

CT-58A

GPS/GSM Micro Tracker



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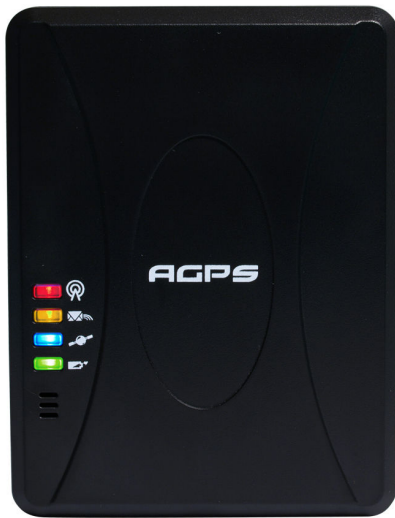
Web: www.sanav.com

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1. Hardware Description

1.1 Front Face



LED Indications

Red: GSM status light

Orange: Data communication light

Blue: GPS status light

Green or Yellow: Power charging light

Note:

A. Yellow light will light on while data while communicating the data to computer

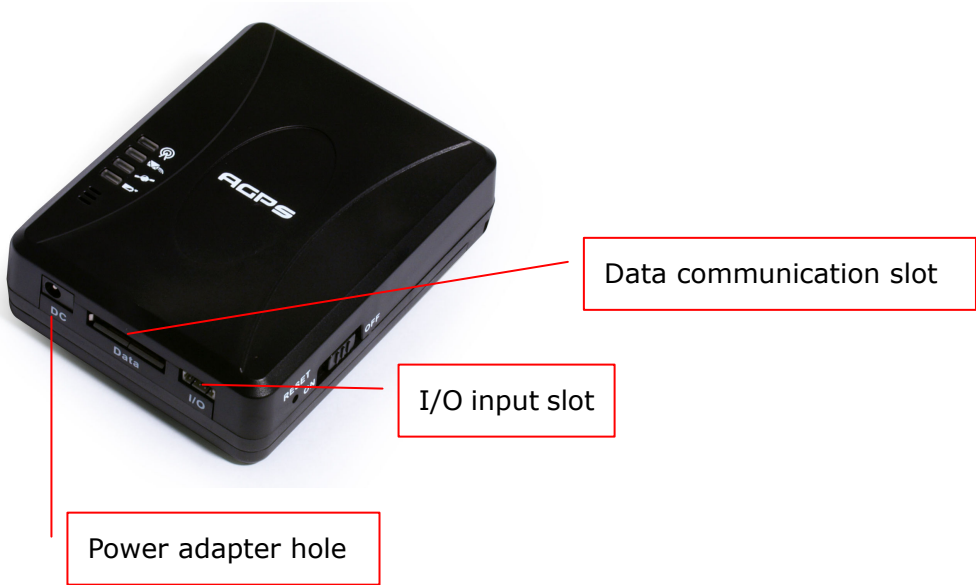
B. Green light will light on while charging the CT-58A

1.2 Side Face(1)

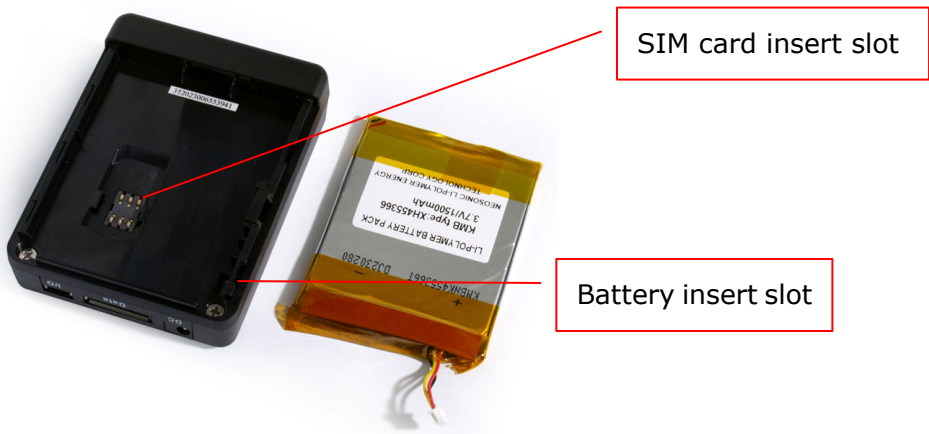


Power switch

1.3 Side Face(2)



1.4 Rear Face(Battery Cap)



1.5 Package Contents

A.



DC Adapter Charger

B.



Cigar charger

C.



