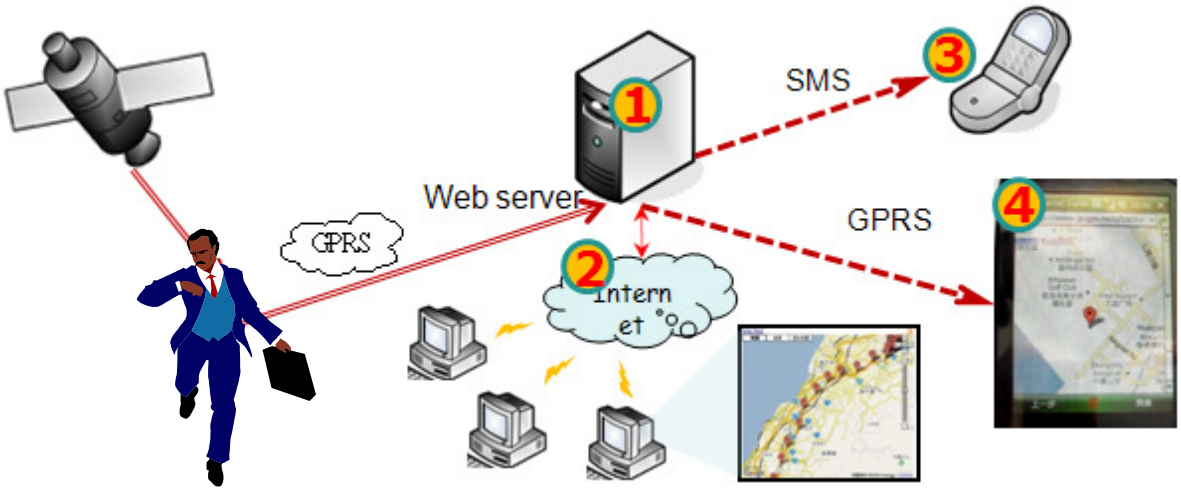
GPS WRISTWATCH TRACKER

GW-2000

User's Manual

(V2.0)



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Chapter 1 Welcome to Use It

1.1 About the Product

Welcome to use the GW2000 watch GPS Tracker. This exquisite watch is designed for the elderly/children positioning and guarding, businessmen safety precautions and field personnel management. At the same time, it is available with GPS/GPRS function and GSM/SMS/GPRS communication with a quick signal receiving speed.

1.2 Safety Considerations

To ensure your safety, please read the following Safety Considerations carefully：

1.2.1 Storage Considerations

- Don’t put this product directly in the sun or in a dusty place or pile it with other electronic products for fear of damage. Keep it off the equipments with strong electromagnetic radiation or a strong magnetic field as far as possible.
- Don’t put its batteries, terminal or charger in a microwave oven or a high-pressure device for fear of such accidents as circuit damage or fire.
- Don’t put the terminal on an uneven or unsteady table for fear of malfunction or damage if it drops on the ground.
- Keep the product off dampness and water.

1.2.2 Batteries Operating Instructions

- When the product is first used, please use up the battery power and charge the battery for 2-3 times for not less than 12 hours each time, so as to ensure the battery in good condition.
- Please charge the battery with the charger provided by our company. All damages due to the use of any other charger are on the user’ s account.
- Don’t drop the batteries in fire for fear of burning or explosion of the batteries.
- Don’t put any stress on the batteries during battery installation, or the batteries will be subject to leakage, overheat, cracking or burning.
- Don’t dismantle or refit the batteries for fear of leakage, overheat, cracking or burning.
- Don’t use or store batteries in a hot place, such as by the fire or a heater, for fear of leakage, overheat, cracking or burning.
- In case of such abnormalities as discoloration and a rise in temperature when the battery is used, charged or stored, please stop use and replace it.
- Keep the batteries of dampness for fear of overheat, smoking or corrosion.

