics and analysis which offers the basic data and necessary means for the police enforcement of the law and the OKprise information management.

2 Product Features

The main features of the VR202III series VDR are as follows:

- Modularize: The basic configure+ Printer+ I/O+ CAN+ GPRS+ GPS+ C3 signal+ Battery+ Exterior display equipment;
- Diversification source of the data: sensor, GPRS, CAN Bus and so on;
- Flexible configure record, a great capacity of storage.

3 Basic Specifications

The following indexes apply to the VR202III series VDR. As for the function extension indexes, refer to the function extension explanation.

- Working voltage: 12V or 24V;
- Working temperature: -20℃—+70℃;
- I/O port: A port is inputting the vehicle speed signal. Eight ports is inputting the switch signal;
- Minute record: >360 hours average speed record per minute;

- Accident doubtful point record: In less than 0.2s intervals, record continuously the real-time vehicle speeds and brake signal status within 20 seconds before the vehicle stops. The records can be saved for more than 100 times;
- Product size: 188*57*155.5;
- Setup type: embedded setup or platform setup.

4 System Components

4.1 Types of the VR202III VDR

VR202III series VDR has adopted module design and is a basic type recorder based on the national standard GB / T 19056. It can be easily upgraded to recorders with extended functions by replacing function modules. The specific models and functions are as follows:

Serial No.	Main types	Functions descriptions
1	VR202III-P	built-in printer
2	VR202III-C-P	built-in printer and CAN (Optional)
3	VR202III-G-P	built-in printer and GPS (Optional)
4	VR202III-R-P	built-in printer and GPRS (Optional)
5	VR202III-C-G-P	built-in printer, CAN and GPS (Optional)
6	VR202III-C-R-P	built-in printer, CAN and GPRS (Optional)
7	VR202III-G-R-P	built-in printer, GPS and GPRS (Optional)
8	VR202III-C-G-R-P	built-in printer, CAN, GPS and GPRS (Optional)

List 4-1 VR202IIIseries VDR function type

While ordering please specify the main types, extension functions and installation forms. As for the extension

functions, see Chapter 7. If you have other special function requirements, please specify in the order.

4. 2 System components

The following table describes the system components of the VR202III VDR and the configurations in the table will be packed in normal case. The selective items relate the extension function and customer's special requirements.

Serial No.	Name	Type	No.	configuration	Remarks
1	VR202III VDR	Reference to List 4-1	1	Standard	Dispatch the relevant VDRs according to the order.
2	24 core external wire	Ben'An Professionals with	1	Standard	Standard wire is 12 core output.
	Fire bellows	Ben'An Professionals with	1.5m	Standard	
3	Instruction booklet	Ben'An Professionals with	1	Standard	
4	Certificate, warranty card, fuse, plastic seals, IC card bags	Ben'An Professionals with	1	Standard	

5	Harness Sheath	Ben'An Professionals with	2	Standard	
6	Installation box	Ben'An Professionals with	1	Selective	Embedded installation
	Platform frame + screws	Ben'An Professionals with		Selective	Platform Installation
7	Management analysis software	Ben'An Professionals with	1	Selective	
8	RS232	Ben'An Professionals with	1	Selective	
9	U disk	Standard U disk	1	Selective	U disk Bigger than 32M
10	Thermal paper	Ben'An Professionals with	1	Selective	Size:25*50mm
11	Disassembly rod	Ben'An Professionals with	2	Selective	
12	GPRS Antenna	Ben'An Professionals with	1	Selective	
13	GPS Antenna	Ben'An Professionals	1	Selective	

		with			
14	SIM card	Ben'An Professionals with	1	Selective	
15	Speed Sensor	Ben'An Professionals with	1	Selective	
16	Big screen	Ben'An Professionals with	1	Selective	Dispatch the relevant big screens according to the order.

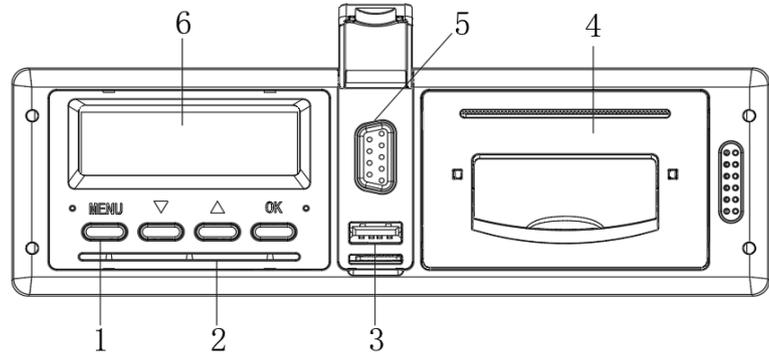
List 4-2 VR202III VDR system configuration

4. 3 Parts and components

See Figures 4-1 and 4-2.