User Guide

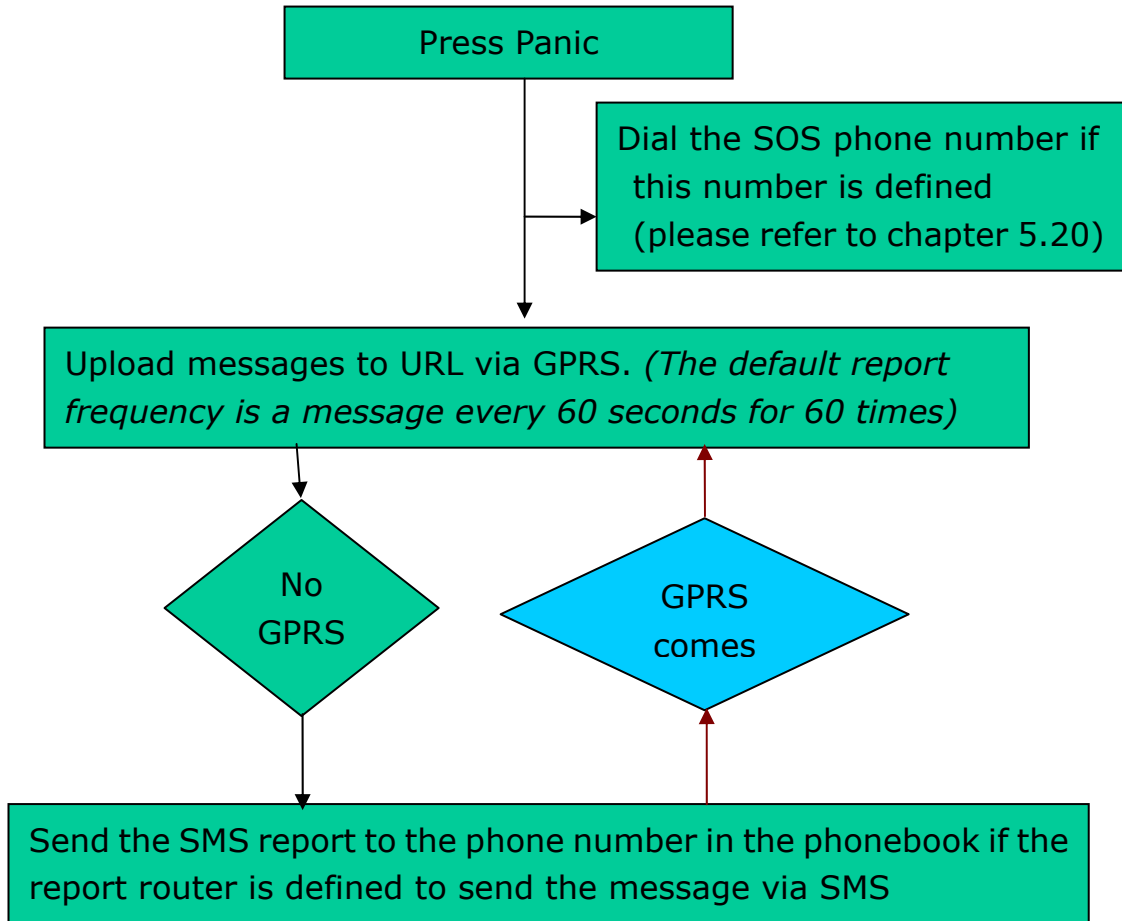
2. Specification

SPECIFICATIONS		
Electrics Data		
Frequency	Tri Band 850/1800/1900 or 900/1800/1900 Mhz 1575.42 Mhz	
GPS Receiver	Acquisition time	Reacquisition < 1sec.
		Cold < 41 sec. TTFF(Time To First Fix)
		Warm < 33 sec. TTFF
		Hot < 3.5 sec. TTFF
		Support A-GPS services
Power		
Battery Power	3.7V DC Li-Ion Battery,1500mA (future version Li-ion polymer battery)	
External Power	6V DC	
Battery Life	40 hours (estimated)	
Environmental Conditions		
Operating Temperature	-20 °C to +70 °C	
Storage Temperature	-25 °C to +75 °C	
Relative Humidity	5% to 95 %, non-condensing	
Mechanics Data		
Size	8.4(L) x 6.4(W) x 2.3(H) cm	
Weight	104g with battery	

3. Features

A. Panic(option)

External panic button (option) can be connected to CT-58A. When panic button is pressed, CT-58A will send out SOS report.



B. Auto Report

You can set up auto report function to receive a regular report, and note that the default setup is off. Please refer to chapter 5.6 for detailed information.

C. Vibration Sensor Built-in

The vibration sensor is embedded in CT-58A tracker. When the sudden movement causes vibration, CT-58A will send the alarm report.

4. Applications

1. Fleet management
2. Vehicle security and recovery
3. Asset tracking
4. Yachting watching
5. Covert tracking

5. Setup

CT-58A currently provides 13 commands for setup. You can setup the CT-58A by following the instructions shown in this chapter via SMS from a cellular phone. Key the specific SMS message in your cellular phone as the instruction and send it to the SIM number of CT-58A. The setup messages are showed in the following sections.

Note1: The default settings are shown as below.

- a. Default CT-58A ID is "username", and please read Chapter 5.1 in order to change the ID.
- b. Default password is "0000", and please read Chapter 5.2 in order to change the password.
- c. There's no number in the default contact, and please read Chapter 5.5 in order to add the phone number.
- d. Default setting of Auto Report is deactivated, and please read Chapter 5.6 in order to setup the auto regular report.
- e. Default setting of APN is only suitable for Taiwan GSM network and please read Chapter 5.3 in order to change the APN.
- f. Default setting of IP/domain is <http://www.sanav.com/eric-gga/gprs.aspx> and please read Chapter 5.4 in order to change the IP/domain.
- g. Please be aware of the upper and lower cases when you send the SMS command to CT-58A.

Note2: Before doing any setup, please ensure CT-58A is connected with the GSM network. The red LED must lights on. And please note that CT-58A must not be under Panic mode.

Note3: While you are keying in any setup message, note that NO space is allowed between the characters in the SMS. Characters can be letters, commas or any signs.

Note4: Any setup message must be started with a "#" sign and ended up with a "*" sign.

Note5: Only when the password, username and setup message are correct, the CT-58A will update information according to user's definition. If the command is not valid, a failure report is going to be sent to the commander cell phone.

5.1 Change Username

You can change the ID of CT-58A by below command format. No space is allowed between the characters. For example, if you send the SMS message shown in the example below to the CT-58A, you will change the ID from "username" to "ason"

Setup format

「username」, 「Password」, 「Function Code」, 「New username」 *

Example : #username,0000,1,ason*

The table 5.1.1 describes the meaning of each segment in the message above.

Text Keyed In SMS	Description
#	Start sign.
username	Default ID of CT-58A
0000	◇ Default password. ◇ If you have changed the password, please use the updated one.
1	Mode 1 defines the ID setup
Ason	◇ New ID defined by the owner. ◇ At the maximum of 8 letters.
*	End sign.

Table 5.1.1

The table 5.1.2 shows each confirmation message reply after setup

Situation	Message Reply
Setup Succeeds	[username] + CT-58A username is updated.
Setup Fail	[username] + CT-58A username setup fail!
Incorrect password	[username] + Password setup Fail!
Incorrect username or command format	[username] + command error
CT-58A is in Emergency Mode	[username] + in emergency, changing username is not allowed.

Table 5.1.2

5.2 Change Password

Use this SMS message example shown below to change the password of CT-58A. For example, by following the example below, you will change the default password, "0000" to a new password, "1111".

Setup format

「username」, 「Password」, 「Function Code」, 「new Password」, 「new Password」 *

Example : #username,0000,2,1111,1111*

The table 5.2.1 describes the meaning of each segment in the message above.

Text Keyed In SMS	Description
#	Start sign.
username	<ul style="list-style-type: none"> ◇ Default ID of CT-58A. ◇ If you have changed the username, please use the updated one.
0000	<ul style="list-style-type: none"> ◇ Default password. ◇ If you have changed the password, please use the updated one.
2	Mode 2 defines to change the password
1111	New password
1111	Reconfirm the password
*	End sign.

Table 5.2.1

The table 5.2.2 shows each confirmation message reply after setup

Situation	Message Reply
Setup Succeeds	[username] + CT-58A101 Password is updated.
Setup Fail	[username] + Password setup Fail!
Incorrect password	[username] + Password setup Fail!
Incorrect username or SMS format	[username] + command error
CT-58A is in Emergency Mode	[username] + in emergency, changing password is not allowed.

