

GSM/GPS Micro Tracker  
 Model G-19  
 User's Manual  
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## REFACE

Thank you for purchasing the SAN JOSE NAVIGATION G-19 GSM/GPS Micro Tracker. This deliberately edited manual is to introduce the users, to provide the complete technical data that is needed, and so as to operate G-19 smoothly and correctly as soon as possible. Make sure to read this manual carefully before using this product. Most problems will be solved through the explanations and the troubleshooting tips. Once you finish reading it, keep it handy for necessary reference.

Please note that specification and information are subject to change without prior notice in this manual. Any change consequently will be integrated into future editions. The manufacturer assumes no responsibility for any errors or omissions in this document.

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## Chapter 1 Hardware Description

文字方塊: Emergency Panic Button文字方塊: Park Button文字方塊: GPS Status LED文字方塊: GSM Status LED文字方塊: Reserved Com Port  
 (Engineering Test Only)

文字方塊: 文字方塊: DC Power Connector文字方塊: SIM Card Slot文字方塊: Eject Button文字方塊: ON/OFF Switch

文字方块: Park LED

GSM Red LED (Left):

Blinking when G-19 is searching GSM network service

Light still and have a short blinking every 4 seconds when GSM service is available

Off when no power

GPS Blue LED (Right):

Off when GPS is not available

On when G-19 fixes the current GPS position

Emergency Panic Button:

Press when an emergency situation occurs

Built-in buzzer will start buzzing for alert

Emergency SMS messages will also be sent to the built-in cellular phone numbers

Park:

Press when you park your car

Towed SMS will be sent when your car is moved over 100m

ON/OFF Switch:

Turn On/Off G-19 by this switch

Eject Button:

Use a sharp tool to eject the SIM card slot

SIM Card Slot:

The slot for SIM insert and installation

DC Power Connector:

G-19 power source that adapts 6V DC

Mini-USB Connector:

Reserved Com Port for engineering purpose

## Chapter 2 Getting Started

Following the steps below to setup your G-19.

To insert your SIM card, use a sharp tool to depress the push-button. The SIM card plate then will be opened.

Place the SIM card in the SIM plate. Note that the SIM itself should not have PIN code so as to let G-19 unable to acquire GSM Network Communication.

Use the Cigarette Lighter in your package. Plug the Lighter connector into the power source of your car, and then plug the DC jack into G-19 to receive power supply.

Turn the power switch on.

After power on, the red LED will be blinking 10~20 times to indicate GSM Network searching. It will stay still when GSM Network connection is successful.

The blue LED will be on after GPS gets fixed.

## Chapter 3 General Functions

The General Functions of G-19 are described as following.

Polling

After you complete inserting SIM card and powering up your G-19, when red LED is on, dialing the phone number of G-19 through your cellular, then you will receive a respond message.

G-19 can accept any cellular phone call and reply SMS message to the one that is calling.

Note: Once the "Own Number Sending" function is deactivated in your cellular phone, G-19 will not recognize the calling number so as to lose polling function.

Auto Report

G-19 can report SMS message to the designate cellular phone. However, the default Auto Report function is off. To turn on Auto Report function, send the setup SMS message to launch. See chapter 4 for further information.

Emergency Alert

When in emergency circumstance, you can press the on board "Panic Button" for more than 2 seconds. The built-in buzzer will alarm for 20 seconds to attract help. G-19 will also send emergency SMS message to the built-in phone numbers (5 sets at most) to report urgent situation.

Parking

When you park your car, leaving for shopping or dealing with business. You can press "Park" button to start the Park function of G-19. Once the Park function is launched, while your car is towed away or stole by thieves over 100m from your original parking space, G-19 will report "towed" messages to user for burglarproof purpose.

Note: Each of the "Auto Report", "Emergency Alert", and "Parking" function needs to setup the indicated cellular phone number for SMS sending.

