

A19 communication protocol

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(In this protocol all the command strings are according to the format of [the manufacture*Device ID*content length*content], in which manufacturer must fixed two bytes, the content length fixed are four byte ASSII codes, High lows before after, eg. FFFF means the length is 65535.)

一. Device send command

1. Link Keep

(1) Device Send:

[CS*YYYYYYYYYY*LEN*LK]

Example:

[3G*8800000015*0002*LK]

Platform response:

[CS*YYYYYYYYYY*LEN*LK]

Example:

[3G*8800000015*0002*LK]

Note:Once link, the datas will be send every 5 minutes, if the device not receive the reply from the server , then it will try to link every minute, after failure of link 5 times, the terminal will reboot

(2) Device Send:

[CS*YYYYYYYYYY*LEN*LK,step, tumbling number,battery status percentage]

Example:[3G*8800000015*000D*LK,50,100,100]

Platform response:

[CS*YYYYYYYYYY*LEN*LK]

Example:[3G*8800000015*00

02*LK]

Note: Once link, the datas will be send every 8 minutes, if the device not receive the response from the server , then it will try to link every minute, after failure of link 5 times, the terminal will reboot

Both of these conditions exist.

2. Position data

Device Send:

[CS*YYYYYYYYYY*LEN*UD3, the position data (see appendix one)]

Example:[3G*9403094122*00CD*UD3,180916,025723,A,22.570733,N,113.8626083,E,0.00,249.5,0.0,6,100,60,0,0,00000010,7,255,460,1,9529,21809,158,9529,63555,133,9529,63554,129,9529,21405,126,9529,21242,124,9529,21151,120,9529,63556,119,0,40.7]

Note:

Data contents:

UD-command number

180916-date

025723-time

A-gps Positioning is valid

22.570733-latitude

N-latitude character

113.8626083-longitude

E-longitude character

0.00-Speed

249.5-Direction

0.0-altitude

6-satellite numbers

100-gsm signal strength

60-battery status

0-pedometer

0-tumbling times

00000010-terminal status, The data is hexadecimal, Parse into binary is 0000 0000 0000 0000
0000 0000 0001 0000

in the front of 4 bytes of the string is status, the last 4 bytes is alarm, 0001, the number is please
kindly refer to the data note is the device is in rest status. You can refer to the last part of this file for
detail information.

7-base station numbers

255,460,1,9529,21809,158,9529,63555,133,9529,63554,129,9529,21405,126,9529,21242,124,95
29,21151,120,9529,63556,119,base station information

0-WiFi number

40.7-positioning accuracy, it's meter

No response from platform

Note: The device reports the location and status information according to the set interval, and does
not need the platform response.

3. Alarm data report

Device Send:

[CS*YYYYYYYYYYY*LEN*AL, the position data (see appendix one)]

Example:[3G*8800000015*00CD*AL,180916,064153,A,22.570512,N,113.8623267,E,0.00,154.8,0.0,1
1,100,100,0,0,00100018,7,0,460,1,9529,21809,155,9529,21242,132,9529,21405,131,9529,63554,13
1,9529,63555,130,9529,63556,118,9529,21869,116,0,12.4]

Platform response: [CS*YYYYYYYYYYY*LEN*AL]

Example:[3G*8800000015*0002*AL]

Note: Device sends alarm information to the platform after alarming , if the device has not received the reply, then regular reporting until receive the alarm confirmation

二.Device send command

1. Upload the data interval set up

Platform send:

[CS*YYYYYYYYYYY*LEN*UPLOAD,interval]

Example:[3G*8800000015*0009*UPLOAD,10]

Device response:

[CS*YYYYYYYYYYY*LEN*UPLOAD]

Example:[3G*8800000015*0006*UPLOAD]

Noted: Set the regular time interval for the device to upload datas. The upload interval for the device

2. Center number set up

Platform send:

[CS*YYYYYYYYYYY*LEN*CENTER,center number]

Example:[3G*8800000015*0012*CENTER,00000000000]

Device response:

[CS*YYYYYYYYYYY*LEN*CENTER]

Example:[3G*8800000015*0006*CENTER]

Noted: set the center number,it can send the SMS command through this center phone number。 Meanwhile, all the alarm messages will send to this center number in the mobile phone.