1.2.3 Whole System Operating Instructions

- Don’t dismantle or refit the machine on your own. Our company is not responsible for any damage due to any illegal operation.
- Don’t use the terminal near an electronic device with weak signals or high precision, or the radio wave interference might cause wrong operation on the electronic device or other problems。
- Don’t put the terminal too close to such magnetic objects as a magnetic card, or the radiation

waves it produces might remove the information saved on the floppy disk, the magnetic card or the credit card.

- Keep the batteries of dampness. The entrance of water or other liquids will result in overheat, creep age or malfunction of the terminal.

1.2.4 Charger Operating Instructions

- Please use the 220V alternating current only for fear of leakage or burning of or damage to the terminal or the charger.
- Don't short out the charger for fear of electrical shock or smoking of or damage to the charger.
- In case of the splashing of water or other liquids into the charger during the battery charging, please disconnect the charger at once for fear of overheat, burning, electrical shock or malfunction of the charger.
- Don't dismantle or refit the charger for fear of personal injury, electrical shock, fire or damage to the charger.
- Don't use the charger in a wet place, such as a bathroom, for fear of electrical shock, fire or damage to the charger.
- Don't touch the charging charger with your wet hand for fear of electrical shock.

1.2.5 Maintenance Considerations

- As the terminal, the batteries and the charger are not waterproof, don't use them in a highly wet place (such as a bathroom) or in the rain.
- Only the maintenance personnel specially trained by our company are allowed to repair the product. Any unauthorized disassembly or repair on this product might disable the warranty or lead to damage to this product.

1.2.6 Network Service

As the function realization of the product depends on the mobile network service，one must first apply to the mobile service providers for the GPRS network service for the mobile phone concerned and that for the SIM card inside the terminal. For more information about the usage and charge of the SIM card, please consult the local mobile network service providers.

1.3 About GPS

The following is about how to use the GPS device. Please read it before using the device, so as to increase its service efficiency.

1.3.1 GPS Definition

GPS is the abbreviation of Global Positioning System, a system developed by the US Department of Defense and jointly used and managed by the US Department of Transportation and the former, defining the location by means of satellites. GPS system consists of 24 satellites, through which the desired information is received by means of electric waves to work out the current location. Generally the error range for GPS positioning is below 15 meters.

1.3.2 About Signals

When it is first used or used after long idling, it might take 1-2 minutes to electrify the GPS antenna and check the system. At the same time, try your best to keep the screen at a right angle with the sky. Under some special circumstances (tunnels, viaducts, underpasses, metro or building complex), it might be hard for the device to work well on positioning.

1.3.3 About the Search System

If the system is restarted when the locator is moving fast, the search positioning will be difficult. So it is more advisable to stop it for a period of time.

1.4 Maintenance and Repair

- Don't dismantle any part of the system for fear of malfunction. If there is any problem, please turn to the local agent or after service center.
- Don't put the mainframe directly in the sun, dampness, dust or heat. When it is used at the edge of normal temperature, its normal operation will be affected, but that does not mean any failure or error. Just take it easy.
- Avoid abnormal violent vibration or impact.
- Don't pull out the SIM card randomly. After inserting the SIM card when the system is turned on, one must restart the system, or the device cannot work well.
- Any dirt in the socket will lead to bad contacts and power failure, thus disabling further charging. So please clean the socket regularly.
- Often clean the terminal or the charger with a clean dry rag.

Chapter 2 General Introduction

2.1 Appearance

（Figure 1）

2.2 Functions

- Guardianship party can get the location information directly through SMS query, you can choose to use monitoring system and non-use monitoring system.
- Call ,dual-entry call function.
- Auto-answer
- Low-power alarm
- SOS Emergency Alarm
- GPS timing function