Front Panel:

- 1) Button
- 2) IC card interface
- 3) U disk interface
- 4) Printer
- 5) RS232 interface
- 6) Display screen



Back Panel:

- 7) GPRS Antenna
- 8) 20core external
- 9) GPS Antenna
- 10) 24 core external

Figure 4-1 Front Pane

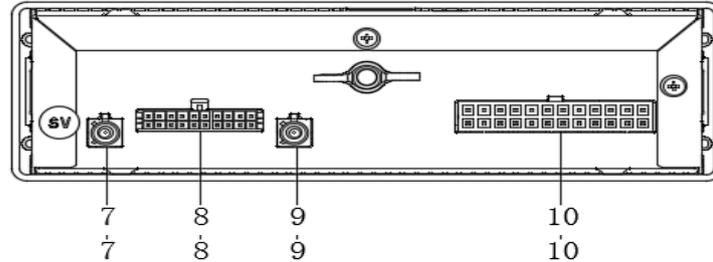


Figure 4-2 Back Panel

5 VDR Installation

5.1 Definition of core external connector

5.1.1 Definition of 20 core external connector

The recorder connects with the vehicle electric equipment with external wiring harness. VR202III wiring harness adopts 2*12 core rectangle plastic plug-in unit. It is equipped with plastic protective covering flexible cord. The standard type equips 12 lines. The red and black power lines are the GB designation color. The wire diameter is 0.5mm^2 , other wire diameter is 0.34mm^2 .

Wiring must be done according to the wire numbers and the colors are only for reference. The following table describes the definition of the wiring signals. In the reference wire color column, the wire harnesses in the parentheses are not included in the standard type.

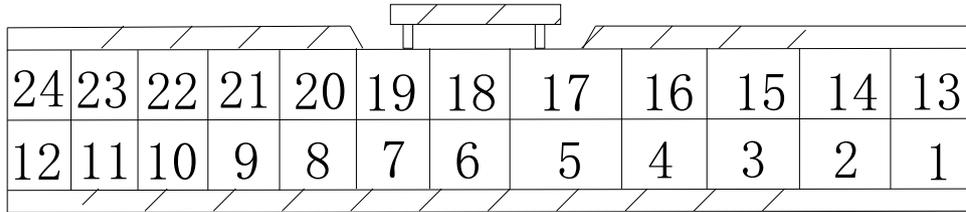


Figure 5-1 VDR 24 core external wire

Wire No.	Signal type	Default signal	Remarks
1	Vehicle Power +	Power +	Vehicle 24V Power +
2	Switch 12	ignition	Ignite ON
3	Switch 9	air conditioner	air conditioner
4	Switch 8	Braking	The switch controls + and can not be changed
5	Switch 6	Lower beam	The switch controls + and can not be changed
6	Switch 4	horn/ Mittertor	The switch controls +and may change the definition
7	Switch 2	High beam(big)	The switch controls + and can not be changed
8	Simulation	CAN2L/ horn	The switch controls +and may change the definition
9	Switch 2	Water heater	The switch controls + and can not be changed
10	Speed Output	Speed Output(1:1)	Speed Output(),Currently unused
11	Speed signal input	Speed signal input	Speed positive pulse

12	Switch 2	Rear fog lamp / retarder	The switch controls +and may change the definition
13	Vehicle Power —	Power —	Power —
14	CANL	CANL	
15	CANH	CANH	
16	Switch 7	Clutch fan/reversing	The switch controls +and may change the definition
17	Switch 5	Left turn light	The switch controls + and can not be changed
18	Switch 3	Right turning light	The switch controls + and can not be changed
19	Switch 1	front door	The switch controls + and can not be changed
20	Simulation	CAN2H/Alarm2	CAN2H/Alarm2, may change the definition
21	CAN120ohm	Line terminating resistor	Line CANL as terminating resistor
22	SOS+	SOS Signal+	
23	Sensor power +	Sensor power +	Sensor power supply+
24	Switch 11	Neutral	The switch controls + and can not be changed

