GPS

Tracker

USER MANUAL
V5.0

GT30

Contents

1 Product Overview

GT30 provides an easy way to track your targets and provides peace of mind by showing you with your mobile phone or PC the location of your targets via SMS or GPRS.

GT30 has the following features:

Tracking via SMS or GPRS (TCP/UDP)

Current location report

Tracking by time interval

Two-way conversation

SOS alert

Geo-fencing control

Low battery alert

Speeding alert

Alert when GT30 enters/exits GPS blind area

Alert when GT30 is turned on

Three buttons for making phone call and/or sending message

2 For Your Safety

Read these simple guidelines. Not following them may be dangerous or illegal. Read the full user manual for more information.

Switch on Safely - Do not switch on GT30 when wireless phone use is prohibited or when it may cause interference or danger.

Switch off in Hospitals – Follow any restrictions. Switch GT30 off near medical equipment.

Switch off in Aircraft – Follow any restrictions. Wireless devices can cause interference in aircraft.

Switch off when refueling – Do not use GT30 when at a refueling point. Do not use near fuels or chemicals.

Switch off near blasting – Follow any restrictions. Do not use GT30 when blasting is in progress.

Qualified Service – Only qualified personnel can repair GT30.

Water Resistance – GT30 is not water resistant. Keep it dry. Use waterproof bag if necessary.

3 GT30 Parameters

Item	Specification
Charging Voltage	DC 4.2-5.5V/400mA (Mini USB port)
Internal Battery	Rechargeable and replaceable 1350 mAh battery (3.7V),
Dimension	77 mm × 51 mm × 25 mm
Weight	96g
Operating temperature	-20° to 55° C
Humidity	5% to 95% Non-condensing
GSM module	GSM 900/1800/1900Mhz or GSM 850/900/1800/1900Mhz
GPS Chipset	latest GPS SIRF-Star III chipset
GPS Sensitivity	-158Db

GPS Frequency	L1, 1575.42 MHz
C/A Code	1.023 MHz chip rate
Channels	20 channel all-in-view tracking
Position Accuracy	10 meters, 2D RMS
Velocity Accuracy	0.1 m/s
Time Accuracy	1 us synchronized to GPS time
Default datum	WGS-84
Reacquisition	0.1 sec., average
Hot start	1 sec., average
Warm start	38 sec., average
Cold start	42 sec., average
Altitude Limit	18,000 meters (60,000 feet) max.
Velocity Limit	515 meters/second (1000 knots) max.
Acceleration Limit	Less than 4g
Jerk Limit	20 m/sec
Work time	60 hours in sleep mode and 12 hours in normal mode
LED	3 LED lights to show power, GPS, GSM and other operation status.
Button	3 buttons(SOS/B/C) for making phone calls or sending SMS

4 Getting Started

This section will describe how to set up your GT30.

4.1 Hardware and Accessories

GT30 includes:
- *GT30 Main Unit with battery*
- *USB Power Cable*
- *Car Charger*
- *Wall Charger*
- *Handsfree Earpiece with Microphone*
- *CD including*
  - *User Manual*
  - *Other document or software if required*

4.2 Light and Button Functionality

Your GT30 has four buttons and three LED lights with three different colors
to indicate the status of the unit.

Red LED - indicating power status	
Off	Power is off or charging is complete
Flashing (every 0.1 second)	Low power
On	Charging
Flashing (on for 1 second and off for 2 seconds)	Working
Blue LED - indicating GPS status	
On	One button is pressed

Flashing (every 0.1 second)	The unit is being Initialized
Flashing (on for 0.1 second and off for 2.9 seconds)	GT30 has a GPS fix
Flashing (on for 1 second and off for 2 seconds)	GT30 has no GPS fix

Green LED - indicating GSM status	
On	One call is coming in / one call is being made
Flashing (every 0.1 second)	The unit is being Initialized
Flashing (on for 0.1 second and off for 2.9 seconds)	GT30 is connected to the GSM network
Flashing (on for 1 second and off for 2 seconds)	GT30 is not connected to the GSM network

Power Button	To turn on/off GT30
SOS Button	Press SOS button to make a phone call and/or send an SMS to the preprogrammed phone number. Press it to receive an incoming call.
Call B	Press B button to make a phone call and/or send an SMS to the preprogrammed phone number. Press it to reject a call, cancel calling or complete a conversation.
Call C	Press C button to make a phone call and/or send an SMS to the preprogrammed phone number.

