S911 Lola User Manual

Version 1.10

September 6, 2012

(Preliminary)

LAIPAC TECH

Federal Communications Commission (*FCC*) Statement

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.
If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
-- Reorient or relocate the receiving antenna.
-- Increase the separation between the equipment and receiver.
-- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
-- Consult the dealer or an experienced radio/TV technician for help.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. End user must follow the specific operating instructions for satisfying RF exposure compliance. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.
The portable device is designed to meet the requirements for exposure to radio waves established by the Federal Communications Commission (USA). These requirements set a SAR limit of 1.6 W/kg averaged over one gram of tissue. The highest SAR value reported under this standard during product certification for use when properly worn on the body is 0.754W/kg W/kg,Head is 0.919 W/kg.

EU regulatory conformance (*CE*)

Laipac Technology Inc hereby declares that this tracking device is in compliance with the essential requirements and other relevant provision of Directive 1999/5/EC.

Additional regulatory conformance

Specific details about compliance to the following standards and regulatory bodies may be obtained from Laipac Technology Inc.

- **PCS Type Certification Review Board (PTCRB)**

- **Based on Cellular Telecommunications and Internet Association (CTIA) Over the Air (OTA) performance tests**
- **EN 301 511, EN 300 440, EN 62311, EN 301 489-1-3-7 and 60950-1 testing.**

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- Chapter 1 -

For Your Safety

Read these simple guidelines below. Not following them may be dangerous or illegal.
Read the complete user guide for further information.

Road Safety Comes First
Do not use the device for talk and text when wireless phone use is prohibited or when it may cause danger.

Interference
All wireless devices may be susceptible to interference, which could affect performance.

Switch Off In Hospitals
Switch the device off near medical equipment.

Switch Off In Aircraft
Follow any restrictions. Wireless devices can cause interference in aircraft.

Switch Off When Refuelling
Do not use the device at a refueling point. Do not use near fuel or chemicals.

Switch Off Near Blasting
Follow any restrictions. Do not use the device where blasting is in progress.

Qualified Service
Only qualified personnel may open or repair this product.

Batteries
Use only approved batteries. Do not connect to incompatible products.

Back Up Copies
It is recommended to save important settings.

Connecting To Other Devices
When connecting to any other device, read its user guide for detailed safety instructions. Do not connect with incompatible products.

Emergency Calls
Ensure the phone function of the device is switched on and in service.

1.1 About Your Device

The wireless device described in this guide is approved for using GSM 850/900/1800/1900 networks. Contact your service provider for more information about which GSM frequency your service provider is using. When using the features in this device, obey all laws, respect privacy, and the legitimate rights of others.

1.2 Network Services

In order to use the S-911 Lola, you must have GSM/GPRS service from a wireless service provider and subscribe with LocationNow. Many of the features in this device depend on the features of the GSM provider to function. These network services may not be available with all providers. It means you may have to make specific arrangements with your service provider before you can utilize the network services. Your service provider may need to give you additional instructions for their use and explain what charges will apply. Some networks may have limitations that affect how you can use network services in your area.

1.3 Care and Maintenance

Your device is a product of superior design and craftsmanship. The suggestions below will help you protect your warranty coverage.

- Keep the device dry. Precipitation, humidity, and all types of liquids or moisture can contain minerals that will corrode the electronic circuits.
- Do not store the device in hot and high humidity areas. High temperature and humidity can shorten the life of electronic devices, damage batteries, and warp or melt certain plastics.
- Do not attempt to open the device other than as authorized technician by Laipac.
- Do not drop, knock, or shake the device on purpose. It will trigger the tamper alert to the monitoring centre if internal motion sensor is enabled.
- Do not use harsh chemicals, cleaning solvents, or strong detergents to clean the device

- Chapter 2 –

Introduction

2.1 Welcome

Congratulations on purchasing the S-911 Lola!

