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The Protocol of JT701 Product

V2.0

Shenzhen Joint Technology Co.,Ltd

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Content

Ⅰ Preface

This article lists the product all supported instruction, the format of the provisions of this agreement cannot be changed, all of the provisions of this agreement involves the time the instructions are in Greenwich mean time (GMT).

Ⅱ Explanation of nouns

2.1 Sleeping

Default, JT701device is under sleep mode, MCU is not working, the device is in low power consumption, but can be wakened by trigger factors(refer to section 2.2). The device will upload its position and alarm data in preset interval when triggered, each kind of alarm data can be uploaded 3 times in maximum. When the device received alarm confirmation, it will continue to work in 30 seconds and go to sleep, otherwise it will work for 10 minutes (this time can be changed). If the device triggered during this 10 minutes, it will continue to work counting from last triggering. If the device is set to be waken by RTC, it will upload ONE position data after located, and then go to sleep in 30 seconds. If the GPS couldn't get located, the located position will be uploaded 30 seconds before preset sleep time, and then go to sleep.

2.2 Wake up source

The device can be wake up by external wake up source and RTC wake up source.

Item	Wake up source	After wake up	Instruction
1	Vibration	The device would work for 10 minutes (can be set) in case of waking up by vibration. If the device does not obtain any wake up source signal continuously in this period, it will go sleeping, otherwise the device would go sleeping after working for 10 minutes since the point detecting the last external wake up source signal.	external wake up source
2	SMS	The device would work for 10 minutes (can be set) in case of waking up by SMS. If the device does not obtain any wake up source signal continuously in this period, it will go sleeping, otherwise the device would go sleeping after working for 10 minutes since the point detecting the last external wake up source signal.	external wake up source
3	CALL	The device would work for 10 minutes (can be set) in case of waking up by CALL. If the device does not obtain any wake up source signal continuously in this period, it will go sleeping, otherwise the device would go sleeping	external wake up source

		after working for 10 minutes since the point detecting the last external wake up source signal.	
4	RFID card	The device would work for 10 minutes (can be set) in case of waking up by RFID card. If the device does not obtain any wake up source signal continuously in this period, it will go sleeping, otherwise the device would go sleeping after working for 10 minutes since the point detecting the last external wake up source signal.	external wake up source
5	Locking string connection/disconnection	The device would work for 10 minutes (can be set) in case of waking up by locking string connection/disconnection. If the device does not obtain any wake up source signal continuously in this period, it will go sleeping, otherwise the device would go sleeping after working for 10 minutes since the point detecting the last external wake up source signal.	external wake up source
6	RTC	From the point of go sleeping, if there is not external wake up source signal in 30 minutes, the device will wake up automatically to upload a piece of data and go sleeping again. If there is some external wake up source signal in 30 minutes, the device will wake up with reference 1-5.	RTC wake up source

2.3 Re-uploading data

JT701 comes with blind geo-fence data re-upload function, which means when the GSM network is not good enough, the data will be saved into device (28000 pcs at least) and re-uploaded with every 10pcs data when network regained. JT701 saves card swiping record and door open/close record as well (2400pcs at least), these data will be uploaded one by one when network recovered. The device supports up to 500 RFID card.

2.3 RFID card type

There are three types of RFID card. Authorized card, vehicle card, unauthorized card.

type	function	Operation

authorized ID	unlock	Two options: 1. Add , remove authorized ID, enquiry by command P41, details are shown in command instruction 6.19 2. Get authorized ID by swiping card on spot, details are shown in command instruction 6.20
vehicle card	bind with vehicle ID	Two steps: 1. Download the white list: swiping unauthorized card to download white list. 2. Swiping vehicle card to match with white list to bind with vehicle, then send the information to hosting server.
Unauthorized card	When swipe the unauthorized card, so the device request and compare the white list in center server and then download the latest white list.	No setting

2.4 Command

Device's command and setting can be carried out by GPRS. SMS. Serial Port, USB

2.5 Status Indication

The LED and buzzer are used to indicate device working status. There are GPS LED, GSM LED, Low voltage LED, and charging LED.

In the first time use, and the device didn't go to sleep, the LED blinks as follows:

GPS LED blinks in every 3 seconds if GPS not get located, and blinks every 10 seconds after get located;

GSM LED blinks in every 5 seconds if just get registered or roaming, blinks in every 1 seconds after registered or in roaming. GSM LED blinks in every 0.1 seconds when GSM get on line and send data, and blinks in every 1 seconds if data sending failed.

While when the device is wakened from sleep, the LED blinks as follows:

GPS LED indicates the lock swiping status, it blinks 5 times in every 0.2 seconds interval if card swiping is successful, or blinks only once if unsuccessful. GSM LED indicates the device working status, it blinks in every 10 seconds if device awakened.

LVS LED will be constant on if under charging and blinking every 3 second when internal battery level less than 30%

The buzzer sound at card swiping and lock/unlock: it buzzes twice at successfully swiping or unlocked by command, it buzzes only once if swiped with unauthorized card.

It buzzes once in every card authorizing process, and buzzes 3 times when the authorized cards reach 20 units.