3. Control password set up

Platform send :

[CS*YYYYYYYYYYY*LEN*PW,password]

Example:[3G*8800000015*0009*PW,111111]

Device response:

[CS*YYYYYYYYYYY*LEN*PW]

Example:[3G*8800000015*0002*PW]

Note: set the device message control password,if any other phone number (it's not the center number) send SMS commands to the device add this password.

4. Outgoing calls

Platform send:

[CS*YYYYYYYYYYY*LEN*CALL,phone number]

Example:[3G*8800000015*0010*CALL,0000000000]

Device response:

[CS*YYYYYYYYYYY*LEN*CALL]

Example:[3G*8800000015*0004*CALL]

Noted: The device will dial the corresponding phone number in this command once the device receive the command

5.Listen in/ Monitor

Platform send:

[CS*YYYYYYYYYYY*LEN*MONITOR]

Example:[3G*8800000015*0007*MONITOR]

Device Response:

[CS*YYYYYYYYYYY*LEN*MONITOR]

Example:[3G*8800000015*0007*MONITOR]

Note:device automatic callback the center number.

Platform send:

[CS*YYYYYYYYYYY*LEN*MONITOR,0000000000]

Example:[3G*8800000015*0013*MONITOR,13100010002]

Device Response:

[CS*YYYYYYYYYYY*LEN*MONITOR]

Example:[3G*8800000015*0007*MONITOR]

Note: device automatic callback the phone number in the command.

The above 2 commands are valid

6.SOS number set up

(1) First SOS number Set up

Platform send: [CS*YYYYYYYYYYY*LEN*SOS1,phone number]

Example:[3G*8800000015*0010*SOS1,0000000000]

Device response:

[CS*YYYYYYYYYYY*LEN*SOS1]

Example:[3G*8800000015*0004*SOS1]

(2) the second SOS number set up

Platform send:

[CS*YYYYYYYYYYY*LEN*SOS2, phone number]

Example:[3G*8800000015*0010*SOS2,0000000000]

Device response:

[CS*YYYYYYYYYYY*LEN*SOS2]

Example:[3G*8800000015*0004*SOS2]

(3) The third SOS number set up

Platform send:

[CS*YYYYYYYYYYY*LEN*SOS3, phone number]

Example:[3G*8800000015*0010*SOS3,0000000000]

Device response:

[CS*YYYYYYYYYYY*LEN*SOS3]

Example:[3G*8800000015*0004*SOS3]

(4) set the 3 SOS number at the same time

Platform send:

[CS*YYYYYYYYYYY*LEN*SOS,phone number, phone number, phone number]

Example:[3G*8800000015*0027*SOS,0000000000,0000000000,0000000000]

Device response:

[CS*YYYYYYYYYYY*LEN*SOS3]

Example:[3G*8800000015*0003*SOS]

Note:After setting the SOS numbers,once any SOS emergency, the device will auto dial the SOS numbers one by one , if any number pick up the phone, it will stop dialing the next number; if none pick up, it will auto dial the SOS numbers 2 rounds and then end it. Meanwhile, it will send the emergency message to the 3 SOS numbers..

7.IP port set up

Platform send:

[CS*YYYYYYYYYYY*LEN*IP,IP or URL,port]

Example:[3G*8800000015*0014*IP,113.81.229.9,5900]

Device not reply this command, directly disconnect the current connection, connect the new server

Note: setting the link of platform IP address and port.

8. Restore factory set up

Platform send:

[CS*YYYYYYYYYYY*LEN*FACTORY]

Example:[3G*8800000015*0007*FACTORY]

Device response:

[CS*YYYYYYYYYYY*LEN*FACTORY]

Example:[3G*8800000015*0007*FACTORY]

Note: The device restores factory original settings

9. SOS SMS alarm switch

Platform send:

[CS*YYYYYYYYYYY*LEN*SOSSMS,0 OR 1]

Example:[3G*5678901234*0008*SOSSMS,0]

Device response:

[CS*YYYYYYYYYYY*LEN*SOSSMS]

Example:[3G*5678901234*0006*SOSSMS]

Note: send sms to sos numbers or not when there is sos alarming(0:OFF, 1:ON).