4.3 First Use

Please read this manual before using your GT30.

Ensure that your GT30 has a working SIM installed.
 - Check that the SIM has not run out of credit
   (Test the SIM in a phone to make sure it can send and receive SMS)
 - Check that the SIM Lock code is turned off
 - If you require the function of sending an SMS location report to the authorized phone number when it makes a call to the GT30, please make sure the SIM installed supports displaying caller ID.

Charge the battery for at least 3 hours in power-off status using the wall charger or car charger. Red light is on during charging and is off when charging is complete.

Push the power button to the on side and wait for about 20 seconds.
It will then enter standby mode. It is suggested that you be in an outer
place where it can receive better GPS when you turn on the device.

Check that the Red LED (power) on GT30 is flashing (on for 1 second and off for 2 seconds).
Check that the Green LED (GSM) is flashing (on for 0.1 second and off for 2.9 seconds).

5 SMS Command

GT30 will only accept commands from a user with the correct password. Commands with wrong

password are ignored. The default password is 000000.

5.1 Basic SMS Commands

5.1.1 Return the location of the tracker

Description: To know the location of your GT30, send an SMS or make a telephone call directly to GT30 and it will report its location by SMS.

Command: W<password>,<000>

Notes: The default password is 000000.

Example:

SMS sent: W000000,000

SMS received:

Latitude = 22 32 36.63N Longitude = 114 04 57.37E, Speed = 2.6854Km/h, 2008-12-24,01:50

To get GT30's location by another easier way:

(a) Call GT30 using your mobile phone.

(b) After listening to the ring for 10 - 20 seconds, hang up the phone.

(c) Then, in about 15 seconds, your mobile phone will receive an SMS with longitude and latitude.

5.1.2 Set Interval for automatic timed report

Description: Automatic timed reports will be sent to your mobile phone according to the time interval you set.

Command: W<password>,002,XXX

Notes: XXX is the interval in minute. If XXX=000 it will stop tracking

Example:

SMS sent: W000000,002,005

SMS received: Set Time Ok/005

Meaning: GT30 will report its location by SMS every 5 minutes.

5.1.3 Stop automatic timed report

Description: Automatic timed reports will stop once GT30 receives stop command.

Command: W<password>,002,000

Example:

SMS sent: W000000,002,000

SMS received: Set Timer Ok/000

Meaning: GT30 will stop automatic timed report.

5.1.4 SOS/Call B/Call C

Description: To authorize a mobile phone number for the SOS, Call B or Call C button. When the button is pressed, a message will be sent and/or simultaneously a call will be made to the authorized number.

Command: W<password>,003,F,P,<telephone number>

Notes:

(a) F =0, cancel this function

　　　=1, only send SMS to the preset number

=2, only call the preset number

=3, send SMS and also Call the preset number

P =1, set an authorized number for SOS button

=2, set an authorized number for Call B

=3, set an authorized number for Call C

(b) When one of the buttons is pressed and a call is made, you can call and talk with the tracker-holder if he/she is using an earphone.

(c) Press the Call B button to hang up the call or cancel a calling

Example:

SMS sent: W000000,003,3,1,123456789

SMS received: Set Tel Ok/3,1,123456789

Meaning: When the SOS button is pressed, GT30 will send an SMS to telephone number "123456789" and also make a phone call to it.

When a call is coming in, the green light is on. Press SOS button to receive the incoming call and then talk with the caller by earphone. To complete the conversation, hang up the call by pressing Call B button.

For more detailed SMS commands please go to Chapter 8 - SMS Command List

5.2 GPRS Settings by SMS

Tracking via GPRS, you should set IP, Port and APN for GT30.