List 5-1 VDR external standard wiring definition table

5.1.2 Definition of 20 core external connector

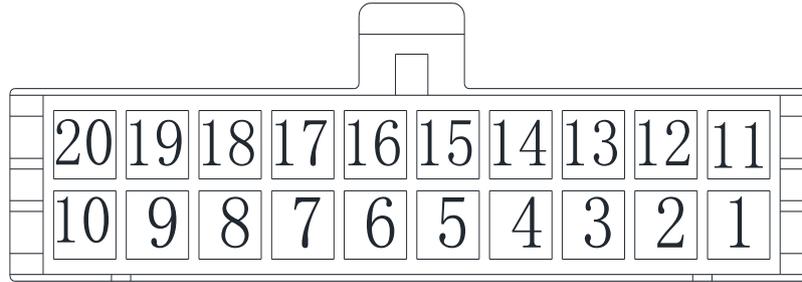


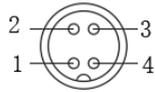
图 5-2 Definition of 20 core external connector

Wire No	Default signal	Signal description	Wire No	Default signal	Signal description
1	LP2	Left channel +	11	LN2	Left channel -
2	RN1	Right channel +	12	RP1	Right channel -
3	GND	Power —	13	reserve	
4	reserve		14	GND	Power —
5	5v	+5V	15	485B	485B
6	485A	485A	16	RXD (DVR)	DVR Serial port RXD
7	TXD (DVR)	DVR Serial port TXD	17	5V	+5V

8	GND	Power —	18	RXD (Card reader)	Card reader Serial port RXD
9	TXD (Card reader)	Card reader Serial port TXD	19	GPS TXD	Driver assistant GPS Serial port TXD
10	TXD (Driver assistant)	Driver assistant Serial port TXD	20	RXD (Driver assistant)	Driver assistant Serial port RXD

List 5-2 Definition of 20 core external connector

5.1.3 RS485 Camera interface definition



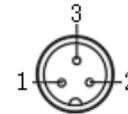
12M-4F
definition:
1、485 +
2、485 -
3、GND
4、 +5V

5.1.4 Driver assistant interface definition



12M-5A
definition:
1、GND
2、TXD
3、RXD
4、GPS-TXD
5、/

5.1.5 DVR definition



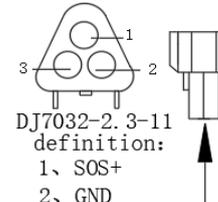
12M-3F
definition:
1、GND
2、RXD
3、TXD

5.1.6 Card reader interface definition



12M-3A
definition:
1、GND
2、TXD
3、RXD

5.1.7 SOS Definition of alarm switch



DJ7032-2. 3-11
definition:
1、SOS+
2、GND
3、/

5. 2 Wire connection

Installation of conventional wiring is usually required to take the following seven Harness: Power + (1 line), power supply negative (13 lines), ignition (Line 2), Brake (4 lines), speed signal (11 lines), turn left light (17 lines), right turn signal (18 lines).

5.2.1 Power lines and ignition wire instructions:

- The VDR power source+ connects to vehicle common electricity. The cathode tache iron. The common electricity should educe from the accumulator straightforwardly as near as possible and connect to the recorder through separately fuse.
- The VDR power source+ connects to vehicle common electricity. The cathode tache iron. The common electricity should educe from the accumulator straightforwardly as near as possible and connect to the recorder through separately fuse.

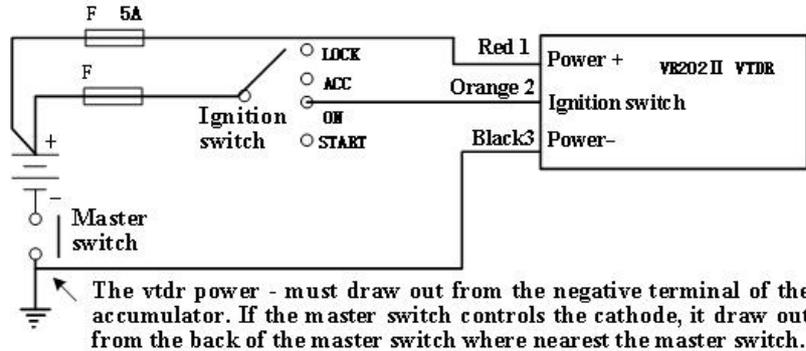


Figure 5-2 VDR power and ignition connection schematic drawing

5. 2. 2 The recorder obtains speed signal by two ways: installing the sensor or using the single track connection.