10. Low battery alarm message switch

Platform send:

[CS*YYYYYYYYYYY*LEN*LOWBAT,0 OR 1]

Example:[3G*5678901234*0008*LOWBAT,1]

Device response:

[CS*YYYYYYYYYYY*LEN*LOWBAT]

Example:[3G*5678901234*0006*LOWBAT]

Note: send sms to center number or not when there is low battery alarming (0:OFF, 1: ON)

11. Check the version

Platform send:

[CS*YYYYYYYYYYY*LEN*VERNO]

Example:[3G*8800000015*0005*VERNO]

Device response:

[CS*YYYYYYYYYYY*LEN*VERNO,VERSION INFORMATION]

Example:[3G*8800000015*0028*VERNO,G29_BASE_V1.00_2014.04.23_17.46.49]

Note: check the device vision.

12. Restart

Platform send:

[CS*YYYYYYYYYYY*LEN*RESET]

Example:[3G*5678901234*0005*RESET]

Device response:

[CS*YYYYYYYYYYY*LEN*RESET]

Example:[3G*5678901234*0005*RESET]

Note:the device will restart after receive the command, the device just restart in the backstage and not show it on the device.

13.Position command

Platform send:

[CS*YYYYYYYYYYY*LEN*CR]

Example:[3G*5678901234*0002*CR]

Device response:

[CS*YYYYYYYYYYY*LEN*CR]

Example:[3G*5678901234*0002*CR]

Note: Wake up the device GPS mode immediately, constant position for 3 minutes , upload the map location datas every 10 minutes, it will stop after 3 minutes.

14. The shutdown command

Platform send:

[CS*YYYYYYYYYYY*LEN*POWEROFF]

Example:[3G*5678901234*0008*POWEROFF]

Device response:

[CS*YYYYYYYYYYY*LEN*RESET]

Example:[3G*5678901234*0008* POWEROFF]

Note:the device will shut down once receive the command

15.Step function switch

Platform send:

[CS*YYYYYYYYYYY*LEN*PEDO,0 OR 1]

Example:[3G*5678901234*0004*PEDO,0]

Device response:

[CS*YYYYYYYYYYY*LEN*PEDO]

Example:[3G*5678901234*0004*PEDO]

Note: the watch step function switch, (1:ON, 0:OFF)

16. Step time setting

Platform send:

[CS*YYYYYYYYYYY*LEN*WALKTIME,time,time,time]

Example:[3G*5678901234*002A*WALKTIME,8:10-9:30,10:10-11:30,12:10-13:30]

Device response:

[CS*YYYYYYYYYYY*LEN*ANY]

Example:[3G*5678901234*0008*WALKTIME]

Note: count steps in time setting

17. No disturbance time section set up

Platform send:

[CS*YYYYYYYYYYY*LEN*SILENCETIME,time section, time section, time section, time section]

Example:[3G*5678901234*0037*SILENCETIME,21:10-7:30,21:10-7:30,21:10-7:30,21:10-7:30]

Device response:

[CS*YYYYYYYYYYY*LEN*SILENCETIME]

Example:[3G*5678901234*000B*SILENCETIME]

Note: Set the range of non-disturbing time period, the time period only for Monday to Friday, intercept the device of any calls, the weekend is invalid.