2.3 Hardware

- Charging voltage：110-220V
- Working temperature -20°—65°
- Humidity: 5%-95%
- Limited working temperature：-30°C -- -40°C, +80°C-- +85°C
- Storing temperature：-45°C -- +90°C
- Start-up time, hot start: <1.5s Warm start: <34s Cold start: <35s(Autonomous)
- Accurate positioning: 3.0 m 2D-RMS , DGPS: 2.5 m
- Speed Positioning: 0.1m/s, DGPS:0.05m/s
- Power consumption: standby 48mA（Depending on the system network state and the user’s operation method）
- Charging port: DC 5V 3A

2.4 Appearance Introduction

There are five keys on the terminal. The upper left green button is used to turn on/off the device, the lower left blue button is the mode (interface) shifting key, the upper right button is the emergency dial（SOS）key, and the central right button and the lower right key are dial keys.（See Figure 2.）

（Figure 2）

Chapter 3 Accessories

3.1 Desktop battery charger (1)

（Figure 3）

3.2 Charger cable (1)

（Figure 4）

3.3 Earphone (1)

（Figure 5）

3.4 Batteries (2)

（Figure 6）

Chapter 4 Product Definition

4.1 Interface Definition

The upper left Signal 1 on the latitude and longitude interface is GSM signal indication.
The upper left Signal 2 on the latitude and longitude interface is GPS signal indication.

Push the Shift key to shift between the analogue clock interface and the digital clock, as shown below：

Chapter 5 Before use

5.1 Charging

- When the product is first used, please use up the battery power and charge the battery for 2-3 times for not less than 12 hours each time, so as to ensure the battery in good condition.
- Its normal charging time is 2-3 hours.
- The product is available with its own charger. Please use the charger provided by our company for charging.
- Insert the plug into the 220V alternating current for charging. During charging, the charging icon will keep flashing.

Remarks：

- ◆ If the device is idle for a long time, the batteries in it might be of lower power than the initial power. Then it will take a few minutes to charge the batteries to resume the normal condition.

- Low Cell：When the battery power is almost used up during normal operation or when the device is turned on, the terminal will give out the low cell alarm. After a while, the terminal will be automatically power off unless the batteries are charged in time.

5.2 Buy the SIM Card

When buying the SIM Card, make sure that it is available with the SMS and GPRS services.

5.3 Insert the SIM card

When the device is power off, remove its rear cover and insert the SIM card.

Chapter 6 How to use

6.1 Keys and Jacks

- Upper left-Key 1 Power on/off
- Lower left-Key 2 MODE
- Jack 3 Earphone/charger
- Upper right-Key 4 SOS alarm
- Central right-Key 5 Phone 1
- Lower right-Key 6 Phone 2

6.2 Operation

6.2.1 Turn On

- Hold on to Key 1 to turn on the device and enter the main interface.

6.2.2 Turn Off

- Hold on to Key 1 to turn off the device.

6.2.3 Interface Shift

Push Key 2 to shift.

6.2.4 Emergency Alarm

Push Key 4 for emergency alarm operation, and the interface indication will be 

. Then the watch will dial the three phone numbers preset in it in turn.（For more information about the setting method, seethe appendix.）If the first phone number is got through, the watch will enter

the call interface (see the image):  . When the call is over, the watch will no longer call the other two phones.If the first number is not answered or power off, the terminal will begin to dial the second phone number, and so on.

6.2.5 Terminal Active Dial-up

Hold on to Key 5, and “Call 2” indication will appear on the interface, which shows that the watch is dialing the second phone number preset in it. When the phone is got through, the watch will enter the call interface.

Hold on to Key 6, and “Call 3” indication will appear on the interface, which shows that the watch is dialing the third phone number preset in it. When the phone is got through, the watch will enter the call interface.

Remarks：For more information about the setting of the emergency alarm call and the Call 2 and Call 3 commands, please refer to the appendix.

6.2.6 Calling and Auto-answer

If there is an incoming call on the terminal, the interface will be：  . Then push the SOS key to get through the call. If the call is not got through manually, it will be automatically answered 30 seconds later. At the same time, one can also push the power on/off key to ring off.