2.6 VIP Cell phone number function

VIP Cell phone number function is as follows:

VIP number index	Function explain
1	If the device uploads data via SMS mode, VIP number 1 is used to receive GPS data; Receive current location when queried via GPRS channel; SMS channel query current location; send and receive short message command. Receive alarm data
2	SMS channel query current location; send and receive short message command.
3	SMS channel query current location; send and receive short message command.
4	SMS channel query current location; send and receive short message command.
5	SMS channel query current location; send and receive short message command.

2.7 Center Server system integrating instructions

Function name	Command Interaction between center server system and JT701 device
Set Geo-fnece	1)Center server send P30 command to clear all nodes of geo-fence 2)User edit geo-fence nodes by P29 command and send this command to device via Center server or JT701 configure software 3)Center server sent P31 command to inform device that it has saved the geo-fence setting.
Add unlocking authorized IDs by	1) User send P42 command via server center or JT701 configure software,so enable adding unlocking authorized ID by swiping card

swiping card	2) User take the RFID card,and swipe it on JT701 device one by one, when hear the sound “di”,so record this card successfully ,and go on the next.and then send P42 command via server center or JT701 configure software,disable P42 command funtion.
Upload the swiping card and unlocking the device records	1) The JT701 device will record all swiping card or unlocking/locking the device records 2) The device will send the record to center server one by one 3) Center server received this record, and reply P46 command to acknowledge the device it had received this record. 4) The device received P46 command, so upload the next record.
Download white list	1) when swipe the unauthorized IDs or vehicle blind card on JT701 device 2) the device will send the P47 command to center server 3) center server reply P47 ,so inform the device the latest white list main version and Minor version and also. Detailed refer to P47 command. 4) The device will compare its white list version with latest while list version in center server.if it’s same,so no need download anything; if it’s not same, download the latest while list by P48 command 5) The device request updating the while list by P48 6) Center server send P48 command to device, so update the device’s white list.
Upload alarm data or re-uploading data	1) If the devices send alarm data or re-uploading data 2) Center server will reply P35 command to the device if received those data. 3) The device will resend alarm data or re-uploading data when didn’t get P35 command reply from center server

Ⅲ Protocol type

Supports data receiving from both GPRS and SMS mode

GPRS mode means the device uploading data by TCP port;SMS mode means the device uploads data via short message.

Ⅳ Data Format

4.1 Locating data of GPRS

Format of GPS data :

247520150926161100231310150346472233156011355530 9F00000000002D0500CB206800F064109326381A03

No.	Name	value(HEX)	Length (Byte)	Explain
1	Protocol head	24	1	0x24, means the ”$”in ASCII code
2	Device ID	7520150926	5	Tracker ID, fixed length is 5 bytes, JT701’ s ID starts with 75.
3	Protocol version	17	1	17 indicates protocol version
4	Device type	1	0.5	1： Normal rechargeable JT701.
5	Data type	1	0.5	1 indicates real time data 2 indicates **alarm data**. Server center must send (P35) command to ACK this data **3 re-uploading data**: Server center must send (P35) command to ACK this data
6	Data length	0027	2	Data content length, total 39 bytes.from No.7 to No.23
7	Date	131015	3	DayMonthYear. It means Oct 13th, 2015.
8	Time	034647	3	Hour-Minute-Second, UTC time, means 03:46:47.
9	Latitude	22331560	4	22331560, based on DDMM.MMMM format, the latitude here is: 2233. 1560.
10	Longitude	113555309	4.5	113555309, based on DDDMM.MMMM format, the longitude here is 11355. 5309.
11	Location indicator	F	0.5	F = 1111, GPS location, West Longitude, North Latitude. E = 1110 LBS location, West Longitude, North Latitude.. The location indicator on the right is BIT0, on the left is BIT3. 1: BIT3 fixed value; 1: BIT2 East longitude, when value=0 means west longitude

<table>
<tr><td></td><td></td><td></td><td></td><td>1: BIT1 North Latitude, when value=0 means South Latitude
0: BIT0 means located, when value=0, means in GPS not located.</td></tr>
<tr><td>12</td><td>Speed</td><td>00</td><td>1</td><td>Current speed is 5 knot, changed to kilometer/hour 5 * 1.85 = 9.25 km/h</td></tr>
<tr><td>13</td><td>Direction</td><td>00</td><td>1</td><td>0x98 = 152, plus 2=304, means direction is 304 degree.</td></tr>
<tr><td>14</td><td>Mileage</td><td>0000002D</td><td>4</td><td>The current mileage is 45km, calculated under vibration status</td></tr>
<tr><td>15</td><td>Quantity of GPS satellite</td><td>05</td><td>1</td><td>Indicated the quantity of connected GPS, the figure will be 0 if the device is located by LBS.</td></tr>
<tr><td>16</td><td>Vehicle ID combined</td><td>00CB2068</td><td>4</td><td>The Vehicle ID connected with this device.</td></tr>
<tr><td>17</td><td>Device status</td><td>00F0</td><td>2</td><td>Device’s status or alarms,
byte 1 at right side, byte2 at left side, the detail is as follows:
<table>
<tr><td>Byte. Bit</td><td>Explain</td></tr>
<tr><td colspan="2">Byte1 explain:</td></tr>
<tr><td>Byte1.BIT0</td><td>Whether located by LBS, 1 means located by LBS, 0 means located by GPS</td></tr>
<tr><td>Byte1.BIT1</td><td>Enter Geo-fence alarm,
1 means trigger this alarm, 0 means normal.</td></tr>
<tr><td>Byte1.BIT2</td><td>Exit Geo-fence alarm,
1 means trigger this alarm, 0 means normal.</td></tr>
<tr><td>Byte1.BIT3</td><td>Steel String cut alarm,
1 means trigger this alarm, 0 means normal.</td></tr>
<tr><td>Byte1.BIT4</td><td>Vibration alarm,
1 means trigger this alarm, 0 means normal.</td></tr>
<tr><td>Byte1.BIT5</td><td>need to be confirmed, 1 means need to be confirmed. 0 means no need to be confirmed.
Real time data,this BIT fixed 0;
Alarm data ,this BIT fixed 1;
Re-uploading data ,this BIT fixed 1;</td></tr>
<tr><td>Byte1.BIT6</td><td>Steel String status:
1 means strings inserted, 0 means disconnect</td></tr>
<tr><td>Byte1.BIT7</td><td>Motor Lock status:
1 means lock, 0 means unlock.</td></tr>
<tr><td colspan="2">Byte2 explain:
if it’s normal binary GPS data(No.5 is 1),so Bytes2 fixed to 00 ;
if it’s alarm data,analysis the status as below:</td></tr>
<tr><td>Byte2.BIT0</td><td>Unlocking alarm
1 means trigger this alarm, 0 means normal.</td></tr>
<tr><td>Byte2.BIT1</td><td>Wrong password alarm (Input the incorrect</td></tr>
</table></td></tr>
</table>