- installation the sensor: Installs the vehicle speed sensor, The wiring method may refer to installation the sensor vehicle speed signal wiring schematic drawing.



Figure 5-3 Installation the sensor vehicle speed signal wiring schematic drawing

- the single track connection: That is, the speed signal connects to No. 11 speed input signal wire of recorder. Refer to figure5-3.

5. 2. 3 Switch quantity connection explanation

VR202III series VDR offers eight switches input signals. Table 5-2 describes the connection signals and setting of the eight switches.

Switch	DI0	DI1	DI2	DI3	DI4	DI5	DI6	DI7
NO.	19	7	18	6	17	5	16	4
Name	front door	High beam	Right	horn/ Mittertor	Left light	Lower beam	Clutch fan/reversing	Braking
Efficiency	high	high	high	high	high	high	high	high

Table 5-2 The connection signals and setting of eight switches

As the figure5-5 shows, switch control power+, then the recorder input

signal wire connects to the back of switch, in chart A or B. switch control power-, then the recorder signal connects to the front of switch, in chart C or D. Barking signal (4)、left light (17)、right (18 must be connected and The switch controls + is efficiency.

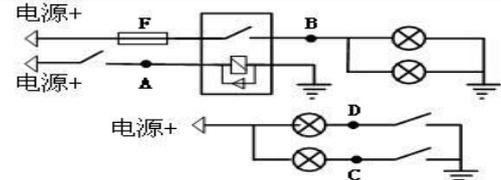


Figure 5-5 Switch connect schematic drawing

5.3 Installation and explanation

The installation of the VR202III series VDR includes embedded installation and platform installation. The external dimension is 188*58.5*155.5. The steps of the two installation forms are respectively as follows:

5.3.1 Embedded installation

- Dig Opening that size is 182.5*53.5*160 in the car;
- Stick with the removal of holes from the side frame insert removed to install box, box will be installed in the car Opening;
- 20、24 core external wiring harness has been associated with the vehicle;
- Screw fastened;
- Put the VDR into the box.

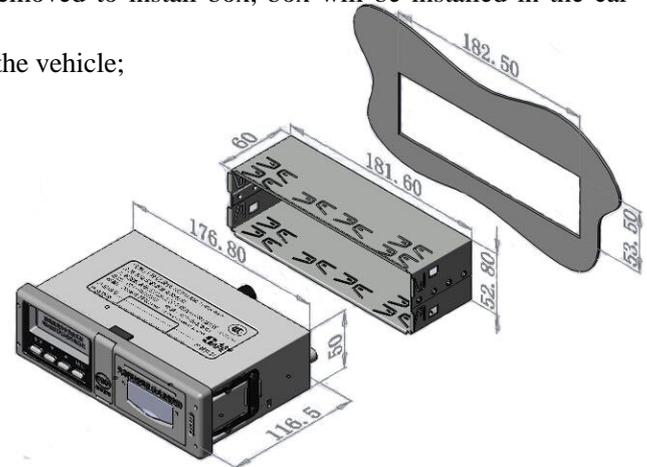


Figure 5-6 Embedded installation schematic drawing

6 VDR Operation

6.1 Switch on power to start

The VDR will OK into the self-checking status when it first connects to the power supply or when replacement restarting happens.

If the VDR does not pass the self-checking, the red light glitters and the buzzer calls, it means the power source is low or the start process has problem. If the screen displays error prompt information, carry on the necessary maintenance service according to the prompt situation.

After passing the self-checking, the VDR OKs into active status. The default display page is shown as in Figure 6-1. The recorder returns to default page when traveling and the keystroke function is locked. Only occurs the warning, press any key to OK the warning and stop the warning sound. The right one on top of the “Ig” for showing the band GPRS, GPS function.

