

ZJTJ-BR3-HQ03 User Manual

R01

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Related Manuals

Manual description	Applications
User Manual for ZJTJ-BR3-HQ03 Travel Recorder	Introduction and installation of ZJTJ-BR3-HQ03

About this Manual

This User Manual mainly presents the operation method of ZJTJ-BR3-HQ03 product. In order to ensure the safety and correct use of the product, please read this Manual carefully before installing and using, and while using this product. This Manual contains the following chapters:

1. Overview
2. Product components and installation instructions
3. Main functions
4. Instructions for the vehicle travel recorder
5. Export method of travel record data
6. Technical specification
7. FAQs
8. Precautions

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Readers

This Manual is applicable to the following readers:

- Field engineer
- Product manager
- End user

As stipulated in this Manual

Graphic interface format conventions:

Format	Meaning
< >	The item bracketed in a "<>" indicates the name of the key. For example, "click on <OK>".
[]	The item bracketed in a "[]" indicates the window name or interface name. For example, "pop up the [Message] window".

I. Overview

ZJTJ-BR3-HQ03 product is a new generation of intelligent operation management tool which integrates the three elements, i.e. "Human", "Vehicle" and "Road". It provides services such as real-time vehicle tracking, remote management, vehicle operation data, real-time alarm of vehicle operation status, maintenance planning and reminder. The product has a built-in printer.



**II. Product Components and Installation
Instructions**

2.1 List of spare parts

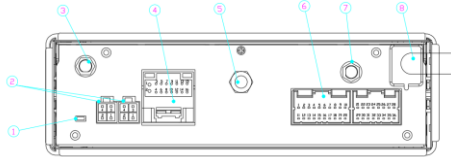
Item No.	Material name	Qty
1	Networking antenna	1 pc
2	Beidou/GPS antenna	1 pc
3	Power supply wire harness	1 pc
4	Signal harness	1 set
5	Warranty Card	1 copy
6	C of C	1 copy
7	User Manual	1

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2.2 Front panel



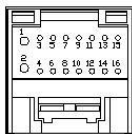
2.3 Back panel



①	Switch of standby battery	⑤	M6 fixed hole site
②	Camera interface	⑥	Signal line interface
③	Beidou antenna interface	⑦	Networking antenna interface
④	Power interface	⑧	Display screen connecting line

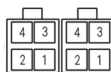
2.4 Definition of product interface

2.4.1 Definition of power interface



Pin	1	2	3	4	5
Definition	Negative power source	Positive power source	Null	ACC	Null
Pin	6-12	13	14	15	16
Definition	Null	Null	Speed limit	Null	Lock car

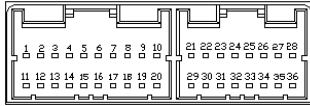
2.4.2 Definition of camera interface



Pin	1	2	3	4
Definition	GND	RS485A	RS485B	5V

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2.4.3 Definition of signal interface



1	Bean light signal	19	Vehicle speed signal input
2	Braking signal	20	Engine speed (tarpaulin pulse signal)
3	Reversing signal	21	Vehicle body CAN_H
4	Exhaust brake switch	22	Vehicle body CAN_L
5	Cab reversal (tarpaulin limit switch 1)	23	Robbing alarm
6	T_15 electric	24	Brake circuit air pressure 1 ground
7	Power take-off switch	25	Brake circuit air pressure 1 input
8	Air filter alarm	26	Null
9	Power CAN_H	27	Fuel anti-theft pulse signal
10	Power CAN_L	28	Null
11	Braking signal	29	Null
12	Clutch signal (tarpaulin limit switch 2)	30	Null
13	Left steering signal	31	Anti-disassembly power supply output
14	Returning-failure signal of dump	32	Brake circuit air pressure 2 ground
15	Right steering signal	33	Brake circuit air pressure 2 input
16	Dipped headlight signal	34	Oil pressure ground wire
17	Neutral position of power take-off	35	Oil pressure input
18	Air conditioner	36	Null

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2.4.3 Definition of the connection signal line interface of vehicle-mounted display screen



Pin	1	2	3	4
Definition	Null	GND	Null	CAN-H
Pin	5	6		
Definition	Reversing signal	CAN-L		

2.5 Installation method

1. Check whether the voltage supply for the vehicle is normal.

- Check the vehicle accumulator to ensure normal voltage supply;
- The working voltage supported by the product is 9V-36V;