					password more than 5 times.) 1 means trigger this alarm, 0 means normal.
				Byte2.BIT2	Swipe unauthorized RFID tag alarm 1 means trigger this alarm, 0 means normal.
				Byte2.BIT3	Low battery alarm 1 means trigger this alarm, 0 means normal.
				Byte2.BIT4	Open Back Cap alarm 1 means trigger this alarm, 0 means normal.
				Byte2.BIT5	Back Cap status: 1 means back cap close status,0 means back cap opening
				Byte2.BIT6	Motor fault alarm 1 means Motor fault alarm ,0 means normal.
				Other BITS Reserved	Default as 0
18	Battery Percentage	64	1	Electric quantity, indicated by hexadecimal, 0x64 means the current battery is 100% ， accuracy is 5% , if the value is 0xFF, means the USB is charging.	
19	CELL ID and LAC	10932638	4	1093 is the CELL ID, 2638 is LAC.	
20	GSM signal quality	1A	1	Indicates the strength of GSM signal, 1A means 0x1A, signal value 26. The maximum value for GSM signal strength is 31.	
21	Geo-Fence alarm ID	05	1	Indicates the geo-fence ID when trigger the geo-fence alarm .when no geo-fence alarm, this value is 00	
22	Reserve	0F0F0F	3	Reserved value for future	
23	Serial number	03	1	Serial number ， Sending one more data, increase1. Range: 0x00~0xFF.	

4.2 Location data in SMS format

SMS locating data usually sent to cell phone, format pls refer to the following table:

7570101998,09-28 12:11:02,Speed:0km/h,Battery:85%,GPS:3,Lock Close, http://maps.google.com/?q=22.549737,114.076685

NO.	Name	value	explain
1	Device name / Device ID	Eg" John" or 7570101998, etc.	
2	Separator	","	
3	Date, time	09-28 12:11:02	M/D/H/M/S
4	Separator	","	
5	Speed	Speed:0km/h	
6	Separator	","	
7	Battery	Battery:85%，if the USB is charging, will display: Charging	
8	Separator	","	
9	GPS signal	GPS:3	
10	Separator	","	
11	Lock status	Lock Open or Lock Closed	
12	Separator	","	
13	New line	0x0D 0x0A	
14	Location link	http://maps.google.com/?q=22.549737,114.076685 22.549737 indicate Latitude, positive value means north latitude, negative value means south latitude; 114.076685 indicate longitude, positive value means East Longitude, negative value means West longitude.	

4.3 Alarm data in SMS format

4.3.1 Format of cut off lock rope alert

ALM, Lock Rope Cut, 7570101998,09-28 12:03:43,Battery:95%,GPS:3, Lock Closed,http://maps.google.com/?q=22.549737,114.076685

4.3.2 Formatof swiping card alarm. (interrupt wakeup alarm)

ALM, RFID Induce, 7570101998,09-28 12:11:02,Battery:95%,GPS:3, Lock Closed,http://maps.google.com/?q=22.549332,114.076561

4.3.3 Format of unlock alarm

ALM,Lock Open, 7570101998,09-28 12:11:02,Battery:95%,GPS:3, Lock Open,http://maps.google.com/?q=22.549730,114.076615

4.3.4 Format of unlock password wrong=5 times alarm

ALM, Code Err Overtimes, 7570101998,09-28 12:11:02,Battery:95%,GPS:3, Lock Closed,http://maps.google.com/?q=22.549656,114.076564

4.3.5 Format of vibration alarm (interrupt wakeup alarm)

ALM,Vibrate, 7570101998,09-28 04:31:32,Battery:66%,GPS:3, Lock Closed,http://maps.google.com/?q=22.549754,114.076250

4.3.6 Format of enter Geo fence alarm

ALM,Enter fence: 7570101998,09-28 00:02:39,Battery:60%,GPS:3, Lock closed,http://maps.google.com/?q=22.549737,114.076685