18.Looking for a watch command

Platform send:

[CS*YYYYYYYYYYY*LEN*FIND]

Example:[3G*5678901234*0004*FIND]

Device response:

[CS*YYYYYYYYYYY*LEN*FIND]

Example:[3G*5678901234*0004*FIND]

Note: Send this command , the device ringing 1 minute, press the button for confirmation

19. Alarm clock set command

Platform send:

[CS*YYYYYYYYYYY*LEN*REMIND,alarm 1,alarm 2,alarm 3]

Example:[3G*5678901234*0018*REMIND,08:10-1-1,08:10-1-2, 08:10-1-3-0111110]

Device response:

[CS*YYYYYYYYYYY*LEN*REMIND]

Example:[3G*5678901234*0006*REMIND]

Note:Clock alarm format: time-switch-how often(1: Once; 2:every day;3: self defaulted)

08:10-1-1: colock alarm time 8:10, ON, Once

08:10-1-2: colock alarm time 8:10, ON, every day

08:10-1-3-0111110: colock alarm time 8:10, ON, self defaulted monday to friday

20.Voice chat function

(1) Platform send voice message:

[CS*YYYYYYYYYYY*LEN*TK,AMR audio data]

Device response:

[CS*YYYYYYYYYYY*LEN*TK,receive status]

receive status:1—success receiving

0- failure

the server ARM audio data need to be changed the version as follows, once the server receive the voice message or voice recorder the datas format on the left will changed tothe data format on the right:

0X7D 0X01 -->0X7D

0X7D 0X02 -->0X5B

0X7D 0X03 -->0X5D

0X7D 0X04 -->0X2C

0X7D 0X05 -->0X2A

(2) Device send the voice message:

[CS*YYYYYYYY*LEN*TK,AMR audio data]

Platform response:

[CS*YYYYYYYY*LEN*TK, receive status]

receive status:1—success receiving

0- failure

the server ARM audio data need to be changed the version as follows, once the server receive the voice message or voice recorder the datas format on the left will changed to the data format on the right:

0X7D --> 0X7D 0X01

0X5B --> 0X7D 0X02

0X5D --> 0X7D 0X03

0X2C --> 0X7D 0X04

0X2A --> 0X7D 0X05

21.Contact list set up

Platform send (1) :

[3G*8800000015*len*PHB,phone number,name, phone number,name, phone number,name, phone number,name, phone number,name, phone number,name]

len: Send length hexadecimal ,Occupies

2 bytes

phone number: ascii character

name: Unicode coding

Available for 5 names and 5 numbers the most,the phone number no more than 20

pieces ascii characters, name no more than 10 pieces Unicode characters

Example: [3G*8800000015*0010*PHB,110,5F204E09]

Device response: [3G*8800000015*0003*PHB].

Platform send (2) :

[3G*8800000015*len*PHB2, phone number,name, phone number,name, phone number,name, phone number,name, phone number,name, phone number,name]

len: Send length hexadecimal ,Occupies

2 bytes

phone number: ascii character

name: Unicode coding

Available for 5 names and 5 numbers the most,the phone number no more than 20

pieces ascii characters, name no more than 10 pieces Unicode characters

Example:

[3G*8800000015*0010*PHB2,110,5F204E09]

Device response: [3G*8800000015*0004*PHB2]

Note: PHB is for the front 5 numbers, PHB2 for the last 5 numbers

22.Touch to add friend

Make many friends :

Device send:

[CS*YYYYYYYYYYY*LEN*PP,the device current time,position data(see appendix one)]

Example:

[3G*8800000015*00D6*ppmf,091046,180916,085033,A,22.570193,N,113.8621950,E,0.48,60.3,0.0,9,100,100,0,0,00000010,7,255,460,1,9529,21809,160,9529,21405,133,9529,63555,133,9529,63554,124,9529,21242,119,9529,21151,118,9529,63574,116,0,23.2]

Platform response: [3G*YYYYYYYYYYY*LEN*ppmf,id]

ID is friend ID, add friend successfully, or not ,add friend failure

Example:

[3G*4700585559*000F*ppmf,4700461123]

Request Voice:

[3G*YYYYYYYYYYY*LEN*pptkq]

Watch with network Send **pptkq** to request voice information

Friends sync:

[3G*YYYYYYYYYYY*LEN*ppsync,id1,id2,id3,id4]

Each time it is re-networked, the server sends **ppsync** to synchronize the watch and the server friends

Send voice messages:

[3G*YYYYYYYYYYY*LEN*pptk,id,ARM format audio data]

Parameter ID is friend ID

If the other watch has deleted you, the server replies:

[3G*YYYYYYYYYYY*LEN*ppsync,ppblist,id]

