Mictrack Communication Protocol
For MP10

Catalogue

All the data in this agreement will follow[manufacturer*device ID*content-length]format, among them manufacturer identification has two bytes, content-length are fixed four bytes ASSII code, high-order ahead, low order behind. For example, FFFF means the length is 65535.

I.The structure of commands send by tracker

1.Link maintenance

(1)

tracker sends:

[CS*YYYYYYYYYY*LEN*LK]

eg: [SG*8800000015*0002*LK]

server returns:

[CS*YYYYYYYYYY*LEN*LK]

eg: [SG*8800000015*0002*LK]

Explain:The links send data constantly every 5 minutes, if the tracker do not receive the data, then it will reconnect every 5 minutes.

(2)

tracker sends:

[CS*YYYYYYYYYY*LEN*LK, steps, rolls performed on foot, percentage of battery]

eg: [SG*8800000015*000D*LK, 50, 100, 100]

server returns:

[CS*YYYYYYYYYY*LEN*LK]

eg: [SG*8800000015*0002*LK]

Explain:The links send data constantly every 5 minutes, if the tracker do not receive the data, then it will reconnect every 5 minutes.

Two of the above situation will be exist.

2.Upload positioning data

tracker sends:

[CS*YYYYYYYYYY*LEN*UD, positioning data(see Annex I)]

eg:

[SG*8800000015*0087*UD, 220414, 134652, A, 22.571707, N, 113.8613968, E, 0.1, 0.0, 100, 7, 60, 90, 1000, 50, 0000, 4, 1, 460, 0, 9360, 4082, 131, 9360, 4092, 148, 9360, 4091, 143, 9360, 4153, 141]

server returns:

No reply

Explain:The tracker upload positioning and status information according to the set

intervals,no need the reply from platform.

3.Blind spot re-upload data

tracker sends:
[CS*YYYYYYYYYY*LEN*UD2,positioning data(see Annex I)]
eg:
[SG*8800000015*0088*UD2,220414,134652,A,22.571707,N,113.8613968,E,0.1,0.0,100,7,60,90,1000,50,0000,4,1,460,0,9360,4082,131,9360,4092,148,9360,4091,143,9360,4153,141]
server returns:
No reply
Explain:Re-upload the data which produced in off-line state.

4.Upload alarm data

tracker sends:
[CS*YYYYYYYYYY*LEN*AL,positioning data(see Annex I)]
eg:
[SG*8800000015*0087*AL,220414,134652,A,22.571707,N,113.8613968,E,0.1,0.0,100,7,60,90,1000,50,0001,4,1,460,0,9360,4082,131,9360,4092,148,9360,4091,143,9360,4153,141]
server returns:
[CS*YYYYYYYYYY*LEN*AL]
eg:[SG*8800000015*0002*AL]
Explain:Tracker sends alarm information to platform,if tracker do not receive a reply,then it will upload the data timing until receive the alarm affirm.

5.Request for address command

tracker sends:
[CS*YYYYYYYYYY*LEN*WAD,language,positioning data(see Annex I)]
eg:
[SG*8800000015*008B*WAD,CH,220414,134652,A,22.571707,N,113.8613968,E,0.1,0.0,100,7,60,90,1000,50,0001,4,1,460,0,9360,4082,131,9360,4092,148,9360,4091,143,9360,4153,141]
server returns:
[CS*YYYYYYYYYY*LEN*RAD,positioning type,address data]
eg:[SG*8800000015*000C*RAD,GPS,relevant language and address information]
Explain: Tracker request for address command,CH means Chinese,EN means English,address data is GB232 code,position type are GPS positioning and BASE positioning.

6.Request for longitude and latitude command

tracker sends:

[CS*YYYYYYYYYY*LEN*WG,positioning data(see Annex I)]

eg:

[SG*8800000015*0087*WG,220414,134652,A,22.571707,N,113.8613968,E,0.1,0.0,100,7,60,90,1000,50,0001,4,1,460,0,9360,4082,131,9360,4092,148,9360,4091,143,9360,4153,141]

tracker returns:

[CS*YYYYYYYYYY*LEN*RG,positioning type,latitude,latitude logo,longitude,longitude logo]

eg: [SG*8800000015*0021*RG,BASE,22.571707,N,113.8613968,E]

Explain: Used in no GPS positioning status,request for longitude and latitude from platform via base station.