4.3.7 Format of out of Geo fence alarm

ALM,Exit fence: 7570101998,09-28 03:21:45,Battery:58%,GPS:3, Lock closed,http://maps.google.com/?q=22.549737,114.076685

4.3.8 Format of Low Battery alarm

ALM,Low Battery: 7570101998,09-28 03:27:48,Battery:58%,GPS:3, Lock closed,http://maps.google.com/?q=22.549736,114.076588

4.3.9 Format of Opening back cap alarm

ALM,Open **B**ack Cover: 7570101998,09-28 03:27:48,Battery:58%,GPS:3, Lock closed,http://maps.google.com/?q=22.549736,114.076677

4.3.9 Format of Motor fault alarm

ALM,Moter fault 7570101998,09-28 03:27:48,Battery:58%,GPS:3, Lock closed,http://maps.google.com/?q=22.549736,114.076677

No	Name	Value	instruction
1	Alarm type	Lock Rope Cut	

2	separator	“,”	
3	Device name/ID number	Eg.” John” /7570101998	
4	separator	“,”	
5	Date time	08-28 12:03:43	month/d/h/min/s
6	separator	“,”	
7	Speed	Speed:0km/h(Note: when enter/out Geo fence/temporary fence, because of bytes limitation, no this speed value.)	
8	separator	“,”	
9	Battery	Battery:85%	
10	separator	“,”	
11	GPS signal	GPS:3	
12	Separator	“,”	
13	Lock open/close status	Lock open Or Lock closed	
14	separator	“,”	
15	carriage return-linefeed	0x0D 0x0A	

16	Coordinates link	http://maps.google.com/?q=22.549737,114.076685 22.549737 mean latitude. Positive value is North latitude, negative value is South latitude. 114.076685 mean longitude. Positive value is East longitude, Negative value is West longitude	

Ⅴ、Commands format

GPRS and SMS commands require to obey this format.

ID	Name	length(byte)	instruction
1	Head	1	” (“
2	Order	3	Eg . P03.
3	Separator	1	“,”
4	Parameter	N	Parameters separated by “,”
5	End	1	”) “

Return Msg format:

ID	name	length(byte)	instruction
1	Head	1	” (“
2	ID	10	Eg.7570101998
3	Separator	1	“,”
4	Order	3	Eg. P03

5	Separator	1	“,”
6	Parameters	N	Parameters separated by “,”
7	End	1	)

Ⅵ、ASCII Commands Instructions

6.1 P01-Query firmware version

Send command	(P01)
Commands function	Query device’s current firmware version.
Commands precondition	Non
Commands parameters instruction	Non
Related function instruction	Non
Return expected result	**(7570101998,P01, JT701_20150715_GENERAL**)
Return parameter instruction	**JT701**：Device model
	20150715：software version, means the version release date.

6.2 P02-Query current location

Sending command	(P02)
Commands function	SMS return current GPS data
Commands precondition	Non
Commands parameters instruction	Non
Related function instruction	Non
Return expected result	SMS location data in No. 4.2
Return parameter instruction	If send command by GPRS, it will return msg to the VIP1 number.

	If send command by a VIP number, it will return msg to the same number.

6.3 P04- Set/query Data Uploading Time interval and wake up time interval when sleep

Sending command	(P04,**1**,**30,**30)
Commands function	Set /query data uploading time interval and wake up time interval when sleep
Commands precondition	Non
Commands parameters instruction	**1**：1 mean 'Set' , 0 mean 'inquiry'. Eg. Inquiry command：(P04,0)
	30：uploading interval after wake up . Unit is seconds. **Default is 30 sec, value range 5-600**
	30：wake up time interval when sleep , unit is minutes. default 30minutes, value range30-1440
Related function instruction	(**7570101998**,P04,**30**,30)
Return expected result	
Return parameter instruction	Non

6.4.1 P06-Set/query SIM1's IP Port and GPRS network parameters

Sending command	(P06,**1**,**211.162.111.225**,**10906,APN,APNuser,APNpass**) or (P06,1,**mixer.joint-tracking.com**,10906,**APN ,APNuser,APNpass**)
Commands function	Set SIM1's IP port and GPRS network parameters. when the device can't upload data to corresponding server center via SIM1's GPRS network, it will try to access SIM2's GPRS network ,and upload the data to SIM2's server center ; If clients only want to use one SIM card, just insert it to SIM1.
Commands precondition	Non
Commands	**1**：1 means Set, 0 mean inquiry, Eg, inquiry commands: (P06,**0**)

parameters instruction	**211.162.111.225**：IP address of Control Center. Must be valid legal IP address **mixer.joint-tracking.com**：**Control center domain name**
	10906：**Control center port address, max** 65530
	CMNET：**APN (max 50 bytes)**
	User：APN account(max 50 bytes)
	Password：APN password(max 50 bytes)
Related function instruction	Set GPRS network parameters
Return expected result	(7570101998,P06,211.162.111.225,10906,CMNET,user,password) OR (7570101998,P06,mixer.joint-tracking.com,30700,CMNET,,)
Return parameter instruction	Same as above