Table 5.2.2

5.3 Set up the GPRS APN (Access Point Name)

For uploading the data to a web server, you must have a set of GPRS APN from your GSM network. Various GSM network provides different GPRS APN settings. Please check the referential tables for APN in the Chapter 8 before setup. If you could not find the name of your GSM service provider, please ask your GMS service provider about the APN settings. If the username and password of APN are indefinite or showed in blank, just leave the parameters blank (no space). You can follow the Setup Format below to setup the APN that is provided by your GSM network.

Setup format

「username」, 「Password」, 「Function Code」, 「access point name」, 「user」, 「password」 *

Example : #username,0000,3,internet,user,password*

The table 5.3.1 describes the meaning of each segment in the message above.

Text Keyed In SMS	Description
#	Start sign.
username	<ul style="list-style-type: none"> ◇ Default ID of CT-58A. ◇ If you have changed the Username, please use the updated one.
0000	<ul style="list-style-type: none"> ◇ Default password. ◇ If you have changed the password, please use the updated one.
3	Mode 3 defines the APN
Internet	Name of APN
User	Username of APN
Password	Password of APN
*	End sign.

Table 5.3.1

The table 5.3.2 shows each confirmation message reply after setup.

Situation	Message Reply
Setup Succeeds	[username] + CT-58A101 GPRS APN is updated.
Setup Fail	[username] + CT-58A GPRS APN setup Fail!
Incorrect password	[username] + Password setup Fail!
Incorrect username or command format	[username] + command error
CT-58A is in Emergency Mode	[username] + in emergency, GPRS APN setup is not allowed.

Table5.3.2

5.4 Set up a Host Name (URL) to Transmit Data

This command (SMS) instructs the CT-58A to access an URL or fixed IP for data transmission. If you send the SMS according to the example seen below to CT-58A, the URL "http://www.sanav.com/eric-gga/gprs.aspx " will be assigned to receive the data sent from the CT-58A. Please note that the question mark "?" or any symbol is not allowed to be keyed in behind the URL. The CT-58A will add the necessary symbol(s) on automatically.

Setup format

「username」, 「Password」, 「Function Code」, 「Fixed IP or URL」 *

Example : #username,0000,4,http://www.sanav.com/eric-gga/gprs.aspx*

The table 5.4.1 describes the meaning of each segment in the message above.

Text Keyed In SMS	Description
#	Start sign.
username	<ul style="list-style-type: none"> ◇ Default ID of CT-58A. ◇ If you have changed the Username, please use the updated one.
0000	<ul style="list-style-type: none"> ◇ Default password. ◇ If you have changed the password, please use the updated one.
4	Mode 4 defines to trasmit data to a specific website
http://www,sanav.com/eric-gga/gprs.aspx	Default domain name, Sign "?" is not allowed to write in the area.
*	End sign.

Table 5.4.1

The table 5.4.2 is showing each confirmation message reply after setup.

Situation	Message Reply
Setup Succeeds	[username] + Device IP/Domain is updated.
Setup Fail	[username] + Device IP/Domain setup Fail!
Incorrect password	[username] + Device Password setup Fail!
Incorrect username or command format	[username] + command error
CT-58A is in Emergency Mode	[username] + in emergency, IP/Domain setup is not allowed.

Table 5.4.2

5.5 Set up the Phone Number List

Use this SMS message to predefine the cellular numbers (Max. of 5 numbers) by following the format below.

Setup format

「username」, 「Password」, 「Function Code」, 「PH-01」, 「PH-02」, 「PH-03」 *

Example : #username,0000,5,+886123456789,+492234567890,+866323456789*

Note that both adding and not adding the "+" sign in front of the cellular phone number(s) are both acceptable, while the "+" sign should precede the national code.

The table 5.5.1 describes the meaning of each segment in the message above.

Text Keyed In SMS	Description
#	Start sign.
username	<ul style="list-style-type: none"> ◇ Default ID of CT-58A. ◇ If you have changed the Username, please use the updated one.
0000	<ul style="list-style-type: none"> ◇ Default password. ◇ If you have changed the password, please use the updated one.
5	Mode 5 defines the changes of the built-in phone number list.
+886123456789	1 st cellular numbers, PH-01
+492234567890	2 nd cellular numbers, PH-02
+866323456789	3 rd cellular numbers, PH-03
*	End sign.

Table 5.5.1

The table 5.5.2 shows each confirmation message reply after setup.

Situation	Message Reply
Setup Succeeds	[username] + Device phone book is updated.
Setup Fail	[username] + Device phone book setup Fail!
Non-numeric data is input for numbers	[username] + Parameter error
Incorrect password	[username] + Password setup Fail!
Incorrect username or command format	[username] + command error
CT-58A is in Emergency Mode	[username] + in emergency, phone book setup is not allowed.

Table 5.5.2

5.6 Set up Auto Report

Use this command to set up the frequency of Auto Report. If you send the SMS according to the example shown below to CT-58A, you will have an Auto Report Message every 300 seconds for 99 messages. Once the loop is done, you can send a SMS message to update/renew, or switching off it in order to renew it.

Note: You may limit the amount of the Auto reply messages by inputting the digits from 1 to 9998 in the 「total number of report」 field. When you input 9999, the Auto Report Message will not stop unless you define a new Auto Report Setting.

Setup format

「username」, 「Password」, 「Function Code」, 「intervals (sec)」, 「total number of report」 *

Example1 : #username,0000,6,300,99*

The table 5.6.1 describes the meaning of each segment in the message above.

Text Keyed In SMS	Description
#	Start sign.
username	<ul style="list-style-type: none"> ◇ Default ID of CT-58A. ◇ If you have changed the Username, please use the updated one.
0000	<ul style="list-style-type: none"> ◇ Default password. ◇ If you have changed the password, please use the updated one.
6	Mode 6 defines to change the intervals and times of sending-back data
300	A constant interval of sending data
99	The amount of 99 messages sent automatically
*	End sign.

Table 5.6.1

The table 5.6.2 shows each confirmation message reply after setup

Situation	Message Reply
Setup Succeeds	[username] + Setup OK.Device Auto Report setting is updated.
Setup Fail	[username] + Auto Report setting Setup Fail!
Incorrect password	[username] + Password setup Fail!
Incorrect username or command format	[username] + command error
CT-58A is in Emergency Mode	[username] + in emergency, Auto Report setting is not allowed.

Table 5.6.2

5.7 All Parameters Reset to Default

Use this SMS message to reset CT-58A to factory default. You can just send the SMS according to the example seen below. It will overwrite all the current parameters to default.

Setup format

「username」, 「Password」, 「Function Code」 *

Example : #username,0000,9*

The table 5.7.1 describes the meaning of each segment in the message above.

