

RoyalTek
BT GPS Speed Camera Warning Device

RCD-1100

Offline version

Users Manual

Content

| | |
|--|----|
| 1.Product Introduction | 3 |
| 1.1 Overview..... | 3 |
| 1.2 Check the Package Content..... | 3 |
| 1.3 Install RCD-1100 in your vehicle | 4 |
| 1.4 Product Notification- Using Tips | 4 |
| 1.5 Navigation Function via BT..... | 4 |
| 2.Specification..... | 6 |
| 2.1 Specification..... | 6 |
| 2.2 Hardware Overview | 7 |
| 2.3 LED Display & Audio Alarm | 7 |
| 3.Software Installation and Usage | 8 |
| 3.1 Start to use “Speed Camera Detector Utility” | 8 |
| 3.2 POI Management Procedure | 11 |
| 3.3 SCDB and POI import setting..... | 15 |
| 3.4 Datalog download and device configure Function | 19 |
| 3.5 Get and Set RCD-1100 Data Log Status..... | 19 |
| 3.6 SCDB Setting..... | 21 |
| 3.7 Utility Revision information | 22 |

1.Product Introduction

1.1 Overview



The Device is equipped with the latest generation SiRF Star III digital processor specially designed for fast and accurate fix on GPS signals. It had been designed to help you drive safety within the confines of today's speed limits, by alerting you quickly and easily to the presence of Police speed traps, often located at Accident black spots, electronically indicating potentially dangerous and hazardous situations. The RCD-1100 will help you to drive safely, when the database has been downloaded, the device will compare your position using its built-in GPS antenna with the position of every known danger locations and give you an audible and visual warning as you approach them. With the latest in GPS technology, RCD-1100 device also can become a BT GPS Receiver to deliver GPS information.

- READ FIRST -

The RCD-1100 comes with a database of cameras pre-loaded. However the road network is constantly being modified. Please note that the database on the device will have been downloaded at the time of production so may not be 100% accurate at the time of purchase. To ensure that your RCD-1100 works affectively we recommend that you download it as soon as possible after purchase.

Feature:

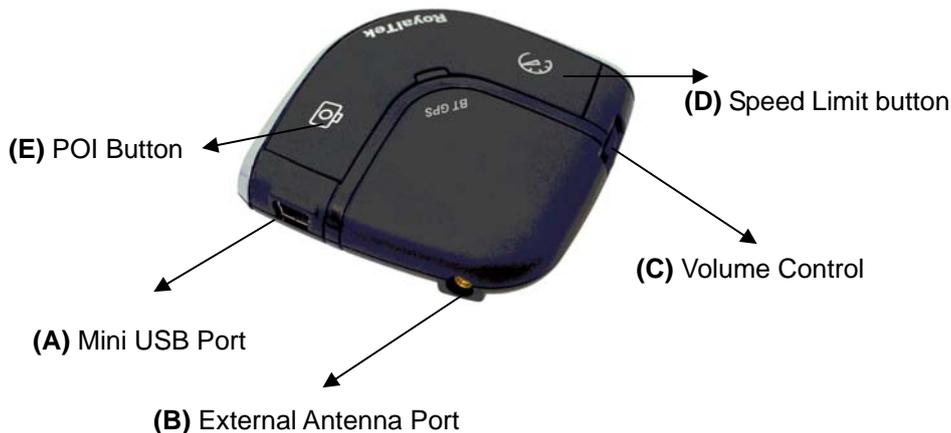
- Easy installation and put on the dashboard, just plug into the cigarette lighter.
- Support Navigation via Bluetooth for Mobile phone.
- Update database via mini USB connector on PC/NB. (Internet Connection)
- Bright LED lights for Speed Limit, GPS, POI status and Bluetooth, and adjustable audible alarms.
- Automatic system warning with audible and visual alerts to reduce your speed. Know your exact position and current speed, use the database to continue checking if you are approaching a risk area and warns you before you enter a risk area.
- Support datalog function

1.2 Check the Package Content

Before using *RCD-1100*, please make sure the package includes the items listed below. Please contact the reseller immediately for any missing/damaged items.