6.4.2 P06-Set/query SIM2's IP Port and GPRS network parameters

Sending command	(P06,**3**,**211.162.111.227**,**10902,APN,APNuser,APNpass**) Or (P06,3,**mixer.joint-tracking.com**,10906,**APN,APNuser,APNpass**)
Commands function	Set SIM2's IP port and GPRS network parameters. when the device can't upload data to corresponding server center via SIM1's GPRS network, it will try to access SIM2's GPRS network ,and upload the data to SIM2's server center .
Commands precondition	Non
Commands parameters instruction	**3**：3 means Set, 2 mean inquiry, Eg, inquiry commands: (P06,**2**)
	211.162.111.227： IP address of Control Center. Must be valid legal IP address **mixer.joint-tracking.com**：**Control center domain name**
	10902：**Control center port address, max** 65530
	CMNET：**APN (max 50 bytes)**
	User：APN account(max 50 bytes)
	Password：APN password(max 50 bytes)
Related function instruction	Set GPRS network parameters
Return expected result	(7570101998,P06,211.162.111.227,10902,CMNET,user,password) or (7570101998,P06,mixer.joint-tracking.com,30700,CMNET,,)

Return parameter instruction	Same as above

6.5 P10-Set/query Time difference

Sending command	(P10,**1**,**480**)
Commands function	Set/inquiry time difference between device location and GMT 0.
Commands precondition	If there's time difference, this command is required.
Commands parameters instruction	**1：Set, 0 : inquiry. Eg, inquiry command:** (P10,**0**)
	480：time difference value. Unit is minute. Eg. Peking time is 8 hour different from GMT 0, 8 hr means 480 min. value range is -12*60 to 13*60，in default is '0'
Related function instruction	Non
Return expected result	(**7570101998**,P10,480)
Return parameter instruction	Same as above

6.6 P11-Set/ query VIP numbers

Send command	(P11,1,1,8613910102345)
Command explanation	Set/query VIP phone number
Command precondition	None
Command parameters explanation	1：set/inquire, "1" for set, "0" for inquire, inquire command: (P11,0,1)
	1: VIP number index, value:1-5, allow 5 group VIP number
	8613910102345：phone number, can not exceed 15 digit, add country code in the head, e.g. China is 86 or +86.
function explanation	None

Reply message	(**7570101998**,P11,1,8613910102345)
Parameters explanation	As above

6.7 P13-Restore Factory setting

Send command	(P13)
Command explanation	Restore Factory setting
Command precondition	None
Command explanation	None
Function explanation	Except for IP address, VIP numbers, APN, APN account & password, all parameter will be factory defaults.
Reply message	(**7570101998**,P13)
Parameter explanation	None

6.8 P14-Read device's IMEI number

Send command	(P14)
Command explanation	Read device's IMEI number
Command precondition	None
Parameter explanation	None
Function explanation	Read device IMEI number.
Reply message	(**7570101998**,P14,012207004451636)
Parameter explanation	012207004451636： Device IMEI number

6.9 P15-Restart the device remotely

Send command	(P14)
Command explanation	Restart the device remotely.When received this command ,the device will restart itself after 30 sec.
Command precondition	None

Parameter explanation	None
Function explanation	When received this command ,the device will restart itself after 30 sec
Reply message	(**7570101998**,P15)
Parameter explanation	None

6.10 P22-Time service

Send command	(P22, 20150715164328)
Command explanation	When the device is online in center but GPS signal is invalid , control center can set the time of the device.
Command precondition	GPS data is invalid
Command explanation	20150715164328： year/month/day/hour/minute/second, and it is GMT.
Function explanation	If the GPS data is valid, the time service command will not successful.
Reply message	(**7570101998**,P22,**1**)
Parameter explanation	**1：** ”1” means successful, “0” means failed

6.11 P23-Awaken command by Message & calling command setting

Send command	(P23,**1,1**)
Command explanation	Set/remove awaken by message, calling mode.
Command precondition	None
Command explanation	**1：** ”1’ means set, “0” means inquire, inquire command(P23,0).
	1： ”1” means set message & calling awaken function, “0” means remove message calling awaken function.
Function explanation	None
Reply message	(**7570101998**,P23,**1**).
Parameter explanation	**1：** ”1” means set successfully, “0” means set failed.

6.12 P24-Set/Query Geo-fence name and enable or disable geo-fence

Send command	(P24,**1,10,1,area10**)

Command explanation	Set/Query Geo-fence name and enable or disable geo-fence	
Command precondition	None	
Command explanation	**1**：”1’ means set, “0” means inquire, inquire command(P24,0,1).	
	10: Geo-fence ID：from 1 to 10	
	1： enable or disable. 1 indicates enable , 0 means disable	
	area10: geo-fence name. fence ID 10’s geo-fence name	
Function explanation	None	
Reply message	(2070101999,P24,10,1,area10)	
Parameter explanation	10 indicate fence ID; 1 indicates enable this geo-fence ;area10 indicates geo-fence name	

