



Overt and covert systems to track, monitor and protect people and property worldwide



GT2000

FREQUENTLY ASKED QUESTIONS



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1. WHAT IS THE GT2000?

The GT2000 is a unique, portable tracking unit that attaches to Thuraya satellite phones, creating a single handheld device for communication, tracking & personal protection. It allows users to track, monitor and communicate with their key mobile assets (personnel, trucks, cars, delivery vans, boats, trains etc) when travelling both within GSM coverage and under the broad footprint of the Thuraya satellites.

2. WHAT ARE ITS KEY FEATURES?

Portability: the size, weight and simplicity of the GT2000 allow the unit to be carried with the satellite phone in one hand

Data transmission: location & tracking data is sent back to the customer base via SMS messages. These can be sent using either the GSM or satellite network

Voice communication: voice and text functions of the Thuraya satellite phone remain available when the GT2000 is attached

Alert button: an alert button on the unit allows the user to discretely send an alert back to the customer's base informing them of their location so that the appropriate response can be made. It can also automatically increase the frequency of the unit's location reports when this button is pressed to facilitate personal protection applications

GPS chipset: the GT2000 uses its own SiRFIII GPS chipset to determine its location independently from the phone handset

Motion detector: the GT2000 has an inbuilt two-axis motion detector

Accessories: the GT2001 Docker allows the combined GT2000 and phone to be inserted and operated within vehicles, ships, offices, homes, safe houses, etc. The GT2002, a remote alert keyfob, allows the user to send two types of alerts when they are not in possession of the GT2000 using a RF transmission range significantly superior to that of a car key fob

Compatibility: the GT2000 is designed to work with all traditional models of Thuraya phones: the Hughes 7100 and 7101 models. The unit uses standard Thuraya chargers (either mains or car) and standard Thuraya vehicle or maritime antennas



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3. HOW DOES IT WORK?

To operate, a Thuraya satellite phone is inserted into the GT2000. Once attached, the GT2000 uses its own SiRFill chipset to determine its location. It then uses the Thuraya satellite phone to transmit this information and other tracking data in an SMS message to the customer's base. If the phone has been set up to operate using the GSM network it will send the SMS by the chosen GSM network; if the phone is set up to operate using the satellite network, it will send this data via Thuraya. The frequency of these messages is determined by the customer to suit his application. An alert button on the GT2000 will send an alert when pressed and can also be set to activate the units' alarm reporting mode - increasing the frequency of the location reports.

4. WHAT INFORMATION DOES IT SEND?

The GT2000 sends the following information back to the customer base: unit ID, GPS date and time, GPS position, heading, speed, status including motion/power up detection. In the event that a button is pressed on the GT2002 keyfob it will also advise which button was pressed (allowing the user to define two types of alerts) and report on the battery status of the GT2002 keyfob.

5. WHAT ARE ITS KEY BENEFITS?

Portability - the combined GT2000 and phone can easily be carried on a person allowing it to be used as a personal tracker or protection device. Using the GT2001 Docker it can also be used within vehicles/boats/trains etc to provide asset-tracking functionality

Multi-functional - one device for communication (voice and text), tracking and protection

Alerting functionality - the user is able to send an alert and location report & activate the unit's alarm reporting mode by pressing one button on the unit. Additional alerting functionality is available using the optional remote alert fob which can trigger two types of alerts when away from the GT2000, providing additional SOS capabilities

Tracking capabilities - real-time, extensive geographic tracking coverage. When GSM coverage is not available, the unit uses the Thuraya satellite to transmit the tracking data

Flexibility - fits onto all Ascom 21 & Hughes (models 7100 and 7101) Thuraya satellite phones. Can be taken from one phone and attached to another phone, allowing the tracking unit to be used where it is needed most at any given time - "pool" opportunity

Simplicity - To track simply click the phone into the GT2000. When user does not require tracking, simply remove phone from the GT2000 or switch off the phone



Cost effective - one of the lowest cost satellite tracking systems available. The only one to combine voice, text and tracking in a portable unit and to use both GSM or satellite networks

6. WHAT APPLICATIONS ARE GT2000s SUITABLE FOR?

The GT2000 is ideal for any individual/organisation that requires real-time tracking and communication capabilities within both GSM and non-GSM coverage areas. In addition, the combined communication, tracking & alerting functionality offers unique personal protection capabilities in a portable, easy-to-use format.

Application examples include organisations that have employees in remote, unfamiliar or dangerous areas where the GT2000 can be used to keep track of staff, facilitate distress signals and ensure constant communication with personnel; haulage and courier firms who need to keep track of their vehicles and assets.

7. CAN THE PHONE BE USED WHEN IT IS ATTACHED TO THE GT2000?

Yes. All of the phone's basic functions e.g. voice and text remain available when the phone is attached.