The S-911 Loa is a real-time personal tracking device which operates over GSM/GPRS networks and utilizes a built-in high sensitivity GPS receiver. Your Lola contains…

- A new generation of high-sensitivity GPS receiver
- A GPS Data Logger which can plot 128 waypoints and a built in Smart Logger that can plot over 10,000 waypoints
- A real-time emergency assistance button
- 2-way voice communication over GSM
- Real-time location reporting over SMS/GPRS
- Speed limit alerting, mileage reporting, G-Sensor/shock alerting, and versatile Geo-Fence alerting are all standard
- And much more…

The Lola is an all-in-one compact and unique personal safety device.

The following guide will help you know about Lola and quickly instruct you on usage and operation of this device.

2.2 Main Features

- Available for GSM/GPRS in 850/1900 900/1800 MHz
- Complies with FCC, CE, and PTCRB (Under certification process)
- Compact and robust design for portable usage
- GPS, GSM/GPRS & Battery/Status Indicator LEDs
- Internal Li-Ion Polymer rechargeable battery
- Built in new generation of High-Sensitivity GPS receiver
- CGEE AGPS, get ephemeris data from satelite locally, is available
- SGEE AGPS, get ephemeris data from server, is able to be provided (optional)
- 1x SOS button for emergency assistance, pick up and hang up the incoming call
- 1 x Power button for power on/off device
- Data logger with dynamic distance & time settings for recording up to 128 positions
- Intelligent logger, Smart Logger, designed to store dynamic waypoint information in the event of there being no GPRS with the ability to transmit the information once GPRS recovers
- GSM/SMS and GPRS real-time position reporting by time interval or distance traveled
- The ability to set parameters either remotely over the air or locally through USB port
- Distance accumulator built in for mileage reporting
- Versatile multi-Geo-fence, up to 20, with alert selection of Geo-fence in, out as well both in & out
- Geo-fence alert email with address information
- Over-speed warning report
- G-Sensor/shock alert report
- Power Saving mode for even more extended battery life

- Chapter 3 -

Specification

3.1 Electrical & Environmental Specs

Item	Min	Typical	Max	Units
Li-Ion polymer Battery Voltage	3.0	3.7	4.2	V
Current Consumption while connecting	50	140	210	mA
Current Consumption in operation mode (Idling)	38	44	57	mA
Current consumption in operation mode (Reporting)	130	135	140	mA
Current Consumption in Power off Mode	-	0.7	-	uA
Peak Current (< 100mS)	-	-	1500	mA
Ambient operating temperature	-40	-	85	° C
Storage temperature	-40	-	85	° C

Table 3.1

Note: Current consumption is subject to change in areas with lower signal's strength vs higher strength.

3.2 GPS Engine Specification

Item	Value	Units
Channels	48	Channels
RF Frequency	1575.42	MHz
Position update rate	1	Hz
Position accuracy	< 10	Meters
Velocity accuracy	0.1	m/s
Time accuracy	1	uS
Cold start acquisition time	35	Seconds
Warm start acquisition time	35	Seconds
Hot start acquisition time	< 1	Seconds
Maximum velocity tracked	514	m/s
Maximum altitude tracked	18,288	Meters
Tracking Sensitivity	-163	dBm
Navigation Sensitivity	-160	dBm

Table 3.2

3.3 GSM Module Specification

- Quad-band GSM/GPRS component (850/900/1800/1900 MHz)
- Class 4 (2W @ 850 / 900 MHz)
- Class 1 (1W @ 1800 / 1900 MHz)
- R&TTE, GCF, FCC, PTCRB, IC
- Embedded TCP/IP stack.
- GPRS Class 10

- Chapter 4 -

SIM Card and Its Installation

This chapter describes the request for SIM card and the installation procedure of SIM card used for the S-911 Lola.

4.1 Requirement for SIM Card

In order to use the Lola, you should have a valid SIM (Subscribe Identity Module) card provided by your local GSM/GPRS service provider. This card can be both of the GPRS DATA and voice/SMS functions enabled, or only one of them enabled. If only voice/SMS function is enabled, your Lola is not able to access the Location Based Service platform, such as, LocationNow.com, which requesting a SIM card with DATA function enabled.