Text Keyed In SMS	Description
#	Start sign.
username	◇ Default ID of CT-58A. ◇ If you have changed the Username, please use the updated one.
0000	◇ Default password. ◇ If you have changed the password, please use the updated one.
9	Mode 9 defines to change all the parameter to default value
*	End sign.

Table 5.7.1

The table 5.7.2 shows each confirm message reply after setup.

Situation	Message Reply
Setup Succeeds	[username] + Setup OK. Device resets to default
Setup Fail	[username] + Reset Fail!
Incorrect password	[username] + Password setup Fail!
Incorrect username or command format	[username] + command error
CT-58A is in Emergency Mode	[username] + in emergency, reset to default is not allowed.

Table 5.7.2

5.8 Acquire Report of Current Position

You can send the SMS according to the example shown below. It will transmit current data to the web server (URL) at once.

Setup format

「username」, 「Password」, 「Function Code」 *

Example : #username,0000,10*

The table 5.8.1 describes the meaning of each segment in the message above.

Text Keyed In SMS	Description
#	Start sign.
username	<ul style="list-style-type: none"> ◇ Default ID of CT-58A. ◇ If you have changed the Username, please use the updated one.
0000	<ul style="list-style-type: none"> ◇ Default password. ◇ If you have changed the password, please use the updated one.
10	Mode 10 defines to transmit current data to the web server at once.
*	End sign.

Table 5.8.1

The table 5.8.2 shows each confirm message reply after setup.

Situation	Message Reply
Setup Succeeds	[username] + Polling OK!
Setup Fail	[username] + Polling Fail!
In mail mode, the setup parameters are empty	[username] + Mail address or SMTP server parameter is empty
Incorrect password	[username] + Password setup Fail!
Incorrect username or command format	[username] + command error

Table 5.8.2

Note that the message reply shown in Table 5.8.2 will only be sent back to cell phone that sent the SMS to do configuration. The caller's ID of cellular phone must be activated in order to let the CT-58A recognize the caller ID and response accordingly.

5.9 Set up E-mail Address to Receive Data

In addition to receiving data from URL, you can also obtain data from a specified E-mail address via GPRS service. After setting up the APN, you can also define an E-mail address to receive data by following the instruction below, please note that, since processing the transformation from APN to E-mail address might cost longer time, so receiving data from URL is still recommended.

Setup format

「username」, 「Password」, 「Function Code」, 「Email address」 *

Example : #username,0000,12,mail@San Jose.com *

The table 5.9.1 describes the meaning of each segment in the message above.

Text Keyed In SMS	Description
#	Start sign.
username	<ul style="list-style-type: none"> ◇ Default ID of CT-58A. ◇ If you have changed the Username, please use the updated one.
0000	<ul style="list-style-type: none"> ◇ Default password. ◇ If you have changed the password, please use the updated one.
12	Mode 12 defines to setup an E-mail address data to a specific website
mail@San Jose.com	The E-mail address that receives the data.
*	End sign.

Table 5.9.1

The table 5.9.2 shows each confirmation message reply after setup.

Situation	Message Reply
Setup Succeeds	[username] + mail address Setup OK.
Setup Fail	[username] + mail address setup fail.
CT-58A is in Emergency Mode	[username] + in emergency, Mail address setting is not allowed.
Incorrect password	[username] + Password setup Fail!
Incorrect username or command format	[username] + command error
CT-58A is in Emergency Mode	[username] + in emergency, Mail address setting is not allowed.

Table 5.9.2

5.10 Set up SMTP Server

After setting up the E-mail address, you still have to setup a SMTP server so that the CT-58A can use the SMTP server send E-mails. Setup SMTP by following instruction:

Setup format

「username」, 「Password」, 「Function Code」, 「SMTP server」 *

Example : #username,0000,13,mail.sanav.com*

The table 5.10.1 describes the meaning of each segment in the message above.

Text Keyed In SMS	Description
#	Start sign.
username	<ul style="list-style-type: none"> ◇ Default ID of CT-58A. ◇ If you have changed the Username, please use the updated one.
0000	<ul style="list-style-type: none"> ◇ Default password. ◇ If you have changed the password, please use the updated one.
13	Mode 13 defines to setup a SMTP server
mail.sanav.com	The SMTP server
*	End sign.

Table 5.10.1

The table 5.10.2 shows each confirmation message reply after setup.

Situation	Message Reply
Setup Succeeds	[username] + SMTP Setup OK.
Setup Fail	[username] + SMTP server updated fail!
	[username] + SMTP server error.
CT-58A is in Emergency Mode	[username] + in emergency, SMTP server setup not allowed.
Incorrect password	[username] + Password setup Fail!
Incorrect username or command format	[username] + command error
CT-58A is in Emergency Mode	[username] + in emergency, SMTP server setting is not allowed.

Table 5.10.2

5.11 Set up Router for Transmitting Data by URL/IP or E-mail

You can choose the router to transmit the data by URL/IP, E-mail or SMS message. Please refer to the following table for the information of setting up the router.

The table 5.11.1 describes the meaning of each segment in the message above.

Router code	Representation
0	HTTP/SMS, send data to URL, if the URL is untouchable, then send it via SMS instead.
1	Mail/SMS, send data to e-mail address, if the e-mail address is untouchable, then send it via SMS instead.
2	HTTP only, send data to URL, if the URL is untouchable, it won't send the data by SMS.
3	E-mail only, send data to the e-mail address, if the e0mail address is untouchable, it's won't send the data by SMS.
4	SMS only, send data by SMS only.
6	TCP/SMS, send data to an assigned IP address, if the IP is untouchable, then send it via SMS instead.
7	TCP Only, only send data to an assigned IP address.
8	UDP/SMS; send data to an assigned IP address, if the IP is untouchable, then send it via SMS instead.
9	UDP Only; only send data to an assigned IP address

Setup format

「username」, 「Password」, 「Function Code」, 「0, 1,2,3,4,6,7,8 or 9」 *

Example : #username,0000,14,1*

The table 5.11.2 describes the meaning of each segment in the message above.

Text Keyed In SMS	Description
#	Start sign.
username	<ul style="list-style-type: none"> ◇ Default ID of CT-58A. ◇ If you have changed the Username, please use the updated one.
0000	<ul style="list-style-type: none"> ◇ Default password. ◇ If you have changed the password, please use the updated one.
14	Mode 14 defines to setup router.
0/1/2/3/4/6/7/8/9	Please see the definition of the code above
*	End sign.

Table 5.11.2

The table 5.11.3 shows each confirmation message reply after setup.