8. HOW CAN THE KEY COMPONENTS OF THE GT2000 SYSTEM BE IDENTIFIED?





GT2001 Docker



Antenna pins

GT2002 Alert Fob



Button 2

Button 1

9. CAN IT BE USED FOR VEHICLE TRACKING?

Yes. The optional GT2001 Docker allows it to be installed with the phone inside a vehicle. The Docker has the same functions as a normal vehicle dock allowing the user to make and receive hands-free voice (using a standard Thuraya earset) calls on the phone and allowing the user to recharge the phone.



10. WILL IT WORK IN AREAS WITH NO GSM COVERAGE?

Yes. All 1st generation Thuraya satellite phones have the capability to transmit data using either GSM networks or the Thuraya Satellite. The GT2000 uses the Thuraya satellite phone to transmit the tracking data back to the Track24 service. When outside a GSM coverage area the satellite mode on the Thuraya phone allows the GT2000 to continue to send tracking data when no GSM coverage exists.

11. WHICH COUNTRIES WILL IT WORK IN?

The GT2000 relies upon the Thuraya satellite phone to transmit its tracking data. It will therefore operate (in satellite mode) in all countries where a Thuraya satellite phone can operate, currently representing almost 2/3 of the earth's surface. To view a list of these countries (of which there are over 200) please visit the coverage list on Thuraya's website at: <http://www.thuraya.com/content/coverage-area.html>. It should also be noted that the GT2000 can also continue working in any compatible GSM coverage area where Thuraya has an operational roaming agreement: this increase the coverage area to most major population areas across the world

12. WILL IT WORK INDOORS?

The GT2000 will continue to transmit tracking data if the Thuraya satellite phone can get a signal to send SMS messages. Using the GSM mode on the Thuraya satellite phone, this will be possible indoors as long as there is sufficient GSM coverage. The validity of the tracking data will depend upon the tracking unit's ability to get a GPS fix when it is indoors. Except where this GT2000 is close to the exterior of the building/window, this will not be possible. In these instances, the GT2000 will send the last known GPS fix of the unit and inform the customer's base that this is the last known position.

13. WHAT HAPPENS IF IT CANNOT GET A GPS FIX?

On start-up, the GT2000 will try for up to 5 minutes to achieve an accurate position fix. If this is not possible it will, at the end of the first five minute period, send the last known GPS fix in its tracking report and place a flag on the data so that the customer knows that a GPS fix was not possible at the time of the report. In regular reporting, the GT2000 will report either its actual position (if a fix has been obtained) or the last valid position fix it was able to determine, including in its report the date and time the last fix was obtained.



14. HOW FREQUENTLY DOES IT SEND LOCATION REPORTS?

The GT2000 will send location reports at a frequency determined by the customer. This allows the user to set a frequency which is best suited for the application. The user can choose between reports every 1 minute to reports every 9999 minutes. The user can also set an alternative frequency for reports in the event that the unit's alarm reporting mode is activated.

15. HOW CAN THE REPORT FREQUENCY BE CHANGED?

The frequency of the reports can be changed by sending an SMS command to the tracking unit. This can be done using a standard mobile phone, a PC to SMS message formatting program, by using the appropriate tracking software or by the purpose built configurator service from Geonix.

16. WHAT HAPPENS IF THE USER NO LONGER WANTS TO BE TRACKED?

There are times when it is not necessary/appropriate to track a person. In these instances, the user simply removes the phone from the GT2000 and they will no longer be tracked. Similarly tracking will not take place if the phone is switched off.

17. HOW IS IT CONFIGURED?

When a user wishes to change the unit's configuration at any time, this can be done by sending SMS commands to the unit via Track24's service, a standard mobile phone, a pc to SMS message formatting program, the users own tracking software or by the purpose built configurator program from Geonix

18. WHAT DOES A USER NEED TO CREATE AN END-TO-END SOLUTION?

The user needs an operational Hughes (Models 7100 and 7101) or Ascom (model 21) Thuraya satellite phone and a charger. Software will be required to interpret and present the tracking data sent by the unit. The GT2000 can be integrated into the customer's own tracking software or alternatively Geonix can provide the appropriate software from its best-in-class partners e.g. web-based software, automated monitoring server.

The GT2001 Docker and the GT2002 alert fob work with the existing Thuraya accessories for vehicle docker such as antennae and chargers.



19. WHAT SATELLITE PHONES DOES IT WORK WITH?

The GT2000 works with all Hughes (models 7100 and 7101) and Ascom (model 21) Thuraya satellite phones.