2. Mounting of SIM card

- Open the SIM baffle of the equipment with a screwdriver or other tools. Open the slot following the arrow direction, carefully insert the SIM card and TF card into the slot. Do not apply too much force to prevent card socket from breaking. Ensure that the SIM card and TF card are properly connected to prevent falling off. Cover the baffle

and tighten the screws as shown in Figure 2-1. Record the phone number as well;

- The SIM cards supported by the products include ordinary mobile and Unicom phone cards, traffic cards;



Figure: 2-1

3. Install Beidou/GPS antenna, networking antenna, power harness, signal harness and camera harness properly

- 3. First of all, check whether the antenna or other harnesses are damaged; connect the Beidou/GPS antenna, networking antenna, power harness, signal harness and camera harness successively.
- Make sure that the rotation direction or wire harness insertion direction is correct. Slightly pull and rotate to confirm that the wire harness is fixed. See Figure 2-2.



Figure: 2-2

4. Open the built-in battery switch

- The spare batteries are closed by default; before the product is used, it must be opened and rotated to the left as shown in Figure 2-3:



Figure: 2-3

5. Fix the product to an appropriate location

- Embedded installation is adopted: namely use a clamping set on the product to place the product to a fixed position on the dashboard by embedded installation. Then fix the product with M6 supporting firmware; check to make sure the screws are tightened.

6. Connect power supply for the vehicle body and turn on the vehicle switch

- Finally, connect the battery power line with the product power line, and then turn on the vehicle switch (ACC);

7. Confirm that the product is working properly

- 1-2 minutes later, the networking lamp will be constantly on and occasionally flash, indicating that the product has been successfully connected to the platform;
- When the display screen shows GSM signal (📶), it means that it is in good condition. (📶) indicates that it is connected to the platform; GNSS positioning icon (📍) indicates normal GPS positioning; (🚨) indicates current alarm information as shown in in Figure 2-5-4;



Figure: 2-4

2.6 Parameter setting

The product parameters can only be set by issuing corresponding instructions via the corresponding platform.

2.7 Pulse coefficient calculation

After connecting the pulse speed line of the recorder, drive the vehicle for about 10 minutes at a speed of 50 km/h. If the error of the instrument speed and the speed of the recorder is less than 5%, the pulse coefficient doesn't need to be modified. Otherwise, the pulse coefficient needs to be modified by issuing instructions via the platform. The calculation formula for the new pulse coefficient is as follows:

Front-loaded vehicle: $\text{New pulse coefficient} = \text{Vehicle speed displayed on the instrument} / \text{Vehicle speed displayed on the travel recorder} * \text{Pulse coefficient}$.
Back-loaded vehicle: $\text{New pulse coefficient} = \text{Vehicle speed displayed on GPS} / \text{Vehicle speed displayed on the travel recorder} * \text{Pulse coefficient}$.

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The pulse coefficient of the recorder can be viewed through the home interface→ travel record→ pulse coefficient (the default pulse coefficient of the system is 8000).

2.8 Precautions for installation

The networking antenna and Beidou/GPS antenna should be placed in the correct position to avoid intertwining with other control lines (it is recommended that the networking antenna and Beidou/GPS antenna should be kept at a distance of more than 15 cm) and fixed with double-sided or 3M glue to avoid long-term vibration which will lead to antenna dropping and damage and affecting signal receiving.

III. Main Functions

Item No.	Functions	List	Remarks
1	Positioning function	√	Beidou dual-mode positioning module is adopted
2	Remote connection function	√	
3	Switch volume collection	√	Min. threshold voltage: Determined as low level when it is lower than 3V Max. threshold voltage: Determined as high level when it is higher than 5V
4	Pulse collection	2 circuits	Collect vehicle speed, rotational speed and report to the server
5	CAN information collection	√	Collect CAN data of the engine and vehicle body
6	RS232 interface connection	√	Front-DB9 interface for debugging parameter setting
7	RS485 interface connection	√	Used to support 2-way digital cameras
8	USB interface connection	√	Used for exporting the travel recorder data Support 500 mA charging current for peripherals
9	AD volume collection	2 circuits	Support external oil sensor Support CAN oil volume collection
10	Printer	√	Built-in printer optional
11	Display screen	√	122 * 32 single display screen for human-computer interaction with backlight