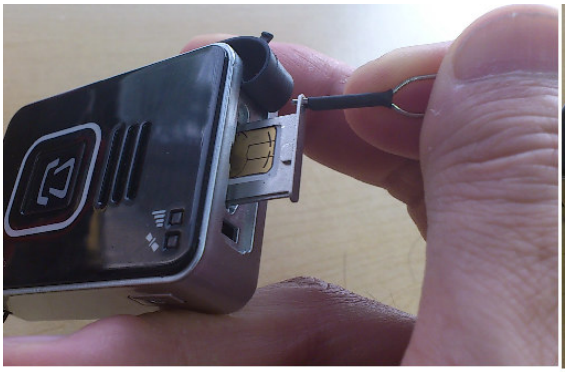
4.2 Installation of SIM Card

A special tool, SIM Card Key, is asked for the installation procedure of SIM card.

Follow steps below, user can open SIM Card tray and install SIM Card into Lola.

A. Open SIM Card Rubber Cover

B. Insert the pin into the small hole



C. push it slightly until the tray pops-out

D. Now pull out the Sim card tray with your hands

- Chapter 5 –

Configuration, Upgrading and Utility

5.1 Introduction to Laipac Suite

As a personal tracking device, if the Lola wants to work with certain Tracking Service provider's platform, such as, **www.LocationNow.com** from Laipac Technology Inc., it should properly be configured by using a software tool.

Also, to support application firmware upgrading for the Lola, it needs a software tool to download that new firmware.

LocationNow Suite is the utility software to meet the requirements above.

5.2 Usage of Laipac Suite

Another document, **"S911 Lola Utility Operation Manual"**, introduces the detail procedures below

- How to install this utility and its USB driver
- How to configure Lola
- How to upgrade Lola's application firmware

- Chapter 6 –

Operation Instruction

This chapter describes the S-911 Lola's typical operation procedures, which is provided by the demo application firmware V1.02, the corresponding hardware version is V2.0.

6.1 Knowing about your Lola

Fig. 6.1 shows the locations and names of the major physical features with this product