6.13 P29-Set/Query nodes information of geo-fence

Send command	(P29,1,**8,2,10**,11323.1234,2312.3212,11324.2312,2312.3212...)
Command function explanation	Set/ inquire node details information of geo-fence.
Command precondition	None
Command parameter explanation	**1**：**”1”** means set, “0” means inquire, inquire command: (P29,**0,2**).
	8: Fence ID, value range: 1~10. At most 10 geo-fence.
	2, page ID, “2” means the parameters in the second page. User can set the nodes at most 10 pieces and 5 pages. Pages parameters range: 1, 2, 3, 4, 5 .
	10, the coordinates quantity on this page. “10” means 10 pieces coordinates are set in this page, or means set 10 nodes. 10 nodes at most in every page. Every nodes include latitude and longitude parameters.
	11323.1234,2312.3212,11324.2312,2312.3212...node information, node must has a pair of parameters, longitude and latitude. They are combined to a node, and the node information come out by DDDMM.MMMM ,DDMM.MMMM form. The total nodes quantity in 5 pages is 50 pieces.
Function explanation	none
Reply message	(**7570101998**,P29,8,15,1,10,11323.1234…) ”**8**” means fence ID is 8. ”**15**” means total quantity nodes, “**1**” means current page, “**10**”

	means the node quantity of current page, others are the latitude and longitude of the nodes.
Reply message explanation	None

6.14 P30-Clear all nodes information of the geo-fence

Send command	(P30)
Command function explanation	Clear all nodes information of the geo-fence.
Command precondition	None
Command parameter explanation	None
Function explanation	none
Reply message	(**7570101998**,P30,1),"1" means remove successfully, "0" means failed.
Parameter explanation	None

6.15 P31-Finished geo-fence nodes information setting

Send command	(P31)
Command explanation	Center server inform the device ,geo-fence setting has finished configuration , and device can detect the geo-fence alarm.
Command	None
Command parameter explanation	None
Function explanation	none
Reply message	(**7570101998**,P31) means device receive it.
Parameter explanation	None

6.16 P32-Make the device turn to sleep mode

Send command	(P32)
Command explanation	Center Server inform the device that has correctly received the data ,and inform the device go to sleep mode.

Command precondition	Device is at waking up mode
Command parameter explanation	None
Function explanation	none
Reply message	None, Device will enter sleep mode after 30 seconds when received this command
Parameter explanation	None

6.17 P35-ACK command for receiving Alarm or Re-uploading data

Send command	(P35)
Command function explanation	Center Server inform the device that has correctly received the uploaded alarm data or re-uploading data.if the device didn't receive the ACK from center server, it will keep sending this GPS data.
Command precondition	The GPS data which need to be acknowledged by center server
Parameter explanation	None
Function explanation	none
Reply message	(**7570101998**,P35) means device has received data.
Parameter explanation	None

6.18 P36-Set/Query G-sensor Parameters for Vibration alarm

Send command	(P36,1,500)
Command function explanation	inquire/set G-sensor parameters for vibration alarm.
Command precondition	None
Command parameter explanation	1: operation mode,"1" means set, "0" means inquire.
	500: detect acceleration value, value range:500~8000, unit: mg. default value is 500. This value, more bigger, not easy to trigger alarm. suggest 500 to 900mg.

Function explanation	Detecting vibration alarm. When detect the vibration level more than this threshold ,so trigger a Vibration alarm.
Reply message	(**7570101998**,P36,500)
Parameter explanation	None

6.19 P37-Set/Query G-sensor Parameters for detecting moving

Send command	(P37,1,126)
Command function explanation	inquire/set G-sensor parameters G-sensor is used to detecting moving status of the device.
Command precondition	None
Command parameter explanation	1: operation mode,"1" means set, "0" means inquire.
	126: detect acceleration value, value range: 63~500, unit: mg. If set value with 0, means disable G-sensor. If you want to restart function of G sensor, user only need set valid parameters. This value ,more small, so the device more easier to wake up by vibration. Default value is 126.
Function explanation	Detecting the moving status of this device, and wake up the device, uploading data to server center.
Reply message	(**7570101998**,P37,126)
Parameter explanation	None

6.20 P38-Set/Query Unlock interval for alarm

Send command	(P38,1,120)
Command function explanation	inquire/set Unlock interval for alarm
Command precondition	None
Command parameter explanation	1: operation mode,"1" means set, "0" means inquire.
	120: default value is 120 minutes. Value range: 3 to 180 minutes. When the device is unlocking, after this preset time interval, will trigger unlocking alarm.

Function explanation	none
Reply message	(**7570101998**,P38,120)
Parameter explanation	None

6.21 P39-Set/Query Working Time after awaken

Send command	(P39,1,10)
Command function explanation	inquire/set working time parameter after awaken.
Command precondition	None
Command parameter explanation	1: operation mode,"1" means set, "0" means inquire.
	10: working time when device wake up, value range: 3~10, unit: minute, default:10 minutes.
Function explanation	none
Reply message	(**7570101998**,P39,10)
Parameter explanation	None

6.22 P40-Set/Query Alarm Switch

Send command	(P40,1,**1,1,1,1,1,1,1,1,1,1**)
Command function explanation	inquire/ set GPRS channel and SMS channel alarm switch.
Command precondition	None
Command parameter explanation	1: operation mode, "1" means set, "0" means inquire.
	1,1,1,1,1,1,1,1,1,1 from left to right side, means the switch of : lock sling cut off alarm, swipe unauthorized RFID card alarm, unlocking alarm(trigger this alarm after preset time interval -P38 command setting), alarm by wrong remote command input 5 times continuously, vibration alarm, enter Geo-fence alarm, exit Geo-fence alarm, low battery alarm, Open back cap alarm, Motor fault alarm Every switch parameters value range: 0, 1, 2, 3. "0" means GPRS and SMS alarm are closed, "1" means only open GPRS alarm, "2" means only open SMS alarm, "3" means GPRS and SMS

	alarm are open.
Function explanation	none
Reply message	(7570101998,P40,1,1,1,1,1,1,1,1)
Parameter explanation	None