II.Server sends command

1. Set upload interval of data

server sends:

[CS*YYYYYYYYYY*LEN*UPLOAD,time interval]

eg:[SG*8800000015*0009*UPLOAD,10]

tracker returns:

[CS*YYYYYYYYYY*LEN*UPLOAD]

eg:[SG*8800000015*0006*UPLOAD]

Explain:Set the timing upload time interval of tracker.unit is seconds

2.Set master control number

server sends:

[CS*YYYYYYYYYY*LEN*CENTER,master number]

eg:[SG*8800000015*0012*CENTER,00000000000]

tracker returns:

[CS*YYYYYYYYYY*LEN*CENTER]

eg:[SG*8800000015*0006*CENTER]

Explain:Set master control number,all SMS command will through this mobile number.

3.Set assistant master mobile number

server sends:

[CS*YYYYYYYYYY*LEN*SLAVE, assistant master mobile number]

eg:[SG*8800000015*0011*SLAVE,00000000000]

tracker returns:

[CS*YYYYYYYYYY*LEN*SLAVE]

eg:[SG*8800000015*0005*SLAVE]

Explain:Set assistant master mobile number,through this mobile number to send message command..

4.Set password control

server sends:

[CS*YYYYYYYYYY*LEN*PW,password]

eg:[SG*8800000015*0009*PW,111111]

tracker returns:

[CS*YYYYYYYYYY*LEN*PW]

eg:[SG*8800000015*0002*PW]

Explain:Set the password of tracker,it need add password if non-master number send message command.

5.Phone call

server sends:

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

eg:[SG*8800000015*0010*CALL,00000000000]

tracker returns:

[CS*YYYYYYYYYY*LEN*CALL]

eg:[SG*8800000015*0004*CALL]

Explain:Call relevant phone number by this command.

6.Send message

server sends:

[CS*YYYYYYYYYY*LEN*SMS,message number,message content]

eg:[SG*8800000015*001C*SMS,00000000000,123ABC 大家好]

tracker returns:

[CS*YYYYYYYYYY*LEN*SMS]

eg:[SG*8800000015*0003*SMS]

Explain:Send message to relevant phone number by this command,the content of message adopt GB232 code.

7.Monitor

server sends:
[CS*YYYYYYYYYY*LEN*MONITOR]
eg:[SG*8800000015*0007*MONITOR]
tracker returns:
[CS*YYYYYYYYYY*LEN*MONITOR]
eg:[SG*8800000015*0007*MONITOR]
Explain:The tracker will callback the master mobile number automatically.

8.Set SOS mobile number

(1) set the first SOS mobile number

server sends:
[CS*YYYYYYYYYY*LEN*SOS1,phone number]
eg:[SG*8800000015*0010*SOS1,00000000000]
tracker returns:
[CS*YYYYYYYYYY*LEN*SOS1]
eg:[SG*8800000015*0004*SOS1]

(2) set the second SOS mobile number

server sends:
[CS*YYYYYYYYYY*LEN*SOS2,phone number]
eg:[SG*8800000015*0010*SOS2,00000000000]
tracker returns:
[CS*YYYYYYYYYY*LEN*SOS2]
eg:[SG*8800000015*0004*SOS2]

(3) set the third SOS mobile number

server sends:
[CS*YYYYYYYYYY*LEN*SOS3,mobile number]
eg:[SG*8800000015*0010*SOS3,00000000000]
tracker returns:
[CS*YYYYYYYYYY*LEN*SOS3]
eg:[SG*8800000015*0004*SOS3]

(4) set the three SOS mobile number at the same time

server sends:
[CS*YYYYYYYYYY*LEN*SOS,phone number,phone number,phone number]
eg:[SG*8800000015*0027*SOS,00000000000,00000000000,00000000000]
tracker returns:
[CS*YYYYYYYYYY*LEN*SOS3]
eg:[SG*8800000015*0003*SOS]

Explain:Set SOS mobile number,send message or call this mobile number when an alarm occurs.