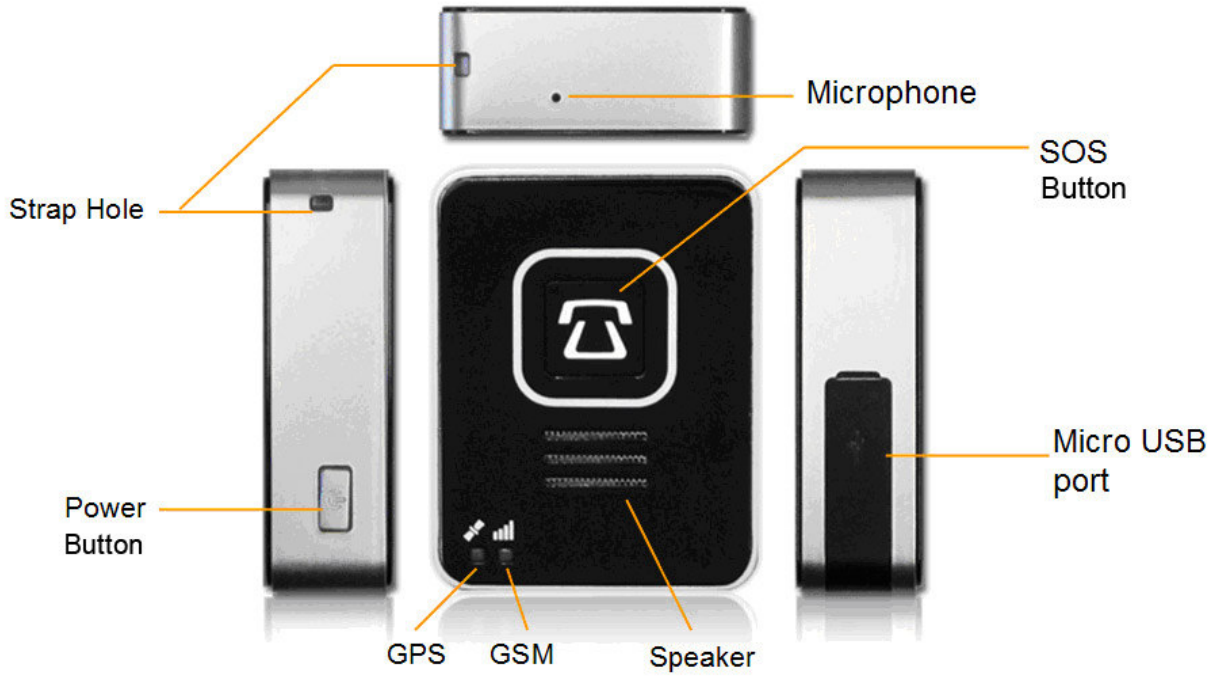


Fig. 6.1

6.2 Function Button and Its Related Operation

There are 2 function buttons on Lola, user can find their positions in Fig. 6.1 above.

Power Button: It is being used for turning on or off the S911 Lola unit.

Turn On the unit: Press this button over 3 seconds, user should feel the vibration form the built-in vibrator. Also, all 3 LED indicators, GPS indicator LED, GSM indicator LED and SOS button backlight LED, are going to flash

Turn Off the unit: Press this button for over 3 seconds, user should feel the vibration from the built-in vibrator.

SOS Button: It is being used to send SOS alert message, pick up/hand up phone call as well as checking Lola's working status

Send SOS alert: Press this button for over 3 seconds, if user can see the flashing generated by SOS button back light LED, it means this SOS request has been accepted and unit will activate its SOS alert action sequence.

Pick up phone: When unit has incoming phone call, user can press this button to pick up the phone.

*Hand up phone***:** During or after the phone call, user can press this button to hand up the phone

Checking status: Press this button, user can hear beeping. Also, the LED indicators can tell user the working status of those major function parts inside Lola, such as GPS and GSM.

6.3 LED indicators and Lola's working status

There are 3 color LED indicators on Lola. They are as below

- GPS LED (White color)
- GSM LED (White or Red color)
- SOS Button Backlight LED (White color)

Table 6.3 describes how to identify the Lola's working status by observing the behavior of those 3 LED indicators.

Item	GPS LED	GSM LED	SOS Back light LED	Vibrator	Operation and unit's working status
1					Unit is under charging and battery volt. is too low to activate unit
2	White LED flashing	White LED flashing	LED flashing	work	1. Battery volt. is high enough to activate the unit automatically, or 2. Press "Power" button to turn on the unit
3	White LED Fast flashing	White LED Fast flashing			Unit is in normal working condition, or so 1. GPS is not fixed 2. GSM is not able to register on GSM network
4	White LED is on	White LED Fast flashing			Unit is in normal working condition, and 1. GPS is fixed 2. GSM is not able to register on GSM network
5	White LED is on	White LED is on			Unit is in normal working condition, and 1. GPS is fixed 2. GSM is registered on GSM network
6		White LED flashes every 5s			Unit is in normal working condition, if there is no button operation over 30s , unit will enter into user interface power saving mode
7		Red LED flashes every 5s			1. Unit is under user interface power saving mode 2. Battery volt. is low
8*	White LED fast flashing	White LED fast flashing			1. Unit is under user interface power saving mode 2. Press "SOS" button to check unit's status, and the result is a. unit's position is not fixed yet b. Unit has not registered on GSM
9*	White LED is on	White LED Fast flashing			1. Unit is under user interface power saving mode 2. Press "SOS" button to check unit's status, and the result is c. unit's position is fixed d. Unit has not registered on GSM
8*	White LED is on	White LED is on			1. Unit is under user interface power saving mode 2. Press "SOS" button to check unit's status, and the result is e. unit's position is fixed f. Unit has registered on GSM network
9*	White LED flashing	White LED is on			Press "SOS" button to check unit's status g. unit's position is not fixed h. Unit has registered on GSM net work
10	LED turn off	LED turn off	LED turn off	work	Press "Power" button to turn off the unit

Table 6.3

***Note:** **1.** For Item 8 to 9, if it is also with GSM red LED flashing, it means that unit's battery is low and it can last a couple of hours.
2. If user also hears the beep that means the battery voltage is very low and unit will turn off itself actively very soon.