1. RCD-1100 Device
2. USB cable
3. Car Charger
4. External antenna (optional)
5. CD (user manual, SW utility)
6. Dashboard Pad

1.3 Install RCD-1100 in your vehicle



- Place the Dashboard Pad on your dashboard as close to the windscreen as possible in clear view of the driver's line of sight.
- Place your RCD-1100 device on the dashboard pad, which is designed to hold it firmly in place.
- Now connect the USB cable to the cigar lighter adapter provided and insert the other end to socket (A). Plug the adapter into the vehicle's cigar lighter. RCD-1100 powers on once you turn your ignition key and the green and red LEDs will sweep backwards and forwards with one beep tells you that the unit is functioning correctly.

1.4 Product Notification- Using Tips

1. Use the supplied dashboard pad, remove the backing from the base, fix it on the dashboard as close to the windscreen as possible in clear view of the driver's line of the sight and place your Detector onto the pad
2. Cars that are equipped with heat dissipation films for the windshield and windows will degrade the GPS performance.
3. For the most accurate position fix results and quickest acquisition time, please make sure that your device is not in motion but stationary and in open spaces.
4. Connect to PC or Notebook for "Speed Camera Detector Utility"
@User can update the Camera database and manage the POI points using the supplied "Speed Camera Detector Utility".
Refer to the software installation and usage to install the software utility.
*POI: point of interest
5. We invite the driver to respect the driving rule and the law. We assume no any responsibility for any damage or injury resulting from the wrong use of the product.

1.5 Navigation Function via BT

To make RCD-1100 Receiver work with your devices, a simple pairing step is required for the first time. (Please follow the pairing instruction for Blue Tooth from your PDA or PC manufacturer.) To get RCD-1100 into pairing mode, all you need to do is simply switch on the power switch.



Once RCD-1100 is properly set up and connected to your PDA or PC, please refer to your navigation software guidebook for instruction on navigation operation. RCD-1100 works with all NMEA enabled navigation software.

2.Specification

2.1 Specification

| GPS | |
|---|--|
| GPS Chipset | - Sirf star III |
| Frequency | - L1, 1,575.42 MHz |
| Channel | - 20 parallel |
| C/A Code | - 1,023 MHz |
| Chipset TTFF (Open SKY,typical) | - Reacquisition: less than 1s - Hot start: less than 1s - Warm start: less than 35s - Cold start: less than 35s |
| Accuracy | - Position: within 10m for 90% - Velocity: 0.1m/s |
| Dynamics | |
| Altitude | - 18,000 meter maximum |
| Velocity | - 514 meter/second maximum |
| Internal Antenna | |
| Type | -Build in Patch Antenna |
| External Antenna | |
| Type | -MMCX |
| Camera database storage | |
| Flash Type | - 64Mb Serial Flash |
| Device Interface (External Connector port) | -USB 1.1 Mini USB (5pin) for Car charger and data transfer |
| Button | -POI Setting x1 -Speed Limit Setting x1 |
| Volume Control | -VR Type |
| LED | -3X Tri-Color for GPS, Speed Limit setting, POI Setting -1X for Bluetooth |
| Bluetooth | |
| Bluetooth Operating Frequency | 2.402~2.4385 GHz |
| Bluetooth certified | Bluetooth 2.0 certified (Class 2) |
| Power Source | -Power from Car charger 5V 500 mAh |
| Temperature | -Operating : -20°C ~ + 60 °C -Storage : -20°C ~ + 85 °C |
| Size | - Dimension: 65mm X 65mmX18.5mm |
| Weight | ≤ 45g |
| Voltage Type | - 5V 500mAh |
| Location Log | |
| Log data | UTC Time, Longitude, Latitude, Altitude, Velocity (user configurable via Utility) |
| Log Interval | 1secs ~ 60secs, user configurable (Default 15secs) |
| Records | Over 500,000 points Log duration: Over 180 days (For log interval 15 sec and log 12 hours for a days) |
| POI Point | Maximum 4096points |

2.2 Hardware Overview



(1) The POI record Button:

Press for more than 2 seconds to record current position.