## Chapter 4 Setup SMS Messages

To setup your G-19, sending setup SMS message to your G-19 through its SIM card.

Following the description below. G-19 currently provides 4 Modes to setup its function. Key the specific SMS messages in your cellular as the instructions, sending them to the phone number that is supplied by your SIM card.

Note

Default "ID" =Username

Default "Password" =0000

Only when "Password" & "Command" is correct, the G-19 will update information itself according to user's definition.

Make sure to tap “#” sign at the start and “\*” sign at the last line in your setup SMS messages.

Please note that it has no space between the words and commas in the setup message. The security “Pin Code” function of the SIM card must be off; otherwise, G-19 will not access SIM card and get the GSM Network service.

Be sure to add the “Country Code” when you setup G-19’s phone numbers; G-19 can accept the “+” sign (e.g. +49xxxxxxxxxx for German).

#### 4.1 ID Setup

#Username,0000,1,GPS00001,GPS00001\*

Use this SMS message to setup the ID of your G-19.

#: Start sign

ID: Username is the default ID of G-19. It can be 8 digits at most. Input less than 8 digits will also be accepted.

Password: Default Password is “0000”.

ID Command: You have to input “1” to setup ID.

New ID: Tap the new ID you want to change.

Confirm ID: G-19 will confirm your ID in case of error.

\*: End sign

When the ID of G-19 is setup successfully, G-19 will reply a SMS message:

GPS00001 setup OK. G-19 ID updated.

But if fail, G-19 will reply a SMS message:

Username setup fail.

When G-19 is in Emergency Mode, ID setup is not allowed. Anyone want to change the ID will be replied:

Username in emergency, ID setup not allowed.

直線圖說 1: ID Command直線圖說 1: Confirm ID直線圖說 1: New ID直線圖說 1: Password直線圖說 1: ID

#### 4.2 Built-in Cellular Phone Setup

#Username,0000,2,+886921777488,+491783496936,+863581205403

+886928934558,+886935697423\*

Use this SMS message to built in the cellular phone number of your G-19 for Auto Report, Emergency and Park function.

#: Start sign

ID: Username is the default ID of G-19.

Password: Default Password is “0000”.

PH Command: You have to input “2” to built in the cellular phone number.

PH-01~PH-05: G-19 provides 5 sets of cellular phone numbers for user to built in. Auto Report, Emergency Alert and Parking SMS can only be sent after setting up the built-in phone numbers.

\*: End sign

Note:

In order to be compatible with GSM Network Service in different country, it is suggested to add the country code before your cellular phone number in G-19. Please do not forget to add a “+” sign before the country code.

Example: +491783496936 (German)

If you want to setup only 1 set of phone number for G-19 to report, you need to add 4 commas “,” before the end sign “\*”. G-19 needs to recognize and separate different built-in numbers.

Example: #Username,0000,2,+886921777488,,,,\*

When the phone number of G-19 is setup successfully, G-19 will reply a SMS message:

Username setup OK. G-19 phone updated.

But if fail, G-19 will reply a SMS message:

Username setup fail.

When G-19 is in Emergency Mode, phone setup is not allowed. Anyone want to built in the phone numbers will be replied:

Username in emergency, phone setup not allowed.

直線圖說 1: PH-05直線圖說 1: PH-04直線圖說 1: PH-01直線圖說 1: PH-02直線圖說 1: PH-03直線圖說 1: PH Command

直線圖說 1: ID直線圖說 1: Password

#### 4.3 Report Interval Setup

#Username,0000,3,002,12\*

Use this SMS message to set up the interval and frequency for Auto Report function.

#: Start sign

ID: Username is the default ID of G-19.

Password: Default Password is “0000”.

Interval Command: You have to input “3” to set up the report interval.

Report Interval: The Auto Report interval. This parameter must be 3 digits. The minimum unit is 002 minutes and maximum is 120 minutes. For instance, if you setup the interval for “002”, G-19 will send SMS message every 2 minutes to the indicated cellular phone. To cancel Auto Report function, set the interval as “000”. The default setting of auto report is also off.