Situation	Message Reply
Setup Succeeds	[username] + Device is switching to HTTP/SMS mode
	[username] + Device is switching to Mail/SMS mode
	[username] + Device is switching to HTTP mode
	[username] + Device is switching to Mail mode
	[username] + Device is switching to SMS mode
Setup Fail	[username] + is switching to HTTP/SMS mode without success!
	[username] + is switching to Mail/SMS mode without success!
	[username] + is switching to HTTP mode without success!
	[username] + is switching to Mail mode without success!
	[username] + is switching to SMS mode without success!
CT-58A is in Emergency Mode	[username] + in emergency, switching to HTTP/SMS mode is not allowed.
	[username] + in emergency, switching to Mail/SMS mode is not allowed.
	[username] + in emergency, switching to HTTP mode is not allowed.
	[username] + in emergency, switching to Mail mode is not allowed.
	[username] + in emergency, switching to SMS mode is not allowed.
Incorrect password	[username] + Password setup Fail!
Incorrect username or command format	[username] + command error

Table 5.11.3

5.12 Request Imei Code

Imei stands for international mobile equipment identification. We offer you a command to acquire the Imei number from CT-58A via SMS. Actually, every CT-58A budget has a different default Imei code. You can send the SMS according to the example shown below to check its imei number so as to register to the web server for tracking.

Setup format

「username」 , 「Password」 , 「Function Code」 *

Example : #username,0000,imei*

The table 5.12.1 describes the meaning of each segment in the message above.

Text Keyed In SMS	Description
#	Start sign.
username	<ul style="list-style-type: none"> ◇ Default ID of CT-58A. ◇ If you have changed the Username, please use the updated one.
0000	<ul style="list-style-type: none"> ◇ Default password. ◇ If you have changed the password, please use the updated one.
imei	Mode imei is to inquire for international mobile equipment identification of CT-58A
*	End sign.

Table 5.12.1

The table 5.12.2 shows each confirmation message reply after setup.

Situation	Message Reply
Setup Succeeds	[username] + ",[imei]"
Incorrect password	[username] + Password setup Fail!
Incorrect username or command format	[username] + command error

Table 5.12.2

5.13 Deactivate Panic mode

In this function, it helps you to deactivate panic mode forcedly. Please note the Panic sensor is connected to I/O slot.

Setup format

「username」, 「Password」, 「Function Code」 *

Example : #username,0000,offpanic*

The table 5.13.1 describes the meaning of each segment in the message above.

Text Keyed In SMS	Description
#	Start sign.
username	◇ Default ID of CT-58A. ◇ If you have changed the Username, please use the updated one.
0000	◇ Default password. ◇ If you have changed the password, please use the updated one.
offpanic	Mode offpanic is to deactivate the panic status of CT-58A
*	End sign.

Table 5.13.1

The table 5.13.2 shows each confirmation message reply after setup.

Situation	Message Reply
Setup Succeeds	[username] + is forced to deactivate panic status.
Setup Fail	[username] + is not in Panic mode.
Incorrect password	[username] + Password setup Fail!
Incorrect username or command format	[username] + command error

Table 5.13.2

5.14 Set up Panic Report

Use this command to set up the frequency of Panic Report. If you send the SMS according to the example shown below to CT-58A, you will have a Panic Report Message every 300 seconds for 99 messages. Once the loop is done, you can send a SMS message to update/ renew, or switching off it in order to renew it.

Note: You may limit the amount of the Panic reply messages by inputting the digits from 1 to 9998 in the 「total number of report」 field. When you input 9999, the Panic Report Message will not stop unless you define a new Panic Report Setting.

Setup format

「username」, 「Password」, 「Function Code」, 「intervals (sec)」, 「total number of report」 *

Example1 : #username,0000,15,300,99*

The table 5.14.1 describes the meaning of each segment in the message above.

Text Keyed In SMS	Description
#	Start sign.
username	<ul style="list-style-type: none"> ◇ Default ID of CT-58A. ◇ If you have changed the Username, please use the updated one.
0000	<ul style="list-style-type: none"> ◇ Default password. ◇ If you have changed the password, please use the updated one.
15	Mode 15 defines to change the intervals and times of the Panic report
300	A constant interval of sending data
99	The amount of 99 messages will be sent automatically
*	End sign.

Table 5.14.1

The table 5.14.2 shows each confirmation message reply after setup

Situation	Message Reply
Setup Succeeds	[username] + Setup OK. Device Panic report setting is updated.
Setup Fail	[username] + Panic report setting Setup Fail!
Incorrect password	[username] + Password setup Fail!
Incorrect username or command format	[username] + command error
CT-58A is in Emergency Mode	[username] + in emergency, Auto Report setting is not allowed.

Table 5.14.2

5.15 Set up Voice Monitoring Mode

This function allows the user to select "Overhearing" or "Dial Polling" feature. User can hear the voice around the surrounding if overhearing is selected.

Setup format : #「username」,「Password」,「Function Code」,「0, 1: hidden microphone 2:Voice polling」
*

Example : #username , 0000 , 8 , 1*

The table 5.15.1 describes the meaning of each segment in the message above.

Text Keyed In SMS	Description
#	Start sign.
Username	<ul style="list-style-type: none"> ◇ Default ID of CT-58A. ◇ If you have changed the Username, please use the updated one.
0000	<ul style="list-style-type: none"> ◇ Default password. ◇ If you have changed the password, please use the updated one.
8	Mode 8 defines the switch between one-way phone and hidden microphone
1 or 2	<ul style="list-style-type: none"> ◇ 1: CT-58A will automatically switch to the voice monitoring. ◇ 2: Voice polling then CT-58A will send a GPS data via assigned router to terminal.
*	End sign.

Table 5.15.1

The table 5.15.2 shows each confirmation message reply after setup.

Situation	Message Reply
Setup Succeeds (one-way phone)	Username, Device is switching to MIC mode
Setup Succeeds (Dial polling)	Username, Device is switching to voice polling mode
Incorrect function code	Username, is switching to MIC mode without success!

Table 5.15.2

Note:

When you are doing overhearing through the embedded microphone, you will hear some noises ("Kiala-Kiala" sound), which is made by the impact of metallic ball in vibration sensor. If you have any questions about this, please contact us.

5.16 SOS Phone Setting

While Panic function is triggered, CT-58A will automatically call the SOS phone number if this number is defined. The command format will be like following:

Setup format : # 「username」, 「Password」, 「Sosphone」, 「Phone Number」 *

Example : #username,0000,sosphone,+886933123456*

The table 5.16.1 describes the meaning of each segment in the message above.

Text Keyed In SMS	Description
#	Start sign.
username	◇ Default ID of CT-58A. ◇ If you have changed the Username, please use the updated one.
0000	◇ Default password. ◇ If you have changed the password, please use the updated one.
sosphone	Function code
+886933123456	Phone number of SOS phone
*	End sign.