Ensure that your SIM card in GT30 supports GPRS connection prior to setting.

5.2.1 Set ID for GT30

Command: W<password>,010,ID

Note: Tracker ID must not over 14 digits.

Example: W000000,010,123456789

GT30 will then reply with an SMS ('Set SIM Ok/123456789') to confirm this setting.

5.2.2 Set APN

Command: W<password>,011,APN,APN Name,APN Password

Note: If no APN name and password required, input APN only.

Example: W000000,011,CMNET

GT30 will reply with an SMS (like 'Set APN Ok/CMNET') to confirm this setting.

5.2.3 Set IP Address and Port

Command: W<password>,012,IP,PORT

Example: W000000,012,202.116.11.12,8000

GT30 will then reply with an SMS ('Set IP Ok/202.116.11.12,8000') to confirm this setting.

5.2.4 Set Time Interval for Sending GPRS Packet

Command: W<password>,014,time interval(in unit of 10 seconds)

Example: W000000,014,00003

GT30 will send a GPRS packet every 30 seconds

5.2.5 Enable GPRS Tracking Function

Command: W<password>,013,X

X=0, to turn off GPRS tracking function (default);

X=1, to set TCP

X=2, to set UDP

Example: W000000,013,1

GT30 will reply with an SMS to confirm this setting.

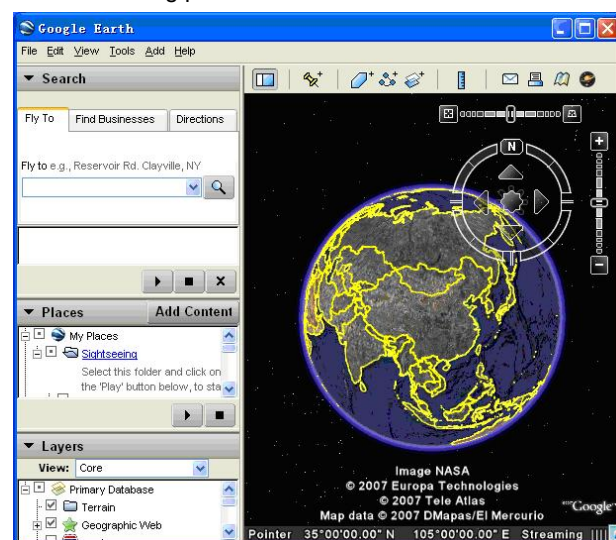*For more information regarding of bulk configuration by USB cable please refer to < GPS Tracker Parameter Editor>.*

For more information regarding GPRS settings please refer to <GPRS Communication Protocol >.

6 Tracking on Map

Download Google Earth from http://earth.google.com/

Start the Google Earth (For more information about Google Earth please refer to http://earth.google.com/) as the following picture shows:

Input the latitude and longitude that you receive from the tracker by SMS and click the search button. Google Earth will display the location for you.
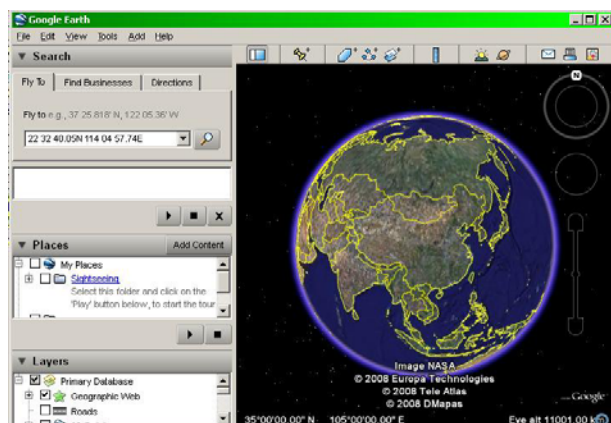
Example:

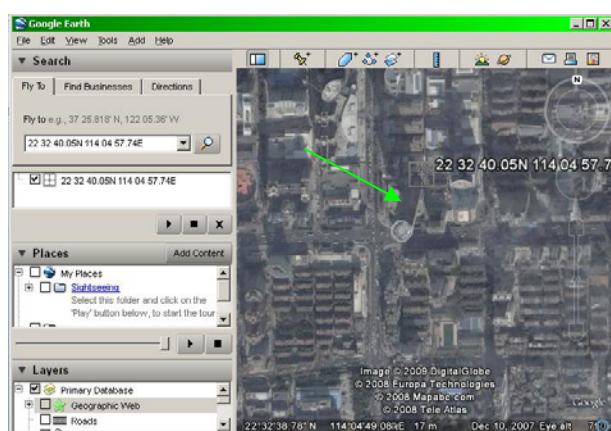When you receive:

Latitude = 22 32 40.05N

Longitude = 114 04 57.74E

Type as the following picture shows:

(Note: you should input the latitude and longitude as: 22 32 40.05N 114 04 57.74E)

Now you can find the location of your tracker:

Or you can start the Internet Explorer and connect to http://maps.google.com for displaying the location.

Or you can use local map software on PDA or car navigation device to input the coordinates.

7 Troubleshooting

Problem: Unit will not turn on when pushing the power switch to On side	
Possible Cause:	**Resolution:**
Power switch was not pushed properly	Check and make sure the power button is pushed to On side.
Battery needs charging	Recharge battery for 3 hours

Problem: Unit will not reply with SMS	
Possible Cause:	**Resolution:**
Green LED is flashing (on for 1 second and off for 2 seconds)	Make GT30 connected to GSM network.
GSM Network is slow	Wait for SMS. Some GSM networks slow down during peak time or when they have equipment problems.
Unit is sleeping	Cancel sleeping mode

Wrong password in your SMS or wrong SMS format	Write correct password or SMS format
The SIM in GT30 has run out of credit	Replace or top up the SIM card

Problem: Green LED is Flashing (on for 1 second and off for 2 seconds)	
Possible Cause:	**Resolution:**
No GSM signal	Check with a mobile phone to see if there is a signal in the area or try to call the unit to see if you hear a ring tone.
No SIM card	Insert a working SIM card. Check in phone that the SIM can send SMS message.
SIM card has expired	Check in phone that the SIM can send SMS message. Replace SIM card if needed.
SIM has PIN code set	Remove PIN code by inserting SIM in you phone and deleting the code.
SIM is warped or damaged	Inspect SIM, clean the contacts. If re-inserting does not help try another to see if it will work.
Roaming not enabled	If you are in a different country your SIM account must have roaming enabled.
Battery is low	Recharge the unit and the GSM will start working.

Problem: Blue LED is Flashing (on for 1 second and off for 2 seconds) or the SMS received starts with 'Last…'	
Possible Cause:	**Resolution:**
Unit does not have clear view of the sky	Move the unit to a location where the sky is visible. Tall buildings, trees, heavy rain, can cause problems with the GPS reception.
Bad GPS reception	Place the front side of GT30 towards sky
Battery is low	Recharge the unit and the GPS will start working.

If any other problem occurs, please contact our salesperson or engineer.

8 SMS Command List

Remarks: ****** is user's password and the default password is 000000.

Description	Command	Remarks
Get current location	W******,000	Get current location of GT30
Change user's password	W******,001,######	****** is old password ###### is new password
Set interval for automatic timed report	W******,002,XXX	XXX is the interval in minute. If XXX=000 it will stop tracking
Set preset phone number for SOS button, Call B and Call C	W******,003,F,P,T	F=0, to turn off this function; (default) F=1, only sending SMS; F=2, only calling preset phone number; F=3, both SMS and calling P=1, set an authorized number for SOS button P=2, set an authorized number for Call B P=3, set an authorized number for Call C T: Preset phone number. Max.16 digits
Set low power alert When GT30 voltage is lower than the preset value, it will send one low power alert to the SOS preset number.	W******,004,X	X (voltage preset value) =0 , to turn off this function =1, <3.3V send SMS alert =2 , <3.4V send SMS alert =3 , <3.5V send SMS alert (default) =4 , <3.6V send SMS alert =5 , <3.7V send SMS alert
Set over speed alert When GT30 speeds higher than the preset value, it will send an SMS to the SOS preset number.	W******,005,XX	XX (the preset value of speed) =00 , to turn off this function =[01, 20] (unit: 10Km/h) For example, W000000,005,08, it will sent alert when it is over 80Km/h
Set Geo-fence alert When GT30 moves out of preset scope, it will send one Geo-fence SMS to the SOS preset number.	W******,006,XX	XX (preset distance to original place) =00, to turn off this function =01, 30m =02, 50m =03, 100m =04, 200m =05, 300m =06, 500m =07, 1000m =08, 2000m