Report Frequency: This function is to setup how many times G-19 will report to the user in Auto Report and Parking function. This parameter must be 2 digits. For instance, if you setup the report frequency for “02”, G-19 will send SMS 2 times to the indicated cellular phone and then stop. If you set up this value “00” the G-19 will stop Auto Report.

\*: End sign

When the auto report of G-19 is setup successfully, G-19 will reply a SMS message:

Username setup OK. G-19 auto-report.

But if fail, G-19 will reply a SMS message:

Username setup fail.

When G-19 is in Emergency Mode, auto report is not allowed. Anyone want to start the auto report will be replied:

Username in emergency, auto-report not allowed.

直線圖說 2: Interval Command直線圖說 2: ID直線圖說 2: Report Frequency直線圖說 2: Report Int直線圖說 2: Password

#### 4.4 Remote Parking Start

#Username,0000,4\*

Use this SMS message to remotely start the Park function.

#: Start sign

ID: Username is the default ID of G-19.

Password: Default Password is "0000".

Parking Command: You have to input "4" to start the Park function.

\*: End sign

When the start of Park function of G-19 is setup successfully, G-19 will reply a SMS message:

Username setup OK. G-19 parking.

But if fail, G-19 will reply a SMS message:

Username setup fail.

Due to Park function needs real-time GPS data calculation and comparison; once G-19 cannot get GPS fix, Park function will not be allowed. You will receive the SMS when you sent a park SMS without GPS fix:

Username GPS Time To First Fix, parking not allowed.

When G-19 is in Emergency Mode, Park function is not allowed. Anyone want to start the park function will be replied:

Username in emergency, parking not allowed.

You can also launch the parking function by pressing the "Park" button on G-19.

Be sure to built in the cellular phone number first for G-19 to send SMS messages. After initializing the "parking" function, G-19 will lock the current parking space of your car. When 1) your car is towed or stole away form 100m from the original place or 2) the speed per hour of your car is over 1 nautical mile. G-19 will start sending "towed" SMS to the indicated phone to alert the towed status and showed the GPRMC's UTC time, latitude and longitude information.

直線圖說 2: Parking Command直線圖說 1: ID直線圖說 1: Password

#### 4.5 Reset to Factory Default

#Username,0000,5\*

Use this SMS message to reset G-19 to factory default

#: Start sign

ID: Username is the default ID of G-19.

Password: Default Password is "0000".

Reset Command: You have to input "5" to start the Reset function.

\*: End sign

When the reset of G-19 is setup successfully, G-19 will reply a SMS message:

Username setup OK. G-19 reset to default.

But if fail, G-19 will reply a SMS message:

Username setup fail.

When G-19 is in Emergency Mode, reset is not allowed. Anyone want to reset G-19 will be replied:

Username in emergency, reset not allowed.

All the user setting data in G-19 will be erased and reset to default:

ID returns to Username

Password returns to 0000

Interval returns to 000 (Unit: minute)

Report Frequency returns to 12 times

All the PH-01~PH-05 will be erased

Parking will be cancelled

直線圖說 2: Reset Command直線圖說 1: ID直線圖說 1: Password

#### 4.6 Password Setup

#Username,0000,6,5725,5725\*

Use this SMS message to change the password of G-19

#: Start sign

ID: Username is the default ID of G-19.

Password: Default Password is "0000". In this segment you have to input the original password of your G-19.

Password Command: You have to input "6" to change Password.

New Password: The new password that you want. It has to be 4 digits.

Confirm Password: This segment will confirm your password.

\*: End sign

When the password of G-19 is setup successfully, G-19 will reply a SMS message:

Username password setup OK

But if fail, G-19 will reply a SMS message:

Username setup fail.