Watch delete friends:

[3G*YYYYYYYYYYY*LEN*ppdelete,id]

The server replies: [3G*YYYYYYYYYYY*LEN*ppdelete,x,id]

If **x** is 1, deleted successfully, ID is a friend ID that needs to be deleted

23. Remote camera command

Device send:

[CS*YYYYYYYYYY*LEN*rcapture]

Example: [3G*8800000015*len*rcapture]

Platform response:

Photos unload command

[3G*8800000015*len*img,x,y,z]

If x is 5 : remote camera

y means: time (Year, month, day, hour, minute, second : 160429110950)

Z means: photos contents

Noted: unload photos and voice need to change the data format

24. Wechat photos unload command

Device unload: [3G*8800000015*len*img,x,y,z]

X is 1, wechat photos unload

Y means: time (Year, month, day, hour, minute, second : 160429110950)

Z means: photos contents

Platform response:

[CS*YYYYYYYYYY*LEN*img,receive status]

If receiving status is 1: success

If is 0: failure

24. Wechat photos issue command

Platform issue: [3G*8800000015*len*wdimg,z]

Device replied: [CS*YYYYYYYYYY*LEN*wdimg,receive status]

If receiving status is 1: success

If is 0: failure

Noted: unload photos and voice need to change the data format

四. Appendix

Appendix —: Location Data Notes

Description	Examples (ASCII code)	Note
Date	120414	(day month year) April 21, 2014
Time	101930	(hour, minutes and seconds) ten nineteen 30 seconds
Whether the Location	A	A: positioning V: No positioning
latitude	22.564025	According to the definition of DD.DDDDDD format, this latitude value is: 22.564025
Mark of latitude	N	N expresses the north latitude, S expresses the south latitude.
Longitude	113.242329	According to the definition of DDD.DDDDDD format, this longitude value is: 113.242329.
Mark of longitude	E	E expresses the east longitude, W expresses the west longitude
Speed	5.21	5.21 km / hour.
Direction	152	In the direction of 152 degrees.
Altitude	100	Unit is meters
satellite number	9	Indicates that the GPS satellite number
signal intensity GSM	100	That represents the current GSM signal intensity (0-100)
Power	90	Battery capacity status %
Pedometer	1000	Count the number of steps
Tumbling times	50	Tumbling 50 times
Device status	00000000(Hexa decimal)	Indicated with HEX string of character , the meaning is as follows: The high 16bit expression alarming, low 16bit expression condition. The Bit position (0 starts) Meaning (1 Effective) 0 Low battery state 1 out of fence state 2 Into the fence state 3 watch state 16 SOS alarm 17 Low battery alarm 18 out fence alarm 19 Into the fence alarm 20 Remove the watch alarm
Base stations number	4	upload Base stations number, 0 expressions does not upload the base station number
Base station	1	GSM Time delay
MCC code	460	MCC country code
MNC code	02	MNC network number
Base station location	10133	Area code

area code		
Nearby the base station numbers	5173	base station serial No.
base station signal strength	100	Signal strength
Nearby the base station 1 location area code	10133	Area code
Nearby the base station 1 number	5173	base station serial No.
nearby the base station 1 signal strength	100	Signal strength
Nearby the base station 2 location area code	10133	Area code
Nearby the base station 1 number	5173	base station serial No.
nearby the base station 2 signal strength	100	Signal strength
Nearby the base station 3 location area code	10133	Area code
Nearby the base station 3 number	5173	base station serial No.
nearby the base station 3 signal strength	100	Signal strength
...
Wifi hotspots valid	5	Wifi hotspot valid quantity(the most 5),per the signal strength
Wifi 1name	rrr	The 1st wifi name
Wifi 1 MAC address	1c:fa:68:13:a5:b4	Wifi 1 MAC address
Wifi 1 signal strength	-61	Wifi 1 signal strength
Wifi 2 name	abc	The 2nd wifi name
Wifi 2 MAC address	1c:fa:68:13:a5:b5	Wifi 2 MAC address
Wifi 2 signal strength	-87	Wifi 2 signal strength
...