A short beep sound and blinking LED will inform you that the POI has been successfully store.

Note: The user must use the software to carry out the POI management.

Note: The POI Record Button function will be enabled after GPS is fixed and the Speed Camera database was successful pre-uploaded into memory.

(2) The Speed limit setting Button:

Press for more than 4 seconds to record current speed of your vehicle. A short beep sound and glowing LED will inform you that current speed limit has been successfully done. If you exceed the speed limit, the device will beep until your speed fall below the limit. To revise the speed you can push this button for one second then the speed limit will change to the current speed. To cancel the setting, press the button for more than 4 seconds again.

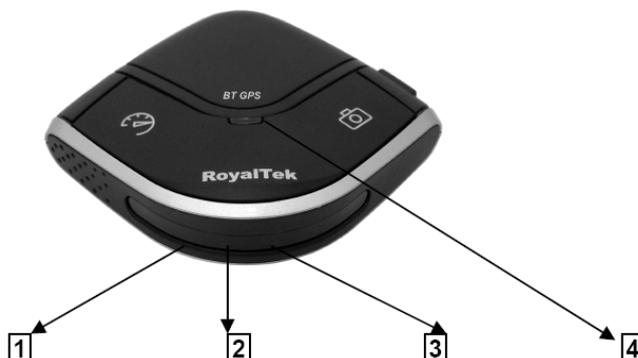
Note: The Speed limit setting value will be cancelled after removing the charger power.

(3) Volume control:

Rotate forward and backward to adjust the volume.

2.3 LED Display & Audio Alarm

Front View



| | Event | | LED Display | Audio Alarm | |
|----|--|------------------|--------------------------------------|---------------------------------------|---------------------------------|
| 1 | System Initialize | | Green+Red (No 1+No 2+No3), Sweeping | 1 beep | |
| 2 | GPS Search | | Green (No 1), Blinking | | |
| 3 | GPS is fixed | | Green (No 1), Glowing | 2 beeps after GPS Fixed | |
| 4 | Memory full /Erase | | Red (No.2) Glowing /Blinking | X | |
| 5 | Approach Fix Camera Zone and pre-alert (distance less than* 1500 meter- Notification range) | Not exceed speed | | Glowing | 3 beeps |
| | | Over speed | Red (No 2+No3) | Blinking 1 time per second Continuous | Beeps continuously |
| 6 | Approach Fix Camera Zone and pre-alert (distance less than *500 meter- Critical range) | Not exceed speed | Red (No 1+No 2+No3) | Glowing | 3 beeps |
| | | Over speed | | Blinking 1 time per second Continuous | 3 beeps per second continuously |
| 7 | Approach Mobile Camera Zone or User defined POI and pre-alert (distance less than *1500 meter- Notification range) | Not exceed speed | Amber (No 2+No3) | Glowing | 3 beeps |
| | | Over speed | | Blinking 1 time per second Continuous | Beeps continuously |
| 8 | Approach Mobile Camera Zone or User defined POI and pre-alert (distance less than *500 meter- Critical range) | Not exceed speed | Amber (No 1+No 2+No3) | Glowing | 3 beeps |
| | | Over speed | | Blinking 1 time per second Continuous | Beeps continuously |
| 9 | User Defined POI Function activated | | Green (No 1+No 2+No3), Flashing once | 1 beep | |
| 10 | User Defined POI full | | Amber (No.2), Glowing | X | |
| 11 | Speed Limit function enable | | Red (No.3), Glowing | 1 beep | |
| 12 | Speed Limit function Disable | | X | 3 beeps | |
| 13 | Over Speed only (W/O Camera or POI Zone) | | Amber (No.3), Blinking | Beeps continuously | |
| 14 | BT Connected | | Blue (No.4), Glowing | | |
| 15 | BT Searching | | Blue (No.4), Blinking | | |

*Depending on local SCDB conditions.