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12	Driver identity recognition function	√	Built-in contact IC card device
13	Picture capturing function	2 circuits	Support picture capturing and returning. Do not support capturing at both circuits simultaneously
14	Relay output	2 circuits	Hardware supports 2 circuits, but only 1 circuit is in use (relay control)
15	Voice reader	√	Built-in TTS voice synthesizer and speaker
16	One-click call	√	Support one-click call center
17	Robbing alarm device	√	Support external robbing alarm button
18	Built-in battery	√	Support terminal self-power supply
19	Standard of the Ministry of Communications	√	Support JT/T 794-2011 and JT/T 808-2011
20	Printing of travel record	√	Support the standard functions of travel recorder, printing, travel record information export and so on.
21	Vehicle identity information	√	Support displaying the remotely issued vehicle identity information and support remote update
22	Buzzer	√	Built-in buzzer
23	Remote program updating	√	Support remote program updating
24	Remote configuration parameters	√	Support remote parameter updating
25	Nonstandard driving model	√	Support overspeed driving Support fatigue driving, etc.

IV. Instructions for the Vehicle Travel Recorder

4.1 Startup main interface

The product will start up and display "Tianxingjian Always Beside You", and then enter the self-checking and show the self-checking status of the product, and finally enter the home interface.

The home interface shows the current date, IC card status, positioning status, GSM signal strength and current speed, as shown in Figure 4-1:

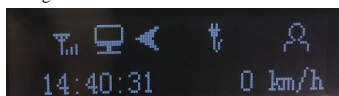


Figure: 4-1

Notes:

Symbol	Description
	No GSM signal
	Normal GSM signal
	Failed to connect to the platform
	Connected to the platform
	Failed to connect GNSS antenna
	GNSS antenna connected but not positioned
	Positioned. The arrow direction indicates travelling direction
	Unread message
	Backup battery connected and is charging
	Alarm information existing
	Driver not logged in
	Driver logged in
	Current speed
	Current time

4.2 Interface function directory

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Level I directory	Level II directory	Level III directory	Functional notes
Vehicle information	Basic information	Terminal number:	Support viewing by clicking
		SIM card No.	Support viewing by clicking
		Terminal number of freight platform:	Support viewing by clicking
	License plate	License plate:	Support viewing by clicking
	License plate classification	License plate classification:	Support viewing by clicking
	Vehicle identification code	Vehicle identification code:	Support viewing by clicking
	Pulse coefficient	Pulse coefficient:	Support viewing by clicking
Event report	Event contents		You can view the list of events issued by the platform. The driver can send event report messages to the platform if they encounter corresponding events.
Message management	Message content		You can view messages from the platform
Questioning management	Questioning content		View the questioning messages issued by the platform. The user can choose the candidate answers to respond according to the actual situation.
VOD	VOD content		You can view the relevant VOD service information issued by the platform. The user can choose the VOD and confirm. Such as: weather forecast, road information.

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Number management	List of numbers		You can view the list of phone numbers	
Travel record	Print and export	Print	Travel record data can be printed, including: license plate number, license plate classification, vehicle identification code, driver code, driver's license number, speed status, overtime driving record and average speed in 15 minutes before parking, etc.	
		Paper feeding	Click on Automatic Paper Feeding	
		Export	Support exporting the travel record data to USB flash disk file.	
	License plate	License plate:	Support viewing by clicking	
	License plate classification	License plate classification:	Support viewing by clicking	
	Vehicle identification code	Vehicle identification code:	Support viewing by clicking	
	Pulse coefficient	Pulse coefficient:	Support viewing by clicking	
	Driver code	Driver code:	Support viewing by clicking	
	Driver's license number	Driver's license number:	Support viewing by clicking	
	Speed state	Speed state:	Support viewing by clicking	
	Overtime driving record	Overtime driving record:	Support viewing by clicking	
	System information	Terminal number of freight platform		Support viewing by clicking
		Product model (PID)		Support viewing by clicking
Serial Number			Support viewing by clicking	
Manufacturer			Support viewing by clicking	
Product number (CID)			Support viewing by clicking	
Hardware version (HWVer)			Support viewing by clicking	

批注 [A1]: 这个地方请确认

到上面了

开始	帮助列表	
目录	二级目录	三级目录
		批注 [A1]:

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	Date of production of product motherboard (Date)		Support viewing by clicking	
	BOOT Version (BootVer)		Support viewing by clicking	
	Application program version (AppVer)		Support viewing by clicking	
	Single chip version (FwVer)		Support viewing by clicking	
	GNSS		Support viewing by clicking	
System settings	Vehicle setting		Support viewing by clicking	
	Emergency unlock		Need to enter emergency unlock password	
	Quick Account Opening Option		Support the selection of "Open" or "Close"	
	Overspeed reminder		Support the selection of "Open" or "Close"	
System self-test	Pulse information		Support viewing by clicking	
	Positioning information		Support viewing by clicking	
	GPRS information		Support viewing by clicking	
	Status information		Support viewing by clicking	
	Data acquisition		Support viewing by clicking	
	AD information		Support viewing by clicking	
	Camera status		Support viewing by clicking	
	Network state		Support viewing by clicking	
	Tire pressure information		Support viewing by clicking	

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Upgrade program	USB upgrading GNSS		Insert the USB flash disk with the firmware upgrading program GPS/positioning module into the USB interface until the system prompts "Export the driving record. Please press the "OK" key
Serial port mode	Normal		Support viewing by clicking
	GNSS		Debugging interface
	DBG		Debugging interface

V. Export Method of Travel Record Data

5.1 USB Communication Interface

The travel recorder supports exporting traveling recording with a USB. After inserting the USB flash disk and identification, the product will prompt "Export the driving record. Please press the "OK" key". Press the "OK" key to export the driving record data to the file with a expanded-name of ".VDR" under USB flash disk root directory; import the VDR file and analyze with a data analysis software conforming to JT/T 794-2011.

VI. Technical Specification

Item	Indicator
Operating voltage	Standard value: 24V
	Minimum value: 9 V
	Maximum value: 36 V

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Operating current	Average current: 0.14A Maximum current: 1A
Operating temperature	Standard value: 25 °C Minimum value: -30 °C Maximum value: 70 °C
Storage temperature	Standard value: 25 °C Minimum value: -40 °C Maximum value: 85 °C
Beidou positioning	Positional accuracy $\leq 5\text{m}$
Overall dimensions	188Mm*58mm*120mm (not containing antenna interface)

VII. Common Problems and Solutions

Failure symptom	Possible causes	Handling method
The product cannot communicate with the monitoring center	Networking antenna failure	Re-install networking antenna
	Metal shielding around the networking antenna	Adjust the installation position of networking antenna
	No SIM card available	Mount a SIM card
	SIM card arrears	Renew
	IP address and port mismatch with the monitoring center	Reset (see 2.6)
The product has no positioning	Beidou/GPS antenna failure	Re-install Beidou/GPS

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information		antenna
	Metal shielding around Beidou/GPS antenna	Adjust the installation position of Beidou/GPS antenna
Incorrect display of product license plate number and VIN number	No settings	Reset (see 2.6)
Black screen	Low voltage of automobile accumulator	Charge or replace the accumulator
	Fuse burnout	Fuse replacement
	Product failure	Contact the manufacturer

VIII. Precautions

Power supply: The power supply of the product must conform to the requirements.

Ventilation: Ensure ventilation and avoid product overheating.

Waterproof and moisture-proof: Do not put the product in a humid environment. Prohibit water from entering the machine.

Cleaning: Any cleaning is limited to the product surface and should not go deep into the product.

Matrix screen protection: Matrix screen should be protected from collision and extrusion, and avoid sharp objects scratching the lattice screen. A protective film should be used before delivery. Please tear off the protective film before use.

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Transportation and placement: When transporting and placing this product, it is recommended to use the original packaging material and avoid product over-stacking as far as possible.

Weight-bearing: Do not place heavy objects or trample on the product.

Warning: Do not connect any power supply during the installation of the product to prevent the product from being damaged by incorrect power-on. Do not disassemble the product without permission to avoid permanent damage to the product.

Personnel other than the qualified technicians designated by our company shall not repair the product.

Note: The electromagnetic field of special frequency may affect the normal operation of the machine.

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FCC warning:

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Note: 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.

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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 RF radiation exposure limits set forth for an uncontrolled environment.

This equipment should be installed and operated with a minimum distance of 30 centimeters between the radiator and your body



GSM Antenna
Antenna gain GSM900: 2.0dBi Antenna gain DCS1800: 2.0dBi
Uplink Frequency: GPRS/EGPRS 850: 824~849MHz GPRS/EGPRS 1900: 1850~1910MHz
Downlink Frequency: GPRS/EGPRS 850: 869~894MHz GPRS/EGPRS 1900: 1930~1990MHz