6.23 P41-Add or remove the unlocking authorized ID

Send command	(P41,**1**,**1**,**3**,**0013953759,0013954323,0012354343**)
command function explanation	inquire/ add/ remove unlocking authorized ID.
Command precondition	None
Command parameter explanation	Parameter[1]: Set or inquire unlocking authorized ID 1 means set unlocking authorized ID, 0 means inquire previous unlocking authorized ID setting , inquire command(P41,0)
	parameter[2]: If parameter[1] is 1,so set unlocking authorized ID, parameters[2] value explain: 1 means add unlocking authorized ID; 2 means remove unlocking authorized ID; 3 means remove all authorized numbers. If parameter[1] is 0,so inquire unlocking authorized ID, parameters[2] value explain: 1 means inquire the first group's RFID tags ,one group at most 20 pieces of RFID tags; 2 means inquire the second group's RFID tags, one group at most 20 pieces of RFID tags; 3 means inquire the third group's RFID tags, one group at most 20 pieces of RFID tags e.g.

	Send : (P41,0,2) send this command inquire the second group's RFID tag Device reply : (7570101998,P41,2,3,**0013953759, 0013953758, 0013953757**) 2 second group ; 3 3 RFID tags . **0013953759, 0013953758, 0013953757**
	Parameter[3]: total of RFID tags If set the unlocking authorized ID, so this parameter ,you need set how many RFID tags in this group; If just inquire the unlocking authorized ID of one group, no need input this parameters.
	Parameter[4]: RFID tags numbers 0013953759,0013954323,0012354343 Means the added/removed number, the input Authorized ID range: 0000000000~4294967295. fixed 10 numbers.
Function explanation	Add/remove/ inquire unlocking authorized ID, and device can set at most 50 pieces Authorized ID
Reply message	(7570101998,P41,1,30)
Reply parameter explanation	1 add unlocking authorized ID
	30 indicates there are 30 RFID tags existing in JT701 device's flash.

6.24 P42-Enable or Disable Batch-Add unlocking authorized IDs

Send command	(P42,1)
Command function explanation	Enable or Disable Batch-Add the unlocking authorized IDs by swiping card on site function. it's different from P41 command which input the authorized ID manually.
Command precondition	None
Command parameter explanation	1: switch of adding a batch of authorization numbers, "1" means enable this function, "0" means disable this function.

Function explanation	Tell device in adding a batch of unlocking authorized numbers, IC card system will record the card serial number and store it in authorization pool. The device can store 20 pieces numbers at most. The device will disable this function when received the disable command Or didn't get new swiping card for 1 minutes from the time point to enable this function or the last swiping card time,If the card numbers quantity exceed 20 pieces, there will be voice warn "hua, hua, hua ".
Reply message	When this mode is closed, device will upload the data. E.g.: (7570101998,P41,2,0013953759,0013953751)
Parameter explanation	2: means 2 authorization IDs are existed.
	0013953759, 0013953751: reply all unlocking authorized IDs that had been save in device.

6.25 P43-Unlock the device Remotely

Send command	(P43,888888)
Command function explanation	Unlock the device remotely
Command precondition	None
Command parameter explanation	123456: current unlocking password for this device, and this password is with 6 figures number form.
Function explanation	Set unlock password/ unlock by password.
Reply message	(**7570101998**,P43,**0**,**2**)
Parameter explanation	**0**: means whether unlock it successfully, "1" means successfully, "0" means failed.
	2: means continuously input wrong password times, it will remove to 0 when input correctly.

6.26 P44-Change the Unlocking Password

Send command	(P44, 12#aAM,888888)
Command function explanation	Change the Unlocking password
Command precondition	N/A
	12#aAM: Means new password, which must been combined by arbitrary six character or

Command parameter explanation	numbers.
	888888： Means old password. Notice: default password is ‘888888’ ,the password excludes ‘ and ‘
Function explanation	Change unlocking password remotely.
Reply message	(**7570101998**,P44,1)
Parameter explanation	1 indicates whether changing password success, 1 indicates success, 0 means failure.

