The GPRS Communication protocol (GTP) between TZ-GT01 Personal Tracking Device With Service Center

Version 2.5

Content

1. Introduce

This TZ-GT01 GPS Tracker communication protocol (GTP) is defined to make available a datagram mode of packet communication between TZ-GT01 with Service Center. This protocol provides a procedure for application programs to send messages to other programs with a minimum of protocol mechanism. The protocol is transaction oriented, and delivery and duplicate protection are not guaranteed. Applications requiring ordered reliable delivery of streams of data should use the Transmission Control Protocol.

This document describes the functions and definition to be performed by the GTP, the program that implements it, and its interface to programs or users that require its services.

This document represents a specification of the behavior required of TZ-GT01 implementation, both in its interactions with other higher level protocols and in its interactions with other Service Center.

2. Command Format Specification

Depending on the direction of data stream ,protocol support following 2 format:

1. Call center send command to track unit

@@ + L + SIM(7byte) + command type(2 byte)+ Command DATA + checksum(2 byte)+\r\n

2. Track unit send command to call center

$$ + L+ SIM(7byte)+ command type(2byte)+Command DATA +checksum(2byte)+\r\n

@@ : indicates header of command from call center to track unit , is ASCII code

$$: indicates header of command from track unit to call center ,is ASCII code

L: indicate length of all command , is 2 bytes including header and end is ASCII

SIM: Phone Number according the SIM card, is ASCII code

Command type : indication of all command ,consist of 2 bytes .is ASCII code

Checksum : means CRC check of all data ahead ,not including itself byte and end character

\r\n : end char. It is 0DH,0AH;

Notes:

(1) After power on track unit ,it send login command immediately

(2) If cannot login,it will retry every 5 minutes .The track will power off if it cannot login in 5 times .

(3) It is in single location request state after login .

3. Login after power on

----- Command from track unit to call center,

$$ + L+ SIM (7byte) + 0x5000 + checksum(2byte) + \r\n

---- Command from call center to track unit

@@ + L + SIM(7byte) + 0x4000 + DATA + checksum(2byte) +\r\n

DATA: 0x00 means login failed

0x01 means login success

4. Single location request

---- Command from call center to track unit:

@@ + L + SIM(7byte) + 0x4101 + checksum(2byte) +\r\n

---- Reply from track unit:

$$ + L+ SIM (7byte) + 0x9955 + DATA +checksum(2byte) + \r\n

DATA: GPS position information

5. Tracking in preset time interval

----- Command from call center to track unit

@@ + L + SIM(7byte) + 0x4102 + DATA + checksum(2byte) +\r\n

Meaning : set time interval of every position information which send from track unit to call center

DATA: Interval time (2 bytes) ,and the unit is 10s.
It means single location request instead of tracking timely function if interval time is 0x0000

---- Reply from track unit to call center

$$ + L + SIM(7byte) + 0x5100 + DATA + checksum(2byte) +\r\n

Meaning: Indicate call center reply track unit whether the set is success.

DATA: 0x00 (1 byte) +time interval (2Byte) ---- means set failed.
0x01 (1 byte)+time interval (2Byte) ---- means set successfully.

6. GPS position info package:

$$ + L+ SIM (7byte) + 0x9955 + DATA +checksum(2byte) + \r\n

DATA : GPS Position info

DATA Format is:

hhmmss.dd,S,xxmm.dddd,<N|S>,yyymm.dddd,<E|W>,s.s,h.h,ddmmyy

For example:

134829.486,A,1126.6639,S,11133.3299,W,58.31,309.62,110200

Parameter	Description	Example
hhmmss.dd	UTC time, h = hours, mm = minutes, ss = seconds, dd = decimal part of seconds	13:48:29.486
S	Status indicator, A = valid, V = invalid	Valid
xxmm.dddd	Latitude, xx = degrees, mm = minutes,dddd = decimal part of minutes	11 deg.
<N|S>	Either character N or character S, N = North, S = South	26.6639 min.
yyymm.dddd	Longitude, yyy = degrees, mm = minutes,dddd = decimal part of minutes	111 deg. 33.3299 min.
<E|W>	Either character E or character W, E = East, W = West	West
s.s	Speed, knots.	58.31 Knots
h.h	Heading	309.62 deg.
ddmmyy	Date, dd = date, mm = month, yy = year	11th, Aug. 2000

Notes: if xxmm.dddd or yyymm.dddd is “ 0000.000”,it means track unit cannot receive GPS info.