Table 5.16.1

5.17 Setup Geofence Coordinate

Users can setup the Geofence by using this command. The Geofence is defined as a round area. Therefore, the coordinates is the center and the radius is defined in meter.

Command: #username,0000,gf,2458.9741,N,12125.6460,E,500,0~3*

Text Keyed In SMS	Description
#	Start sign.
username	<ul style="list-style-type: none"> ◇ Default ID of CT-58. ◇ If you have changed the Username, please use the updated one.
0000	<ul style="list-style-type: none"> ◇ Default password. ◇ If you have changed the password, please use the updated one.
gf	Mode gf means Geofence setup mode
2458.9741	Latitude
N	N = North, S = South
12125.6460	Longitude
E	E= East , W= West
500	The geofencing distance in meters
0~3	0 It will cancel the geofence.
	1 It will trigger the alarm when the tracker is outside of the geofence.
	2 It will trigger the alarm when the tracker is inside of the geofence.
	3 It will trigger the alarm when the tracker is either outside or inside of the geofence.
*	End sign.

Geofence Alarm Report:

This command is to define the report interval when Geofence is triggered.

Setup format : # 「username」, 「Password」, 「Function Code」, 「Time Interval」, 「Total Report」*

Command: #username,0000,17,60,12*

Text Keyed In SMS	Description
#	Start sign.
username	<ul style="list-style-type: none"> ◇ Default ID of CT-58. ◇ If you have changed the Username, please use the updated one.

0000	◇ Default password. ◇ If you have changed the password, please use the updated one.
17	Mode 17 is the Geofence report interval setting
0~32,000	Time interval in second
0~9999	Total report. Note that 9999 means infinite reporting.
*	End sign.

5.18 Vibration Alarm Setting

Vibration sensor is embedded in CT-58A tracker. You can use following commands to define vibration report as well as the situation that triggers the vibration alarm.

Setup Format:

```
#username,0000,vs,on,x,y,z*
```

Example:

```
#username,0000,vs,20,20,10*
```

Text Keyed In SMS	Description
#	Start sign.
username	<ul style="list-style-type: none">◇ Default ID of CT-58A.◇ If you have changed the Username, please use the updated one.
0000	<ul style="list-style-type: none">◇ Default password.◇ If you have changed the password, please use the updated one.
vs	Mode 'vs' means vibration setup mode
20	Report interval. Unit: second. Minimum setting: 15 seconds.
20	Total reports
10	Vibration detecting time. That is when there is a constant vibration for 10 seconds, CT-58A will starting to send the report.
*	End sign.

Enable Vibration

Setup format:

#username,0000,vs,on*

Text Keyed In SMS	Description
#	Start sign.
username	◇ Default ID of CT-58A. ◇ If you have changed the Username, please use the updated one.
0000	◇ Default password. ◇ If you have changed the password, please use the updated one.
vs	Mode 'vs' means vibration setup mode
on	To enable the vibration.
*	End sign.

Disable the vibration

Setup format:

#username,0000,vs,off,n*

Example:

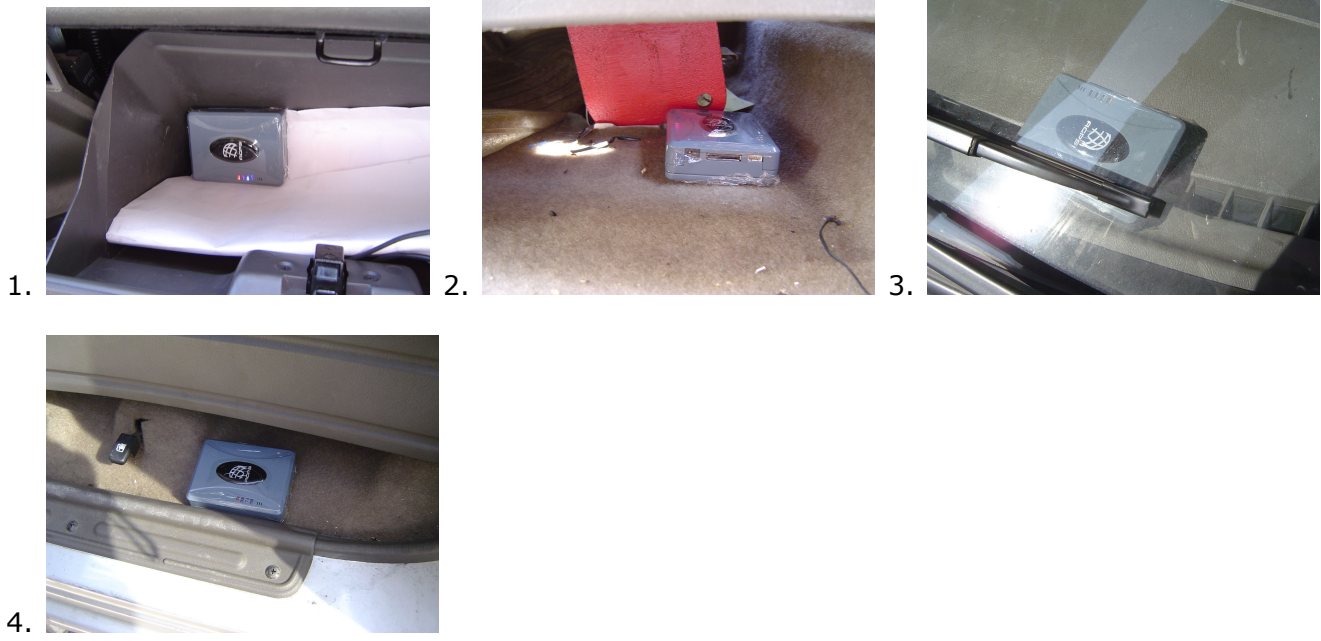
#username,0000,vs,off,10*

Text Keyed In SMS	Description
#	Start sign.
username	◇ Default ID of CT-58A. ◇ If you have changed the Username, please use the updated one.
0000	◇ Default password. ◇ If you have changed the password, please use the updated one.
vs	Mode 'vs' means vibration setup mode
off	Disable the vibration.
10	Device vibration detecting time. Unit 10 seconds. Please refer to the Note below.
*	End sign.

Note:

When the vibration function is switched off, you can still define a period of time to detect the vibration of the vehicle even though this function is off. When a 10 seconds is defined in the "off" mode and vibration sensor detects the vibration exceeds 10 seconds constantly, CT-58A will report to the terminal to alert users that the vehicle is being moved and the interval is 60 seconds and total is 3 times.