9.Remote update

server sends:
[CS*YYYYYYYYYY*LEN*UPGRADE,URLaddress]
eg:[SG*8800000015*0039*UPGRADE,http://www.reachfar-gps.com/g29_updata/test/jt_ads.bin
]
tracker returns:
[CS*YYYYYYYYYY*LEN*UP]
eg:[SG*8800000015*0007*UPGRADE]
Explain:Control terminal remote update.

10.Set IP port

server sends:
[CS*YYYYYYYYYY*LEN*IP,IP or domain names,port]
eg:[SG*8800000015*0014*IP,113.81.229.9,5900]
tracker returns:
There is no reply from the tracker of this command ,disconnect the link and link new server.
Explain:Set the ID and port that connect platform.

11.Restore factory settings

server sends:
[CS*YYYYYYYYYY*LEN*FACTORY]
eg:[SG*8800000015*0007*FACTORY]
tracker returns:
[CS*YYYYYYYYYY*LEN*FACTORY]
eg:[SG*8800000015*0007*FACTORY]

Explain:Tracker restore factory settings.

12.Set language and timezone

server sends:
[CS*YYYYYYYYYY*LEN*LZ,language,timezone]
eg:[SG*8800000015*0006*LZ,1,8]
tracker returns:
[CS*YYYYYYYYYY*LEN*LZ]
eg:[SG*8800000015*0002*LZ]
Explain:Set tracker’ s language and timezone.

13.Query URL Google link

server sends:
[CS*YYYYYYYYYY*LEN*URL]
eg:[SG*5678901234*0003*URL]
tracker returns:
[CS*YYYYYYYYYY*LEN*URL,google link]
eg:[SG*5678901234*006B*URL,url:
http://maps.google.com.hk/maps?q=N22.571695,E113.861404
Locate date:2014-4-23
Locate time:18:16:59]
Explain:Query current URL address.

14.SOS message alarm on-off

server sends:
[CS*YYYYYYYYYY*LEN*SOSSMS,0 or 1]
eg:[SG*5678901234*0008*SOSSMS,0]
tracker returns:
[CS*YYYYYYYYYY*LEN*SOSSMS]
eg:[SG*5678901234*0006*SOSSMS]
Explain: Set whether send message to SOS mobile number when produce SOS alarm. (0:turn of ,1:turn on)

15.Low battery alarm on-off

server sends:
[CS*YYYYYYYYYY*LEN*LOWBAT,0 or 1]
eg:[SG*5678901234*0008*LOWBAT,1]
tracker returns:

[CS*YYYYYYYYYY*LEN*LOWBAT]

eg:[SG*5678901234*0006*LOWBAT]

Explain: Set whether send message to master mobile number when produce low battery alarm. (0:turn of ,1:turn on)

16. APN Setting

server sends:

[CS*YYYYYYYYYY*LEN*APN,APN name,user name,password,user data]

eg:[SG*5678901234*0011*APN,cmnet,,,46000]

tracker returns:

[CS*YYYYYYYYYY*LEN*APN]

eg:[SG*5678901234*0003*APN]

Explain: Set tracker’ s APN parameter.

17.Message control right

server sends:

[CS*YYYYYYYYYY*LEN*ANY,0 or 1]

eg:[SG*5678901234*0005*ANY,0]

tracker returns:

[CS*YYYYYYYYYY*LEN*ANY]

eg:[SG*5678901234*0003*ANY]

Explain: Set tracker’ s message control right . 0 for close message control right ,1 for open.