6.2.7 Point to Point inquiry

Use one of the stored phone numbers to send SMS "123" to the GW2000 installed SIM card number. After the pre-existing mobile phone number will receive a location information, the information terminal the current geographical location. Information includes latitude and longitude location information and time.

APPENDIX

1. The operation based on the SMS application

In the working mode, GW2000 can be stored three phone numbers (1, 2, 3) and a 4-digit password. Users through SMS commands to customize the content of the relevant configurations are non-volatile, after the success, the state is not switching the impact of the changes until you receive further instructions or reset operation related.

1.1 instruction to change the mode

Format：700+ password (4 figures)

eg: 7000000

Explanation：When GW2000 tracker receives the SMS and confirms the password correctly, it switches to the SMS application mode. After the success, it will send the confirmation messages (SET MODE OK, CURRENT MODE: SMS P2P) to the sender.

1.2 Set up the password instruction

Format: 777+new password (4 figures) +old password (4 figures)

eg: 77712340000

Explanation: Confirm the password correctly; changes the new password to the old password. After set successfully, it will send the confirmation messages (SET PASSWORD OK) to the sender.

Note: The password can only be 4 figures. The default setting for 0000

1.3 Change the stored telephone number instructions

Format: *new numbers with 4-20 figures * password (4 figures) *location number (1-3) **

eg: *13900000000*0000*1**

Explanation: You can store 3 telephone numbers at most in advance。When GW2000 tracker receives the instruction and confirms the password correctly, substitutes the new number for the existing number. After success, it will send the confirmation messages (SET USER NUMBER (1-3) OK) to the sender.

Note: The factory set or reset the number stored post is empty. This command mode is not affected by machine switch until the receipt of further changes or reset operation to the relevant directives.

1.4 Single localization request instruction

Format: 666+ password (4 figures)

eg: 6660000

Explanation: When GW2000 tracker receives the instruction and confirms the password correctly, reads the GPS information. No matter whether effective, the information with the replying base station which is the set of the original software will be sent to the sender.

Data format:

Lat: Latitude Direction (+/-) Latitude Value (Accuracy for 5 after the decimal point)

Long: Longitude Direction (+/-) Longitude Value (Accuracy for 5 after the decimal point)

Speed: Speed KM/H (Accuracy for 2 after the decimal point)

Direction: Direction (Accuracy for 2 after the decimal point)

Date: Date YYYY-MM-DD

Time: Time HH：MM：SS (GMT)

BS: Base Station information

Fix: Location state (A/V)

ID: IMEI

STATE: Message state

Effective data format:

Lat: +22.50500

Long: +114.01000

Speed: 0.00KM/H

Direction: 315.00

Date: 2008-04-25

Time: 16:39:45

BS: 25ee0dff

Fix: A

ID(IMEI): 353686009002030

STATE: SMS

Invalid data format:

Lat: +22.50500

Long: +114.01000

Speed: 0.00KM/H

Direction: 315.00

Date: 2008-04-25

Time: 16:39:45

BS: 25ee0dff

Fix: V

ID(IMEI): 353686009002030

STATE: SMS

If in the cold start and GPS no position, it will return to the void of information: "ERROR GPS GPRMC FRAME DATA BS: 27971054".

1.5 Send the positional information in fixed time instruction

Format: 4 xx + password (4 figures)

eg: 4010000

Explanation: x indicates one figure from 0 to 9, while "xx <60", its unit is minute. while "xx >60", its numerical value is "xx minus 60" and unit is hour, in other words, 61 is 1 hour, 62 is 2 hours, followed by analogy. When GW2000 tracker

receives the instruction and confirms the password correctly, it establishes the current time for initial timing time, xx is the gap time, and sends the confirmation SMS to the sender's mobile phone (TIMER START, REPEAT INTERVAL :< X>MINUTES). Then start to time and send the format as 3.1.5 setting information when it arrives the gap time, the information state item automatically updates STATE: TIMER. When "xx=00", cancels the positional information in fixed time instruction, and sends the confirmation SMS to the sender's mobile phone "TIMER STOP".