***Application of vibration of the tracker**



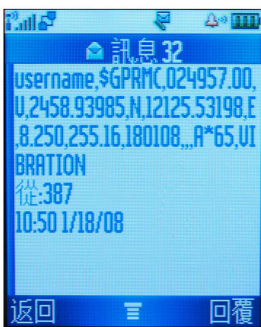
Hide the CT-58A in different places of the vehicle such as glove box, under the passenger, driver's seat or the window, and back of the vehicle.

***When someone steals the car.....**



Theft is switching on the engine.....

***If CT-58A is hidden somewhere in your vehicle and define the alarm report, when the CT-58A's sensor detects sudden vibration.....**



When the vibration is detected and router is set SMS, this is the example that your mobile phone will receive.

5.19 Set up TCP/ UDP Address to Transmit Data

If the user define to send the report to the TCP or UDP, please setup the TCP or UDP's address by below command.

Setup format :

「username」, 「Password」, 「Function Code」, 「TCP/ UDP address: port number」*

Example :

#username,0000,18,202.39.31.179:1337*

The table 5.19.1 describes the meaning of each segment in the message above.

Text Keyed In SMS	Description
#	Start sign.
username	<ul style="list-style-type: none"> ◇ Default ID of CT-58A. ◇ If you have changed the Username, please use the updated one.
0000	<ul style="list-style-type: none"> ◇ Default password. ◇ If you have changed the password, please use the updated one.
18	Mode 4 defines to setup TCP/ UDP's address
202.39.31.179	TCP or UDP's address
1337	Port number
*	End sign.

Table 5.19.1

The table 5.19.2 is showing each confirmation message reply after setup.

Situation	Message Reply
Setup Succeeds	[username] + Device TCP/UDP is updated.
Setup Fail	[username] + IP/Domain setup Fail!
Incorrect password	[username] + Password setup Fail!
Incorrect username or command format	[username] + command error
CT-58A is in Emergency Mode	[username] + in emergency, IP/Domain setup is not allowed.

Table 5.19.2

5.20 AGPS Update

The users can use this command to update AGPS data. Below is the command format.

Setup format:

#username,0000,au,0 or 1,update time*

Example:

#username,0000,au,1,10*

The table 5.20.1 describes the meaning of each segment in the message above.

Text Keyed In SMS	Description
#	Start sign.
username	◇ Default ID of CT-58A. ◇ If you have changed the Username, please use the updated one.
0000	◇ Default password. ◇ If you have changed the password, please use the updated one.
au	The function code; it means "AGPS Update"
0 or 1	Switch on or off AGPS Update
10	The will update AGPS data every 10 hours
*	End sign.

Table 5.20.1

The table 5.20.2 is showing each confirmation message reply after setup.

Situation	Message Reply
Setup Succeeds	[username] + AU setup OK.
Setup Fail	[username] + IP/Domain setup Fail!
Incorrect password	[username] + Password setup Fail!
Incorrect username or command format	[username] + command error
CT-58A is in Emergency Mode	[username] + in emergency, AU setup is not allowed.

Table 5.20.2

6. Respond Messages

This chapter shows you how to read and understand the different response messages sent from CT-58A. When CT-58A is in GPRS/SMS mode it will upload the data to the assigned URL first. However, if GPRS service is not available, it will send the SMS to the predefined phone number instead. In the case of GPRS-only mode, CT-58A will only send the data by GPRS no matter there is GPRS service or not. Basically, there're 3 different situations that trigger the CT-58A to response its position ([Auto Report](#), [SMS Polling and Emergency](#)) and are shown in the following pages.

Event Table:

This event table helps you to know what event triggers the response.

Event	Descriptions
Auto	When the monitor sends a valid Auto Report command to CT-58A, it will send a report including an "Auto" behind each GPRMC sentence.
SOS	When the user presses the Panic button, it will send the report including an "SOS" event behind each GPRMC sentence. No configuration is allowed in SOS mode. The SOS mode will only be released by special commands (Master Reset and Off Panic) and switching it off/on.
POLL	When using the SMS to poll the report, the event will be "poll".
Vibration	When the vibration is triggered, CT-58A will send the report including a "Vibration" event behind each GPRMC sentence
GFIN GOUT	When a geo fencing coordinate is defines, and the tracker is moved into or out the geo circle, CT-58A will send the report including a "GFIN/ GOUT" event behind each GPRMC sentence

Note: When CT-58A experiences the low battery power, it will send an SMS to the 1st phone number in the phonebook. The message will be **"username, Device Power low, Check/recharge"**. It will send a second SMS when the power is really too low. The message will be **"username, Device Power too low, recharge battery"**.

6.1 Auto Report

6.1.1. Uploading Auto data to URL when GPS is fixed

When execute the Auto Report according to the settings with a GPS fixed, CT-58A will upload the data to your URL. The data format will be like the following.

Format:

URL?imei=IMEI,RMC=GPRMC,AUTO

Example:

http://www.sanav.com/eric-gga/gprs.aspx?imei=351277000000000&
\$GPRMC,024903.00,A,2458.98299,N,12125.65413,E,0.355,359.15,130308,,,A*6B

6.1.2. Uploading Auto data to URL when GPS is not fixed

Example:

http://www.sanav.com/eric-gga/gprs.aspx?imei=351277000000000&
\$GPRMC,024903.00,V,2458.98299,N,12125.65413,E,0.355,359.15,130308,,,A*6B

Field	Descriptions
IMEI	The username of CT-58A that is a unique number.
GPRMC	It is a full sentence of GPRMC including the current Lat/Long, UTC and others.
AUTO	This is the event triggers the response.

!! Note: 1. When in GPRS or e-mail mode and there is no GPRS service, the report will be sent to the 1st predefined number. In the mean while, the "IMEI" will be changed to the "Username" and the "username" is changeable by using SMS command.
2. The "A" is the GPRMC sentence indicates the GPS status, which is GPS fixed. If the GPS is not fixed, letter "V" will substitute the letter "A".

6.2 Emergency Response

When GPRS is available, CT-58A will upload the data to the URL/e-mail. If the GPRS is not available, it will send the SMS instead. Please read Chapter 3.1 for how Panic works.

6.2.1. Uploading Emergency data to URL/e-mail when GPS is fixed

When there is GPS fixed, send a single SMS to the built-in numbers with the contents like following:

Format:

URL?imei=IMEI,RMC=GPRMC,SOS

Example:

http://www.sanav.com/eric-gga/gprs.aspx?imei=351277000000000&
\$GPRMC,024903.00,A,2458.98299,N,12125.65413,E,0.355,359.15,130308,,,A*6B,SOS

6.2.2. Uploading Emergency data to URL/e-mail when GPS is not fixed

When there is GPS fixed, send a single SMS to the built-in numbers with the contents like following:

\$GPRMC,024903.00,V,2458.98299,N,12125.65413,E,0.355,359.15,130308,,,A*6B,SOS

Example:

http://www.sanav.com/eric-gga/gprs.aspx?imei=351277000000000&

Field	Descriptions
IMEI	The username of CT-58A that is configurable.
\$GPRMC	It is a full sentence of \$GPRMC including the Lat/Long, UTC and others.
SOS	This is the event triggers the response.