18.Parameter query

server sends:

[CS*YYYYYYYYYY*LEN*TS]

eg:[SG*5678901234*0002*TS]

tracker returns:

[CS*YYYYYYYYYY*LEN*TS,version number;device ID; IME number;IP;port;master number;assistant master number;SOS1 number;SOS2 number;SOS3 number;upload time interval; battery life;language;timezone;quantity of satellite;GSM signal intensity;LED Switch;password;]

Explain: Query tracker’ s parameter.

eg: [SG*5678901234*00FC*TS,ver:G29_BASE_V1.00_2014.04.24_09.47.23;
ID:SG*5678901234;
imei:1234SG*56789012345;
url:113.81.229.9;

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port:5900;
center:;
slave:;
sos1:;
sos2:;
sos3:;
upload:30S;
work mode:1;
bat level:3;
language:1;
zone:8.00;
GPS:NO(0);
GPRS:OK(89);
LED:OFF;
pw:123456;
]
```

19.Version query

server sends:

[CS*YYYYYYYYYY*LEN*VERNO]

eg:[SG*8800000015*0005*VERNO]

tracker returns:

[CS*YYYYYYYYYY*LEN*VERNO,version nubmer]

eg:[SG*8800000015*0028*VERNO,G29_BASE_V1.00_2014.04.23_17.46.49]

Explain:Query tracker’ s version.

20.Restart

server sends:

[CS*YYYYYYYYYY*LEN*RESET]

eg:[SG*5678901234*0005*RESET]

tracker returns:

[CS*YYYYYYYYYY*LEN*RESET]

eg:[SG*5678901234*0005*RESET]

Explain:Restart tracker.

21.Positioning command

server sends:

[CS*YYYYYYYYYY*LEN*CR]

eg:[SG*5678901234*0002*CR]

tracker returns:

[CS*YYYYYYYYYY*LEN*RESET]

eg:[SG*5678901234*0002*CR]

Explain: Wake up tracker' s GPS module,and make tracker in the positioning state for a continuous period of time.

22.Bluetooth control command

server sends:

[CS*YYYYYYYYYY*LEN*BT,1(or 0)]

eg:[SG*5678901234*0004*BT,1]

tracker returns:

[CS*YYYYYYYYYY*LEN*RESET]

eg:[SG*5678901234*0002*BT]

Explain:Control tracker' s Bluetooth on-off ,1(turn on),0(turn off).

23.Set work time command

server sends:

[CS*YYYYYYYYYY*LEN*WORK,working time]

eg:[SG*5678901234*0019*WORK,6-9,11-13,13-15,17-19]

tracker returns:

[CS*YYYYYYYYYY*LEN*RESET]

eg:[SG*5678901234*0004*WORK]

Explain:Set tracker' s work time,separate paragraph by commas.

24.Set work time command

server sends:

[CS*YYYYYYYYYY*LEN*WORKTIME,work time]

eg:[SG*5678901234*000A*WORKTIME,3]

tracker returns:

[CS*YYYYYYYYYY*LEN*RESET]

eg:[SG*5678901234*0008*WORKTIME]

Explain:Set tracker' s work time,unit is minutes.

25.Power off command

server sends:

[CS*YYYYYYYYYY*LEN*POWEROFF]

eg:[SG*5678901234*0008*POWEROFF]

tracker returns:

[CS*YYYYYYYYYY*LEN*POWEROFF]

eg:[SG*5678901234*0008*POWEROFF]

Explain:Power off function.

26.Remove GPS watch alarm on-off

server sends:

[CS*YYYYYYYYYY*LEN*REMOVE,0 or 1]

eg:[SG*5678901234*0008*REMOVE,1]

tracker returns:

[CS*YYYYYYYYYY*LEN*REMOVE]

eg:[SG*5678901234*0006*REMOVE]

Explain:Remove alarm on-off function.

27.Query pulse

server sends:

[CS*YYYYYYYYYY*LEN*PULSE]

eg:[SG*5678901234*0005*PULSE]

tracker returns:

[CS*YYYYYYYYYY*LEN*PULSE,pulse rate]

eg:[SG*5678901234*0008*PULSE,72]

Explain: Query pulse.

28.Phrase display setting command

server sends:

[CS*YYYYYYYYYY*LEN*MESSAGE,phrase content]

eg:[SG*5678901234*0018*MESSAGE,597D003100320033]

tracker returns:

[CS*YYYYYYYYYY*LEN*MESSAGE]

eg:[SG*5678901234*0007*MESSAGE]

Explain:This command push displayed phrase to tracker.

29.Set white list command

server sends:

[CS*YYYYYYYYYY*LEN*WHITELIST1,number 1,number 2,number 3,number 4,number 5]

eg:[SG*5678901234*002D*WHITELIST1,123456,123456,123456,123456,123456]