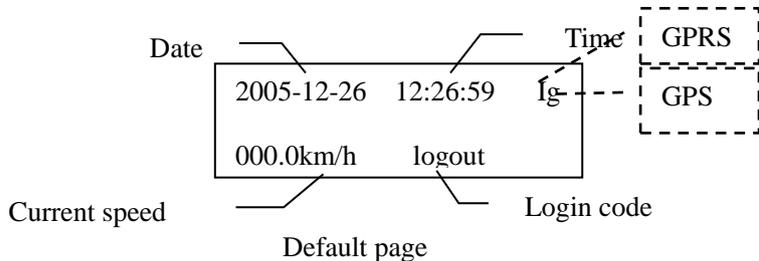


Figure 6-1 Default display page

6.2 Button functions

The VDR adopts lattices LCD display. One display screen is called one page and one page displays two lines. There are four keystrokes and their functions are as follows:

6.2.1 “*Menu*” key

- Switch between default display and main menu page;
- Return to the up menu;
- Shift to the left one place in the input page, and return to the up menu at the most left place;
- **Awake: the recorder will be awakened and go to active status when press “*Menu*” at dormant status.**

6.2.2 Downward key“▼”

- Select the next line in the list;
- Subtract current numeral 1 in digital input page;
- Turn to the next page in display page
- **Shortcut: logout directly when press key “▼” at default page. It is convenient for the driver to operate.**

6.2.3 Upward key“▲”

- Select the last line in the list;
- Add the current numeral 1 in digital input page;
- Turn to the last page in display page;
- **Shortcut: access the file operating sub-menu directly when press key “▲” at default page. It is convenient for daily data acquisition.**

6.2.4 Key “*OK*”

- OK the next level;
- Shift to the right one place in the input page, and OK the input content at the most last place;
- OK the operation;

- **Shortcut: OK the print sub-menu directly when press “OK” at default page. May carry on the GB form printing quickly.**

6.3 Menu list

The contents of the first level menu and Set Params menu are as follows:

Main menu	Sub-menu (Set Params.)
1. Login	Quick Key
2. Record Inquiry	register
3. File Operations	driving Alarm Param.
4. Printout	Vehicle Info
5. Set Params.	Network Param.
6. Vehicle inquiries	Network protocol
7. Send message	Set time
8. Telephone	Platform Param
9. Init Data	Correct Character
10. System operations	Device Install
11. Register.	SMS maintenance tel
12. Help info.	SMARTV Params
13. Vehicle&Driver Info	2 nd .Param
14. GB Overtime Record	NewEnergy Params

Figure 6-2 Menu list

6. 4 Set Params

After installing the VDR, you need to set up the common parameters and the common information includes the characteristic coefficient, the speed limit, the license plate number, the vehicle classification and the vehicle VIN number, etc. Only the one with the administrator jurisdiction can set up or revise the parameters and this can only be done when the vehicle stops. In the default page,

- Press “**OK**” to OK main menu. Press “▼” to select “**Set Params**”;
- Press “**OK**” to OK Set Params inquiry page. Press “▼” the recorder will display in turn as shown in the chart;

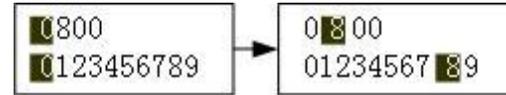
Each parameter demonstration occupies two lines. After login with management jurisdiction, press “**OK**” to OK the corresponding parameter revised page except total mileage. Press “**Menu**” to exit after finishing revision. The screen prompts “**OK to save**”, “**Menu to return**”. Press “**OK**” if the parameter is revised. The recorder will reset and take effect after restart.

6.4.1 Setting characteristic coefficient

- When the vehicle stops, in default page, insert the management IC card to see login code. Press “**Menu**” and “**OK**” to OK “**Login**” sub-menu;
- Press “▼” to select “**Admin Authority Log**”, then press “**OK**” to OK password input page;
- OK the password input page, select the first of left side with cursor. Now input the password. Press “▼” once, the current numeral reduces 1. Stop selecting until the numeral is the appropriate one. If crossed, press “▲” and the numeral will increase until the numeral returns to right;
- Press “**OK**”, the cursor transfers to next, input all the password with the same way;
- If input wrong, press “**Menu**” the cursor will transfer to left. Then input again. When the cursor is at the most left place, press “**Menu**” will exit password input status and return to up menu;
- The cursor moves to the last place, and the correct numeral is selected, press “**OK**”. It indicates input completes. The recorder will accept the input password and judge the correctness;
- If input correctly, the screen will display “**login successfully!**” Otherwise, the screen will display “**Wrong**”

password!” and produce a long wrong prompt sound simultaneously. Press “**Menu**” or “**OK**” to input the password again;