When G-19 is in Emergency Mode, reset is not allowed. Anyone want to reset G-19 will be replied:

Username in emergency, password not allowed.

Note: The Reset function will return G-19's password to factory default "0000".

直線圖說 2: Pw Command直線圖說 2: New Password直線圖說 2: Confirm Password直線圖說 1: Old Password直線圖說 1: ID

## Chapter 5 Respond SMS Messages

### 5.1 Polling/Auto Report

\$Username,Respond,Now(Previously 17:26),At position of  
\$GPRMC,092621,A,2458.4607,N,12126.1723,E,000.0,039.1,090204,003.5,W,A\*0A

Message Description

#: Start sign

ID: G-19's ID.

Status: "Respond" Indicates this SMS is sent from G-19 for respond purpose. It will be shown only when Polling and Auto Report.

Data Valid Time: This segment indicates GPS data validity of G-19. If this segment is "now", it indicates GPS fix is in real time. If this segment is in 24 hour time format such as "17:26", it indicates G-19 currently cannot receive enough GPS signal to fix position so as to send the last GPRMC data at that time (it will be transformed to local time directly).

\$GPRMC—: GPS NMEA information from GPS receiver, including UTC time, latitude, longitude, speed, true course, etc. See Chapter 6 for detail.

\*: End sign

Interval of Auto Report SMS Message

G-19's Auto Report interval and frequency can be setup and cancelled. Please check 4.3 for more detail.

直線圖說 1: Status直線圖說 1: ID直線圖說 1: GPRMC直線圖說 1: Data valid time

### 5.2 Parking

\$Username,Towed (Still),Move 900m NE,Now(Previously 17:26), At position of  
\$GPRMC,092621,A,2458.4607,N,12126.1723,E,000.0,039.1,090204,003.5,W,A\*0A \*

Message Description

#: Start sign

Username: G-19 default ID

Towed (Still): After you press the "Park" key, while your car is position is away from its parking space over 100m, G-19 will auto report "towed" message; otherwise it will report "still".

Move 3.1km SE: This segment indicates the movement of G-19. G-19 will calculate the distance between the original position of your car and current position to show the moved distance and on-going direction.

Data Valid Time: This segment indicates GPS data validity of G-19. If this segment is "now", it indicates GPS fix is in real time. If this segment is in 24 hour time format such as "17:26", it indicates G-19 currently cannot receive enough GPS signal to fix position so as to send the last GPRMC data at that time (it will be transformed to local time directly).

\$GPRMC—: GPS NMEA information from GPS receiver, including UTC time, latitude, longitude, speed, true course, etc. See Chapter 6 for detail.

\*: End sign

Interval of Parking SMS Message

After G-19 detect your car is towed, G-19 will send SMS messages EVERY 30 MINUTES FOR 12 TIMES (See the diagram below) to the indicated cellular phone so as to remind the user that your car may be stolen or towed by police. Please note that "towed" SMS will only be sent to the 1st cellular phone, which is "PH-01". Check 4.2 for more PH-01 setup detail.

(Report Frequency)

(Report Time Interval)

Parking Report Frequency: Total 12 Times

Parking Report Time: Every 30 Minutes, Total 6 Hours

直線圖說 1: Move (or not). Moved distance and direction

直線圖說 1: ID直線圖說 1: Status直線圖說 1: GPRMC直線圖說 1: Data Valid Time

### 5.3 Emergency

\$Username,Emergency,Now(Previously 17:26),At position of  
\$GPRMC,092621,A,2458.4607,N,12126.1723,E,000.0,039.1,090204,003.5,W,A\*0A

Message Description

#: Start sign

Username: G-19 default ID

Emergency: Indicating G-19 is in Emergency status. Sent only when Panic Button is pressed. Please note that when the button is push no longer than 1 second, the buzzer will not alarm. Only when the button is pushed for more than 2 seconds should the buzzer is alarming. (But the SMS will always be sent disregarding the buzzer)

Data Valid Time: This segment indicates GPS data validity of G-19. If this segment is "now", it indicates GPS fix is in real time. If this segment is in 24 hour time format such as "17:26", it indicates G-19 currently cannot receive enough GPS signal to fix position so as to send the last GPRMC data at that time (it will be transformed to local time directly).