tracker returns:
[CS*YYYYYYYYYY*LEN*WHITELIST1]
eg:[SG*5678901234*000A*WHITELIST1]
Explain:Set 1-5 white mobile number.

server sends:
[CS*YYYYYYYYYY*LEN*WHITELIST2,number1,number2,number3,number4,number5]
eg:[SG*5678901234*002D*WHITELIST2,123456,123456,123456,123456,123456]
tracker returns:
[CS*YYYYYYYYYY*LEN* WHITELIST2]
eg:[SG*5678901234*000A*WHITELIST2]
Explain: Set 6-10 white mobile numbers.

30.Two way communication function

server sends:
[CS*YYYYYYYYYY*LEN*TK,]
tracker returns:
[CS*YYYYYYYYYY*LEN*TK,receive results]
ARMARM format audio data needs escape character:
0X7D 0X01 --> 0X7D
0X7D 0X02 --> 0X5B
0X7D 0X03 --> 0X5D
0X7D 0X04 --> 0X2C
0X7D 0X05 --> 0X2A
receive results:1—success
0—failed
tracker returns:
[CS*YYYYYYYYYY*LEN*TK,ARM format audio data]
server returns:
[CS*YYYYYYYYYY*LEN*TK,receive results]
ARM format audio data needs escape character:
0X7D --> 0X7D 0X01
0X5B --> 0X7D 0X02
0X5D --> 0X7D 0X03
0X2C --> 0X7D 0X04
0X2A --> 0X7D 0X05
Receive results:1—success
0—failed
Tracker request for sending records:
[CS*YYYYYYYYYY*LEN*TKQ]

31.GPRS on-off

server sends:
[CS*YYYYYYYYYY*LEN*gprsgps,0 or 1]
eg:[SG*5678901234*0009*gprsgps,0]
tracker returns:
[CS*YYYYYYYYYY*LEN*gprsgps]
eg:[SG*5678901234*0007*gprsgps]

Parameter explain:
0 means turn off GPRS data and GPS positioning.
1 means turn on GPRS data and GPS positioning.

32.GPS/GSM indicator light

server sends:
[CS*YYYYYYYYYY*LEN*led,0 or 1] 0 turn off 1 turn on
eg:[SG*5678901234*0005*led,0]
tracker returns:
[CS*YYYYYYYYYY*LEN*led]
eg:[SG*5678901234*0003*led]
Explain:0 means the LED light never flash
1 means the LED light will flash when power on /off ,or search GSM and GPS signal.

33.Marquee auto-induction on-off

server sends:
[CS*YYYYYYYYYY*LEN*LSN,0 or 1] 0 turn off 1 turn on
eg:[SG*5678901234*0005*LSN,0]
tracker returns:
[CS*YYYYYYYYYY*LEN*LSN]
eg:[SG*5678901234*0003*LSN]

34.Answer mode

server sends:
[CS*YYYYYYYYYY*LEN*ANS,0 or 1 or 2]
eg:[SG*5678901234*0005*ANS,0]
tracker returns:
[CS*YYYYYYYYYY*LEN*ANS]
eg:[SG*5678901234*0003*ANS]
Parameter explain:
0 press button to answer
1 hands-free auto answer (use microphone to send voice and speaker to amplify the sound)
2 monitor (use microphone to send voice and speaker is turn off.)

35.Set vibration alarm function

server sends:
[CS*YYYYYYYYYY*LEN*VON,0 or 1(2,3,4)]
eg:[SG*5678901234*0019*VON,1]
tracker returns:
[CS*YYYYYYYYYY*LEN*VON]
eg:[SG*5678901234*0003*VON]

parameter explain:
0, Turn off vibration alarm function.
1, Turn on vibration alarm function, shock sensitivity in 1 grade.
2, Turn on vibration alarm function, shock sensitivity in 2 grade.
3, Turn on vibration alarm function, shock sensitivity in 3 grade.
4, Turn on vibration alarm function, shock sensitivity in 4 grade.

36.Set sound sensor alarm function

server sends:
[CS*YYYYYYYYYY*LEN*NON,0 or 1,1(any numbers)]
eg:[SG*5678901234*007*VON,1,1]
tracker returns:
[CS*YYYYYYYYYY*LEN*NON]
eg:[SG*5678901234*0003*NON]

parameter explain:
The first parameter:
0, Turn off sound sensor alarm function.
1, Turn on sound sensor alarm function.

The second parameter,minimum value is 1,maximum value is 99.
1, When the outside sound of Microphone sensor sends alarm,delay for one minute,and then open again Microphone sensor.

37.Alarm model

server sends:
[CS*YYYYYYYYYY*LEN*MOD,0]