- After input the correct password of management card, press “**OK**” to complete jurisdiction login, then press “**Menu**” to return main menu. Press “**▼**” to select “**Set Params**”, then press “**OK**” to OK parameter display page. Press “**▼**” continuously to turn to **Characteristic coefficient page**;
- Press “**OK**” to OK revision page, as shown on the chart, the above line is the current characteristic coefficient. It is 4 digits. The below line is input content prompt;
- Turn to the numeral with “**▼**” or “**▲**”, press “**OK**” and the cursor transfers to next. To revise the input content, press “**Menu**” to turn left;
- After complete input, press “**OK**” to display the revised characteristic coefficient. At this time, press “**▼**” to turn to “**pulse number per round**”, press “**OK**” to revise this value or press “**▲**” to turn up to check or revise other coefficient information;
- After complete all revision, press “**Menu**”, the prompt is “**OK to save and take effect after reset**”. Press “**OK**” to save the revision or press “**Menu**” to cancel the revision;
- Press “**OK**”, the recorder will reset. The revision takes effect after the VDR resets.



6.4.2 Setting speed limit

- When the vehicle stops, in default page, insert the management IC card to see login code. Press “**Menu**” and “**OK**” to OK “**Login**” sub-menu;
- Press “**▼**” to select “**Admin Authority Log**”, then press “**OK**” to OK password input page;
- Refer to the explanation in **6.4.1 password input**, after input the correct password of management card, press “**OK**” to complete jurisdiction login, then press “**Menu**” to return main menu. Press “**▼**” to select “**Set Params**”, then press “**OK**” to OK parameter display page. Press “**▼**” continuously to turn to “**driving Alarm Param.**”;

- press “**OK**” to OK parameter display page “**Speed Limit**”, press “**OK**” OK parameter display page;
- Turn to the numeral with “▼” or“▲”, press “**OK**” and the cursor transfers to next. To revise the input content, press “**Menu**” to turn left;
- After complete input, press “**OK**” to display the revised characteristic coefficient;
- After complete all revision, press “**Menu**” twice, the prompt is “**OK to save and take effect after reset**”. Press “**OK**” to save the revision or press “**Menu**” to cancel the revision;
- Press “**OK**”, the recorder will reset. The revision takes effect after the VDR resets.

6.4.3 Setting license plate number

- Press “▼” to select “**Admin Authority Log**”, then press “**OK**” to OK password input page;
- Refer to the explanation in **6.4.1 password input**, after input the correct password of management card, press “**OK**” to complete jurisdiction login, then press “**Menu**” to return main menu. Press “▼”to select “**Set Params**”, then press “**OK**” to OK parameter display page. Press “▼” continuously to turn to “**Info of Vehicle**”;
- press “**OK**” then Press “▼”to OK parameter display page “**license plate NO.**”, press “**OK**” OK parameter display page;
- Turn to the numeral with “▼” or“▲”, press “**OK**” and the cursor transfers to next. To revise the input content, press “**Menu**” to turn left;
- After complete input, press “**OK**” to display the revised characteristic coefficient;
- After complete all revision, press “**Menu**” twice, the prompt is “**OK to save and take effect after reset**”. Press “**OK**” to save the revision or press “**Menu**” to cancel the revision;
- Press “**OK**”, the recorder will reset. The revision takes effect after the VDR resets.

6.4.4, 6.4.5 The Set Params of the vehicle classification and the vehicle VIN number is the same as the above operation.

6.4.6 Setting Time

Time setting is controlled by **Authority**. It only displays after login with management **Authority**. The administrator

may adjust the clock, date in daily use. The recorder will produce an operation record after the clock and date is revised, in order to trace to the event. Operating process as follows:

- In default page, press **“Menu”** then **“▲”** to **“System operations”**, press **“OK”** then continuously to select **“Time setting”**, then press **“OK”**;
- After display the current recorder real-time clock, press **“OK”** to OK time revision page. The above line is the current clock, the below line is numeral prompt;
- Select the numeral with **“▲”** or **“▼”**, then press **“OK”** to move back or **“Menu”** to move forward;
- After input completes, press **“OK”** to return current clock display. Ensure there is no error then press **“Menu”**, the screen prompts **“OK to save”**, **“Menu to return”**;
- Press **“OK”** to save the revision. It takes effect after the recorder resets. Press **“Menu”** to cancel and the recorder returns to up sub-menu.
-

6.5 Printer maintenance

The VDR adopts built-in thermal printer which uses 25*50 mm thermal printing paper. The inside diameter of the paper is 13*3*44. The power must be off before replacing the printing paper. According to Figure 6-3, while replacing paper, you should first fasten the groove at the bottom of the cover board to pull open the cover board and then roll up the paper smoothly and tidily. After that, cover the board (first cover the top and then cover the bottom).