Note: The state set by this directive in the next boot after the shutdown is still valid，once again received the directive could be changed again changes, reset configuration reset. After factory set or reset, timing upload is stop.

1.6 Telephone localization function

Explanation: One of 3 telephone numbers stored in advance calls in, and hangs up after ringing 2-5 times, then the GW2000 will send the location information in form of 1.4 to this number, the information state item automatically updates STATE: CALL.

1.7 Seeking help initiatively

When press the key more than 3 seconds, it will make vibration and send the location information such as 3.1.5 to 3 telephone numbers stored in advance, the information state item automatically updates STATE: SOS. At the same time, call the first user telephone number. If it is unsuccessful (closed or unable to connect or no response), makes vibration and starts calling the second and the third in turn.

1.8 Function of answering and ending calls (active calls, automatic answer, end)

Note: When one of the stored phone numbers of calls come in, the user can

take the initiative to press SOS button, or automatically after ringing 10 seconds to answer. Users can press on/off button shortly to end the call. After calling it will send location information in 1.4 format to user. the information in the status prompt for the STATE: ANSWER. Non-stored phone number incoming call directly to hang up without any treatment.

1.9 Set the time zone change instruction

Command format: 896 + user's password 4 + D + nn

For example: 8960000E08

Note: xxxx is four password, D values of E, W, said that the time zone thing, nn for the 2 bytes digit (0 ~ 12), meas the area code. When the GW2000 receives the instructions and confirms the password is correct, it will send confirmation message "time zone: Eastern / Western xx".

For example: Set 8960000E08 instruction, GW2000 screen time for: GPS time, plus 8; set 8960000W07 instruction, GW2000 screen time for: GPS time minus 7. Note: GW2000 displayed on the screen the initial time: GPS time (ie Greenwich Mean Time)

1.10 Point to Point inquiry

Format: 123

Description: When the GW2000 receives the instruction and confirm the password is correct, the sender will receive a location information, the information for the GW2000 is the current geographic location.

2. The operation based on the GPRS application

In the working mode, GW2000 can be stored three phone numbers (1, 2, 3) and a 4-digit password. A TCP/IP servers IP address and port, 4-bytes GPS password and a APN of GPRS.

Users through SMS commands to customize the content of the relevant configurations are non-volatile, after the success, the state is not switching the

impact of the changes until you receive further instructions or reset operation related.

2.1 instruction of change mode

Format：710+ password (4 figures)

eg：7100000

Explanation: When GW2000 tracker receives the SMS and confirms the password correctly, it switches to the GPRS application mode. After the success, it will send the confirmation messages (SET MODE OK，CURRENT MODE：GPRS) to the sender.

2.2 Change the user name

Format: #801#password#new user name##

eg：#801#0000# username##

Explanation: When GW2000 tracker receives the instruction and confirms the password correctly, changes the user name to the new user name. After the success, it will send the confirmation messages to the sender. The content is “CHANGE USERNAME OK”.

2.3 Change the service password

Format：#802#password#new service password#old service password ##

eg：#802#0000#1111#0000##

Explanation: When GW2000 tracker receives the instruction, confirms the password and old service password correctly, changes the service password to the new service password. After the success, it will send the confirmation messages to the sender. The content is “CHANGE PASSWORD OK”

2.4 Set up the access point name of GPRS

Format 1：#803#password#APN##

eg：#803#0000#CMNET##

Format 2：#803#password#APN#APN user name#APN password ##

Explanation 1: Different GSM / GPRS service associations provide different APN, please according to local service providers to provide the APN to choose format 1 or 2 to use set.

Explanation 2: When GW2000 tracker receives the instruction and confirms the password correctly, updates the access point name to the new access point name. After the success, it will send the confirmation messages to the sender. If sent the format 1, the content is “SET GPRS APN OK”; if it is format 2, the content is “SET GPRS ACCOUNT OK”.