eg:[SG*5678901234*0005*MOD,0]
tracker returns:
[CS*YYYYYYYYYY*LEN*MOD]
eg:[SG*5678901234*0003*MOD]

parameter explain:
0, Only upload to platform.
1, Upload to the platform first,then send message,next call up.
2, Upload to the platform first,then call up.
3, Upload to the platform first,then send message.

38.Safety model

server sends:
[CS*YYYYYYYYYY*LEN*DND,0 or 1]
eg:[SG*5678901234*0012*DND,0]
tracker returns:
[CS*YYYYYYYYYY*LEN*DND]
eg:[SG*5678901234*0003*DND]
Parameter explain:
0:means any people can make to the device
1: means the device only accept contact list and white list phone number incoming call .and will reject any other’ s incoming call .

III.Appendix

Appendix I: Positioning data explanation

Name	Example(ASII code)	Explanation
Date	120414	(day/month/year)April 12,2014
Time	101930	(hour/ minute /seconds)10pm 19minutes 30seconds with stander time
GPS data effective	A	A:valid V:Invalid
Latitude	22.564025	According to DD.DDDDDD format definition,the latitude value is :22.564025.
Latitude logo	N	N means northern latitude,S means southern latitude.
Longitude	113.242329	According to DD.DDDDDD format definition,the longitude value is:113.242329.
Longitude logo	E	E means east longitude,W means west longitude.
Speed	5.21	5.21 km/hr .
Direction	152	In 152 degrees.
Elevation	100	Unit to be meters
Quantity of satellites	9	Indicate quantity of GPS satellites
GSM signal intensity	100	Means current GSM signal intensity(0-100)
Battery life	90	Means the percentage of the battery
Plan the steps	1000	The steps are1000
Rolls performed on foot	50	Roll 50 times
Tracker state	00000000	Express as hexadecimal character,the meaning as below: High 16bit means alarm ,low16bit means status. Bit (0 start) meaning(1effective) 0 low battery status 1 out of the fence status 2 enter into the fence status 3 Wear GPS watch status 16 SOS alarm 17 low battery alarm 18 out of the fence alarm 19 enter into the fence alarm 20 remove bracelet alarm
Quantity of base station	4	Report quantity of base station,0 means not report base station information.
Link base station	1	GSM time delay
MCC country code	460	460 means China
MNC network number	02	02 means china mobile
Area code for link the	10133	Area code

location of base station		
Link base station serial number	5173	Base station serial number
Link base station signal intensity	100	Signal intensity
Nearby base station 1 location area code	10133	Area code
Nearby base station 1 serial number	5173	Base station serial number
Nearby base station 1 signal intensity	100	Signal intensity
Nearby base station 2 location area code	10133	Area code
Nearby base station 2 serial number	5173	Base station serial number
Nearby base station 2 signal intensity	100	Signal intensity
Nearby base station 3 location area code	10133	Area code
Nearby base station 3 serial number	5173	Base station serial number
Nearby base station 3 signal intensity	100	Signal intensity
…	…	…
Wifi information	5	Wifi number(at most 5),sort by signal intensity.
Wifi 1name	rrr	The 1st information name
Wifi 1 MAC address	1c:fa:68:13:a5:b4	The 1st wifi MAC address
Wifi 1 signal intensity	-61	The 1st wifi signal intensity
Wifi 1name	abc	The 2nd wifi name
Wifi 1 MAC address	1c:fa:68:13:a5:b5	The 2nd wifi MAC address
Wifi 1 signal intensity	-87	The 2nd wifi signal intensity
…	…	…