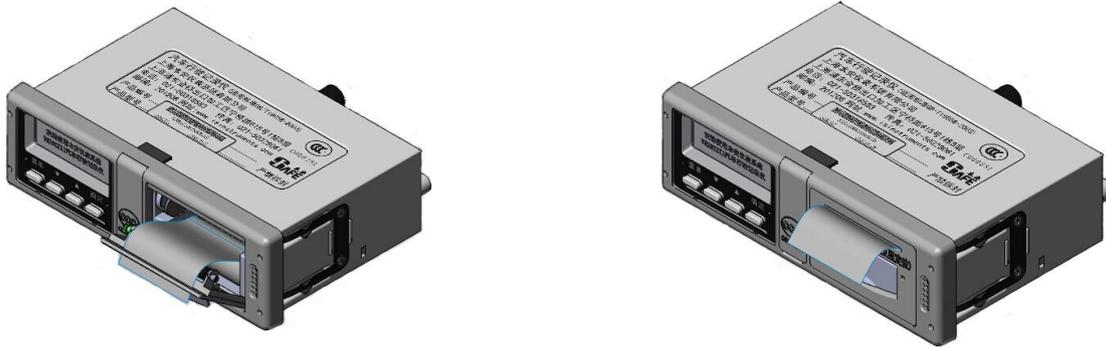


Figure 6-3 Replacing printing paper schematic drawing

7 Set time zone

Because the time zone of each country is different, you need to set the time zone of the corresponding country, The setting method is as follows:

After the administrator logs in, press " Menu " to OK the main menu, press "▼" key to select "set params"; press "OK" to OK the first level submenu of setting parameters, press "▼" key to select "set time", press "OK" to OK the secondary submenu of setting parameters, and press "▼", Select "time zone"; press "OK" to OK the modification page, turn to the required text or number with "▼" or "▲", and press "OK" to move the cursor to the next position. If you want to modify the input content, press "menu" to move to the left; after input, press "OK" to display the modified value;

8 Frequently Asked Questions

No.	Phenomena	Analysis and solutions
1	No display after ignition	To wait for 3 minutes to see if the VDR can be awakened; to check if the fuse is burned out; to see if the voltage of line 1 and line 13 is storage battery voltage; to check if the wiring harnesses are connected normally; or to contact the service centre or the manufacturer finally.
2	No message display with the screen light on	To contact the service centre or the manufacturer.
3	Fail to OK by inserting card	To check if you have the right inserting direction; To replace the card to try; or to contact the service centre or the manufacturer.
4	The administrator card does not have the administration jurisdiction	To rewrite the card using the management software.
5	The U disk can not collect data	To check if the U disk is inserted properly; to check if the U disk is in write-protect status; to see if the capacity of the disk is full; to format the disk to try; or to replace the U disk.
6	No communication message at the series connection interface	To check if the series connection wires are connected properly.

7	The printing paper does not go properly or get blocked.	To pull out the paper properly; to reload the printing paper properly.
8	The speed display on the VDR differs from the speed display on the instrument panel.	The characteristic coefficient is wrong. Reset the characteristic coefficient using the automatic demarcation function or the known numerical value.
9	The VDR speed display is zero.	To confirm if the speed on the instrument panel is normal; to check if the wiring harnesses are connected properly; to touch the power source (plus) promptly with line 11; to check the sensor connection or to amend the relevant voltage.
10	Wrong time display	To contact the service centre or the manufacturer to replace batteries.
11	Wrong GPS signal display	If the GPS signal display has been E (even after restarting), contact the service centre or the manufacturer; if the GPS signal display is 'a' (even after screwing down the antenna), replace the antenna; if the GPS signal display has been F (even in open area and nice weather condition), contact the service centre or the manufacturer
12	Wrong GPRS signal display	If the GPRS signal display has been I (even after restarting), replace the SIM card. If that does not work, contact the service centre or the manufacturer.
13	The large screen can not be lighted or has no response to the operation	To restart the VDR to see if the large screen can display the concrete time; to check if the series connection interface wires of the large screen are connected properly; or to contact the service centre or the manufacturer finally.

Free service hotline: **400-0902-281**



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