2.5 Set up the TCP/IP server and IP’s address and port number

Format：#804#password#fixed IP address # port ##

eg：#804#0000#222.125.12.32#80##

Explanation: When GW2000 tracker receives the instruction and confirms the password correctly, updates the IP address and port number preserved in the module，After the success, it will send the confirmation messages to the sender. The content is “SET SERVER IP AND PORT OK”

2.6 Upload the location instruction at once

Format：#806#password##

eg：#806#0000##

Explanation: When GW2000 tracker receives the instruction and confirms the password correctly, sends the confirmation messages to the sender. The content is “START GPRS UPLOAD”. At the same time, send the data from the memory block to server.

Upload format:

#IMEI # user name #service password #condition

data quantity #the base station's information $ GPRMC…….. # the base station's information $ GPRMC…….

eg: #123456789000001#GW2000#0000#SMS#3

#25ee0dff$GPRMC,083945.180,A,2233.4249,N,11406.0046,E,0.00,315.00,251207,,,A*6E

#25ee0dff$GPRMC,083950.180,A,2233.4249,N,11406.0046,E,0.00,315.00,251207,,,A*6E

#25ee0dff$GPRMC,083955.180,A,2233.4249,N,11406.0046,E,0.00,315.00,251207,,,A*6E ##

2.7 Upload data settings

Format：#805#password# interval # times ##

eg：#805#0000#5#10##

Explanation: The time unit of the sampling is second, 5 seconds at least，65535 seconds at most；The number of upload data each time at least is 10, at most is 80. When GW2000 tracker receives the instruction and confirms the password correctly, sends the confirmation messages to the sender. The content is "SET GPS SAMPLING TIME AND QUANTITY OK". At the same time as specified in the instructions to the sampling interval time, continuous read the GPS data and preserve to the memory block. When the memory block reaches to the "number of upload each time" setting, it starts connecting to the GPRS servers to send out the format as 3.2.10 information, and the state item automatically updates STATE: AUTO. When "the number of upload each time = 0" it will close the upload data setting and send the confirmation messages to the sender. The content is "GPRS TIMER STOP"。

2.8 Telephone localization function

Explanation: One of 3 telephone numbers stored in advance calls in, and

hangs up after ringing 2-5 times, then the GW2000 will send the location information in form of 2.6 to this number, the information state item automatically updates STATE: CALL.

2.9 Seeking help initiatively

When press the key more than 3 seconds, it will make vibration and send the location information such as 2.6 to 3 telephone numbers stored in advance, the information state item automatically updates STATE: SOS. At the same time, call the first user telephone number. If it is unsuccessful (closed or unable to connect or no response), makes vibration and starts calling the second and the third in turn.

2.10 Function of answering and ending calls (active calls, automatic answer, end)

Note: When one of the stored phone numbers of calls come in, the user can take the initiative to press SOS button, or automatically after ringing 10 seconds to answer. Users can press on/off button shortly to end the call. After calling it will send location information in 2.6 format to user. The information in the status prompt for the STATE: ANSWER. Non-stored phone number incoming call directly to hang up without any treatment.

Instruction	Explanation
700+ password	SMS Mode
710+ password	GPRS Mode
222+ password	Open GPS In two modes
333+ password	Close GPS In two modes
4xx+ password	Regularly upload in SMS mode
555+ password	Quantity of return base-stations in two modes
666+ password	Return Single localization to user number in two modes
777+new password + old password	Change password in two modes
#801#password # new user name##	Change the user name in GPRS mode
#802#password # new service password # old service password ##	Change service password in GPRS mode
#803# password #APN##	Set up access GPRS points in GPRS mode
#804#password # fixed IP # port ##	Set up TCP / IP server's IP address and port number in GPRS mode
#805#password# interval # the number of upload data each time ##	Upload data set in GPRS mode
#806# password ##	Upload the current position immediately in GPRS mode