\$GPRMC—: GPS NMEA information from GPS receiver, including UTC time, latitude, longitude, speed, true course, etc. See Chapter 6 for detail.

\*: End sign

Note: All the setting function will be invalid once the Emergency is launched. Only when the power of G-19 is turned off should the Emergency status be cancelled.

Interval of Emergency SMS Message

After the emergency button is pressed, G-19 will send SMS messages to the indicated

cellular phone (5 sets at most) to call for help. Its transmitting time interval is illustrated as following:

(Report Frequency)

(Report Time Interval)

Emergency Report Frequency: Total 15 Times

Emergency Report Time: Total 24 Hours

直線圖說 1: Move (or not). Moved distance and direction直線圖說 1: Status直線圖說 1: ID直線圖說 1: Data

valid time直線圖說 1: GPRMC

Chapter 6 NMEA-0183 \$GPRMC Description

## Chapter 7 General Specifications

GPS Micro Tracker Model G-19

Dual Band GSM Module (EGSM 900/1800 MHz), Tri-band 1900 MHz Optional

Compliant with ETSI GSM Phase 2+ standard Class 4 (2W @ 900 MHz)

Class 1 (1W @ 1800/1900 MHz)

Equipped with 16 parallel channels GPS receiver in 0.35u CMOS technology

Emergency "panic" button

Acquisition Time

Reacquisition <2 sec

Cold <60sec TTFF (Time to First Fix)

Warm <35 sec TTFF

Hot <10 sec TTFF

Accuracy

Position Accuracy 15 meters RMS without SA

Velocity Accuracy 0.1 m/s without SA

Speed Accuracy 0.1 km/h without SA

Antenna Type

Internal GSM antenna / Internal GPS patch antenna

Power Supply

12V DC Cigarette Lighter/3.6V DC Li-Ion Battery (Option)

Operation Time

20hr minimum after full charged, in continuous mode.

Device Size and Weight

45 (W) x 66 (L) x 25 (H) mm, 87g

Environmental

Operating Temperature: -30°C to + 70°C

Storage Temperature: -40°C to + 85°C

Relative Humidity: 5% to 95%, non-condensing

Specifications subject to change without notice

## Chapter 8 Warranty

Warranty Time Period and Repair Coverage

SAN JOSE NAVIGATION, INC. warrants G-19B to be free from all defects and malfunctions

in materials and workmanship for a period of one year from the original purchase date from

San Jose Navigation or authorized dealers. If the equipment functions improperly during the

warranty period, San Jose Navigation will either repair or replace the unit without charge.

Such repair service will include necessary adjustment, remanufacture, and replacement.

The product should be returned freight-prepaid by the purchaser within valid warranty period.

Notice that you must contact San Jose Navigation for a RMA (Return Material

Authorization) number before returning the goods for repair.

Telephone assistance will also be provided during the warranty period.

Limitations

This warranty is limited only to the repair or replacement of defective parts confirmed by San

Jose Navigation to be a result of faulty materials or workmanship. Instruments mechanically

or physically damaged due to the following conditions are beyond our warranty:

Neglect, misuse or abuse, such as incorrect testing, installation, or operation.

Place subject in extreme environments beyond the limits of the specifications.

Subjected to disassembling, soldering, alteration, unauthorized repair, and

electrical shock by nature.

Any incidental or consequential losses or damages result from the purchase.

Disaster, accident, cost or loss of any substitutive equipment.

For damages caused under the above conditions, we'll contact you to discuss replacement

options.

hand-held and hand-operated only with a distance of 20 cm from a person's body

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