!! Note: 1. When in GPRS or e-mail mode and there is no GPRS service, the report will be sent to the 1st predefined number. In the mean while, the "IMEI" will be changed to the "Username" and the "username" is changeable by using SMS command.
2. The "A" is the GPRMC sentence indicates the GPS status, which is GPS fixed. If the GPS is not fixed, letter "V" will substitute the letter "A".

6.3 Polling Response

6.3.1. Uploading Poll data to URL when GPS is fixed

When send an SMS to poll a report with a GPS fixed, CT-58A will upload a data to your URL. The data format will be like the following.

Format:

URL?imei=IMEI,RMC=GPRMC,POLL

Example:

http://www.sanav.com/eric-gga/gprs.aspx?imei=351277000000000&
\$GPRMC,024903.00,A,2458.98299,N,12125.65413,E,0.355,359.15,130308,,,A*6B,POLL

6.3.2. Uploading Poll data to URL when GPS is not fixed

When send an SMS to poll a report without a GPS fixed, CT-58A will upload the data to your URL. The data format will be like the following.

Example:

http://www.sanav.com/eric-gga/gprs.aspx?imei=351277000000000&
\$GPRMC,024903.00,V,2458.98299,N,12125.65413,E,0.355,359.15,130308,,,A*6B,POLL

Field	Descriptions
IMEI	The IMEI of CT-58A that is a unique number.
GPRMC	It is a full sentence of GPRMC including the previous Lat/Long, UTC and others.
POLL	This is the event triggers the response.

!! Note: 1. When in GPRS or e-mail mode and there is no GPRS service, the report will be sent to the 1st predefined number. In the mean while, the "IMEI" will be changed to the "Username" and the "username" is changeable by using SMS command.
2. The "A" is the GPRMC sentence indicates the GPS status, which is GPS fixed. If the GPS is not fixed, letter "V" will substitute the letter "A".

6.4 Vibration Response

6.4.1. Uploading vibration data to URL/e-mail when GPS is fixed

When there is GPS fixed, send a single SMS to the built-in numbers with the contents like following:

Format:

URL?imei=IMEI,RMC=GPRMC,Vibration

Example:

http://www.sanav.com/eric-gga/gprs.aspx?imei=351277000000000&
\$GPRMC,024903.00,A,2458.98299,N,12125.65413,E,0.355,359.15,130308,,,A*,Vibration

6.4.2. Uploading vibration data to URL/e-mail when GPS is not fixed

When there is GPS fixed, send a single SMS to the built-in numbers with the contents like following:

\$GPRMC,024903.00,V,2458.98299,N,12125.65413,E,0.355,359.15,130308,,,A*6B,Vibration

Example:

http://www.sanav.com/eric-gga/gprs.aspx?imei=351277000000000&

Field	Descriptions
IMEI	The username of CT-58A that is configurable.
\$GPRMC	It is a full sentence of \$GPRMC including the Lat/Long, UTC and others.
Vibration	This is the event triggers the response.

!! Note: 1. When in GPRS or e-mail mode and there is no GPRS service, the report will be sent to the 1st predefined number. In the mean while, the "IMEI" will be changed to the "Username" and the "username" is changeable by using SMS command.
2. The "A" is the GPRMC sentence indicates the GPS status, which is GPS fixed. If the GPS is not fixed, letter "V" will substitute the letter "A".

6.5 Geo Fencing Response

6.5.1. Uploading vibration data to URL/e-mail when GPS is fixed

When there is GPS fixed, send a single SMS to the built-in numbers with the contents like following:

Format:

URL?imei=IMEI,RMC=GPRMC,GFIN/GOUT

Example:

http://www.sanav.com/eric-gga/gprs.aspx?imei=351277000000000&
\$GPRMC,024903.00,A,2458.98299,N,12125.65413,E,0.355,359.15,130308,,,A*,GFIN/GOUT

6.5.2. Uploading vibration data to URL/e-mail when GPS is not fixed

When there is GPS fixed, send a single SMS to the built-in numbers with the contents like following:

\$GPRMC,024903.00,V,2458.98299,N,12125.65413,E,0.355,359.15,130308,,,A*6B,GFIN/GOUT

Example:

http://www.sanav.com/eric-gga/gprs.aspx?imei=351277000000000&

Field	Descriptions
IMEI	The username of CT-58A that is configurable.
\$GPRMC	It is a full sentence of \$GPRMC including the Lat/Long, UTC and others.
GFIN GOUT	This is the event triggers the response.

!! Note: 1. When in GPRS or e-mail mode and there is no GPRS service, the report will be sent to the 1st predefined number. In the mean while, the "IMEI" will be changed to the "Username" and the "username" is changeable by using SMS command.
2. The "A" is the GPRMC sentence indicates the GPS status, which is GPS fixed. If the GPS is not fixed, letter "V" will substitute the letter "A".

6.6 NMEA 0183 GPRMC Sentence

\$GPRMC	,123456.00	,V	,3444.12553,N	,13521.45600,E	,,	,020197	...
Field#	1	2	3	4	5	6	7 8 9 10 11 12

* 69

13

#.	Description	Range
1.	UTC: Time	
	"12": hh	00-23
	"34": mm	00-59
	"56": ss	00-59
	00	00-99
2.	A or V	.
3-4.	Latitude	
	"34": degree	00-90
	"44": minute (integer)	00-59
	"12345": minute (fraction)	0-99999
	"N": North/South	N or S
5-6.	Longitude	
	"135": degree	000-180
	"21": minute (integer)	00-59
	"45678": minute (fraction)	0-99999
	"E": East/West	E or W
	Note: Digits below 1/10000 are ignored.	
7-8.	Null Fields	Any entry is ignored.
9.	UTC: Date	
	"02": DD	01-31
	"01": MM	01-12
	"97": YY	97-40 (1997-2040)
10-12.	Null Fields	Any entry is ignored.
13.	Checksum	

7. Warranty

Warranty Time Period and Repair Coverage

SAN JOSE NAVIGATION, INC. warrants CT-58A to be free from all defects and malfunctions in materials and workmanship for a period of 12 months 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 adjustments, remanufacture, and replacements. 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 a 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, using any unauthentic substitutive equipment or loss of any accessory that's not provided by SAN JOSE Navigation.**

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

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