Extend Settings	W******,008,ABCDEFG###	**A=0**, turn off the function of sending an SMS location report to the authorized phone number when it makes a call to GT30. **A=1**, turn on the function of sending an SMS location report to the authorized phone number when it makes a call to GT30. **B=0**, location data of NMEA 0183 GPRMC will be interpreted into normal text for easy reading. For example: *Longitude = 114 degree - 04 cent -57.74 second* *Latitude = 22 degree -32 cent -40.05 second* **B=1**, location data complies with NMEA 0183 GPRMC protocol. For example: *$GPRMC,072414.000,V,3114.3763,N, 12131.3255,E,0.00,0.00,050805,*00* **C=0**, turn off the function to automatically hang up an incoming call. **C=1**, turn on the function to automatically hang up an incoming call after 4 - 5 rings. **D=0**, Turn off the function of sending an SMS when GT30 is turned on. **D=1**, Turn on the function of sending an SMS to SOS number when GT30 is turned on. **E=0**, reserved **E=1**, GT30 shuts down automatically when the power voltage lower than 3V. **F=0**, Turn off the alert when GT30 enters GPS blind area. **F=1**, Turn on the alert when GT30 enters GPS blind area. SMS is to be sent to SOS number **G=0**, 3 LED lights work normally **G=1**, 3 LED lights stop flashing when GT30 working. **###** is the ending character (default value is: ABCDEFG=1000100)
Extend Settings		

Presetting by SMS for GPRS tracking (*Ensure that your SIM card supports GPRS connection prior to setting*)		
Set ID for GT30	W******,010,ID	Tracker ID must not over 14 digits.
Set APN	W******,011,APN,APN Name, APN Password	If no APN name and password required, just insert APN only; APN defaulted as 'CMNET'; APN + APN name + password not over 39 characters.
Set IP Address and Port	W******,012,IP, Port	IP: xxx.xxx.xxx.xxx Port: [1,65534]
Enable GPRS Tracking Function	W******,013,X	X=0, turn off GPRS tracking (default); X=1, enable TCP X=2, enable UDP
Set Time Interval for Sending GPRS Packet	W******,014,XXXXX	XXXXX should be in five digitals and in unit of 10 seconds. XXXXX=00000, to turn off this function; XXXXX=00001~65535, time interval for sending GPRS packet and in unit of 10 seconds.
For more information regarding GPRS settings please refer to <GPRS Communication Protocol>		
Set sleep mode for saving power	W******,021,XX###	XX=00 turn off sleep mode XX=01 sleep mode XX=02 deep sleep mode **###** is the ending character
Set phone number for wiretapping	W******,030,T	T is the telephone number for wiretapping and max. 16 digits
Set time zone difference	W******,032,T	T=0, to turn off this function T=[1, 65535] to set time difference in minute to GMT. Default value is GMT For those ahead of GMT, just input the time difference in minute directly. For example, W000000,032,120 '-'is required for those behind GMT. For example, W000000,032,-120.
Set character for SOS alert message	W******,033,P,Char	P is the button number. P=1, SOS button P=2, Call B P=3, Call C. Char is the character in SOS message and max 32 characters
Get version and serial number	W******,600	To get version and serial number of current firmware
Get IMEI	W******,601	To get IMEI