20. WILL IT WORK WITH THE NEW THURAYA SG AND SO SATELLITE PHONES?

Not in its present form. There are however approximately 350,000 existing phones (Hughes 7100, Hughes 7101 and Ascom 21) in circulation which it will work with, and it is anticipated that there will be a ready supply of refurbished Hughes phones becoming available as customers trade them in for the new models.

21. HOW BIG IS THE GT2000?

Including the Thuraya phone, it is 180mm long, 50mm wide and 50mm depth. Its weight is 110 grams, including the Thuraya phone it is 250 grams.

22. HOW DOES THE USER KNOW THAT THE GT2000 IS WORKING?

By design, we have deliberately chosen not to have any indicator lights normally lit on the outside of the unit showing battery status, whether a GPS fix has been obtained, whether the unit is registered on a particular network etc as the design concept is that the GT2000 should not draw attention to itself and the whole unit should look to a casual observer just like any other standard Thuraya phone. The lack of lights however may mean that the user is concerned about whether the device is functioning: again we feel that the best system approach to giving this reassurance to the user is for the monitoring centre to send back a confirmatory SMS message when the unit is switched on and potentially at regular intervals thereafter. By adopting this strategy the user can be reassured not only that reception of GPS or network signals has been achieved, but that the entire end to end process is functioning – the GT2000 equipment, the phone, the network and the monitoring centre.

There are a few simple checks the user can perform in setting up the system for reliable operation:

- Power up the Thuraya phone by itself, ensuring good battery charge and correct SIM inserted. Register with the satellite or GSM network as normal. Check phone operation by making a voice call and sending an SMS message to a known recipient
- Check the battery status of the GT2000 by pressing the alert button before inserting the phone into the GT2000. A steady green light will indicate charge is OK, a steady red light indicates low battery and the charger should be attached as soon as possible. No light at all indicates the battery is completely flat and must be recharged before tracking can take place



- Insert the phone into the GT2000 and tighten the retaining catch using the thumbscrew: the phone will indicate Data Cable connected
- Wait for a <S>R 'heartbeat' on the phone display – this indicates that the GT2000 is communicating properly with the SIM card in the phone and can send and receive commands, position reports and other text messages

23. HOW LONG DOES THE BATTERY LAST?

The electronics of the GT2000 are powered by an internal lithium ion battery which is charged using any approved Thuraya charger. An LED on the GT2000 indicates when the battery is low. The GT2000 is equipped with power-saving technology to conserve battery life, and should operate in handheld mode for approximately 15 hours on a single charge. Upon attachment of the mains or vehicle charger, both the battery in the GT2000 and the battery in the phone will be charged simultaneously. An LED on the front of the GT2000 flashes amber to indicate that charging is in progress, turning to solid green when fully charged. The battery indicator on the Thuraya phone shows the state of charge of its battery in the normal fashion.

24. WHAT ARE THE OPERATIONAL COSTS?

The operational costs are the costs of running the tracking software (if any) and the cost of the SMS messages sent from and to the GT2000. These airtime costs are set by the local service provider.

25. HOW MUCH DOES A GT2000 COST?

The GT2000's RRP is \$700.

26. HOW MUCH DOES A GT2001 DOCKER COST?

The GT2000 GT200 docker's RRP is \$200.

27. HOW MUCH DOES A GT2002 ALERT FOB COST?

The GT2000 alert fob's RRP is \$200.



28. WHAT ARE THE TECHNICAL SPECIFICATIONS?

Dimensions (inc Thuraya phone)	180mm(L) * 50mm(W) * 50mm (D)
Weight (inc Thuraya phone)	250 grams
Operating temperature	-20° C to +55° C
DC supply voltage	12V via Thuraya car charger
DC tolerance voltage	10V – 40V via Thuraya charger
Internal Battery	Ni-Mh 3.3V
Internal battery - battery capacity	2.3 mA/H
Internal battery - charge type	Charged from external charger
Supported phone types	Hughes 7100, Hughes 7101 or Ascom 21
GPS performance SiRFIII (Manufacturers figures)	Cold start <35 sec, Hot start <1 sec (open sky) Accuracy <10 metres

GT2001 Docker

Dimensions (inc Thuraya phone)	231mm(L) * 66mm(W) * 65mm (D)
Weight (inc Thuraya phone)	320 grams
Operating temperature	-20° C to +55° C
Antenna connectors	3 x SMA

GT2002 Alert Fob

Dimensions	66mm(L) * 43mm(W) * 25mm (H)
Weight	21 grams
Operating temperature	-20° C to +55° C
Battery life	>1 month, rechargeable

Communications protocols

Internal protocol	NMEA 0183
Connection to server	Standard Thuraya SMS protocol
Dual mode communications	Thuraya satellite at 1.5/1.6 GHz GSM at 900 MHz