6.27 P45-Upload locking and unlocking Records by device

Send command	This data content was uploaded to server center by device automatically.
Command function explanation	When swipe the device, unload the device by password, upload this data content to server center.
Command precondition	Device will report a separate report for each lock, unlock. Trigger sources include: lock by swiping card,unlocking device by password. Swipe illegal RFID card, swipe vehicle RFID card.
Command parameter explanation	N/A
Function explanation	N/A
Reply message	(7570101998,P45,260915,102329,2233.3218,E,11325.3659,N,A,0,15,1,1,0026589876,0,0,1) 7570101998：Device ID number. P45：Command number, which means lock, unlock record. Device will upload automatically when swiping card or using password to lock. 260915：Day Month Year. 102329：Hour Minute Second。 22.333218: Latitude, DD.DDDDDD form，Latitude（east longitude: west longitude） 113.253659: Longitude, DDD.DDDDDD form，Longitude（north latitude, south latitude） A：Position, A for positioning, V not positioning. 0：Speed, in kilometers.。 15：Direction, in degrees. 1: event source type has the following event sources: 1：Swipe authorization card； 2：Swipe illegal card； 3：Swipe the vehicle ID cards bound； 4：password unlock； 5：record to lock automatically； 1: whether unlock 1 validated, unlocking, and 0 means that do not pass validation, refused to unlock, if the event source is 5, then this value is fixed at 0. 0026589876：ID card, ID card number when swiping, if event type is 4 or 5, then this value fixed to 0. 0: If the event source type is 4, then this value as the password is correct, right is 1, and other types, fixed to 0, and if the event source is 5, then this value is fixed at 0. 0: If the event source type is 4, then this value can indicate that a password enter the number

	of errors in a row, while other types, fixed to 0, and if the event source is 5, then this value is fixed at 0. 1: serial number, motioned to send event records the number of devices. If multiple event sources simultaneously, the device will be sent one by one.
Parameter explanation	N/A

6.28 P46-ACK command for receiving locking or unlocking records from device

Send command	(P46)
Command function explanation	This Command was sent by center server software
Command precondition	When swiping card lock, unlock and lock records was uploaded, reply this command by center server software.
Command parameter explanation	Receive (P46) command, which means center server receives one piece swipe card lock, unlock and unlock record data.
Function explanation	Swipe card lock, unlock record confirmation via center server software. After receiving the confirmation command, device think that the current unlock lock records have been processed and will continue to send next record or until there is a new record. If the device has not received the confirmation command, argues that the send timeout failure, the record data will be sent again.
Reply message	(2070101999,P46)
Parameter explanation	N/A

6.29 P47-Vehicle ID card white list version comparison comand

Send command	This command was sent automatically by device, when device receive each vehicle bind swiping card and illegal swiping card, it will request once. Device send command (P47,20150926,001), if the version number is not the same, download the white list from center server software.
Command function explanation	Request white list version from center server.
Command precondition	Device on line and receive vehicle bind ID.
Command parameter explanation	20150926： White list that is stored in the current device version date. 001： Minor version number, preventing may have more than one version of a day.
Function explanation	When device received the vehicle-bound card information, it will take the initiative to upload the current version of the white list, if it was out of line, when get on line, continue to compare versions, center after the receipt of this command, response system stored in the version. Command is: (P47,20150927,001,47,3) 20150927： White list the major version of the current system. 001： White list the minor version of the current system.

	47: comparison in the Device version that is stored with the current system, the system also has 47 ID number must be sent to the Device. 3: 47 ID number is divided into 3 more packets, each package is fixed to 20. If the system comparison, white list the same version, you reply directly (P47,20150926,001,0,0).
Reply message	(P47,20150927,001,47,3)
Parameter explanation	20150927：White list the major version of the current system. 001：White list the minor version of the current system. 47: comparison in the Device version that is stored with the current system, the system also has 47 ID number must be sent to the Device. 3: 47 ID number is divided into 3 more packets, each package is fixed to 20. If the system comparison, white list the same version, you reply directly (P47,20150926,001,0,0).

6.30 P48-Download white list from center server software

Send command	This command was sent by device automatically, and request white list data from center server software. Command format : (P48,20150926,001,20150927,001,47,3,1)
Command function explanation	Request white list data from center server software. Center server software has the new white list table .
Command precondition	The device is online and white list in device is out of date, need to be updated.
Command parameter explanation	20150926,001：Main version and subversion number of white list for current device. 20150927,001：Main version and subversion number of white list for current center server software. 47,3：center server reply that there are 47pcs ID need to download and will pack into 3 packages. 1： device request first package data from center server software.
Function explanation	Request to download white list date from center, each package fixed 20pcs ID.
Reply message	Center will return below command after receiving command: (P48,20150926,001,20150927,001,47,3,1,20,0012345678,0083291234,...)
Parameter explanation	20150926,001,20150927,001,47,3：Same meaning as above “Command parameter explanation”. 1：Means this is the first package. 20：Means this package has 20pcs ID number. 0012345678, 0083291234, ...： use”,” to separate 20pcs ID data, could input ID data in digital form. It’s the first package in example, device will save when receiving the first package and

	continue to request second package and sending command: (P48,20150926,001,20150927,001,47,3,2), center will send second package data, by this analogy, until to download all white list. White list download supports breakpoint resuming. Downloaded data will not lost, because of the network or power back online, then it will continue the last request.

6.31 P49-Clear white list and white list verison in device

Send command	(P49)
Command function explanation	Clear white list and version number.
Command precondition	N/A
Command parameter explanation	N/A
Function explanation	Clear previous white list version number and all white list numbers in device.
Reply message	(**7570101998**,P49)

6.32 P50-Enable/Disable Power Switch

Send command	(P50,1,1)
Command function explanation	Enable/disable Power switch of JT701 device. Default, Power switch is ok (enable). So clients can power off this device by this power switch .
Command precondition	N/A
Command parameter explanation	1: operation mode, “1” means set, “0” means inquire.
	0: indicates Disable Power Switch ,1 means enable Power switch.
Function explanation	Disable power switch
Reply message	(**7570101998**,P50,1)