3. Software Installation and Usage

3.1 Start to use “Speed Camera Detector Utility”

Check the COM port of RCD-1000 first. Click “Start” → “Control Panel” → “Performance and Maintenance” → “System”, and you will see the System Properties dialog box; click on “Hardware” tab and then the “Device Manager” button. Expand the “Ports (COM & LPT)” item, and the “Prolific USB-to-Serial Comm Port” is the COM port of your RCD-1100.

The user should connect the device first. (Connect device with PC via USB Cable)
Please select comm. port and press the “connect” button.

When you execute the program, the following Figure 1 is shown.

Note: (1) System will download the POI points from device automatically.

Please wait the “Get All Datalogger Head” finished. The following figure 3 is

shown.

(2) If user wants to upload SCDB data, please be sure to pre download datalog data in advance.

(3) Datalog data will be deleted after upload SCDB process is done.

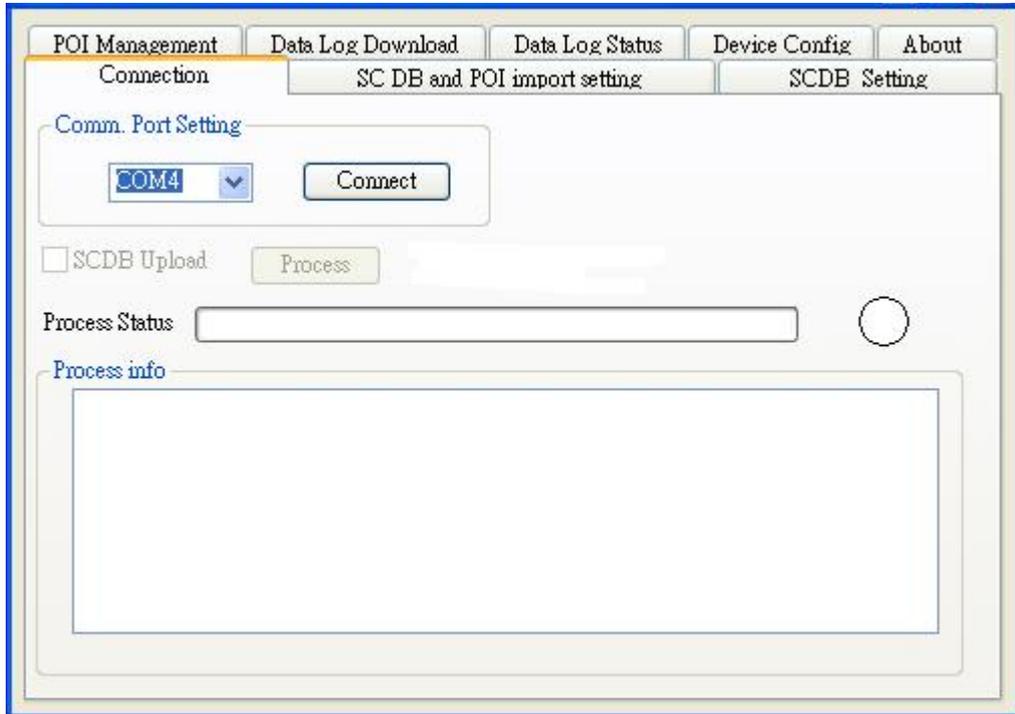


Figure1

Figure2 and Figure3 show when you press the button "Connect", the utility notifies the user that the device will enter the operation mode, all functions of the device are disabled.

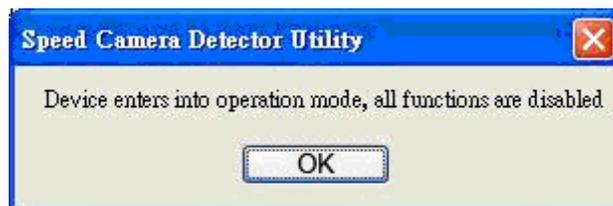


Figure2

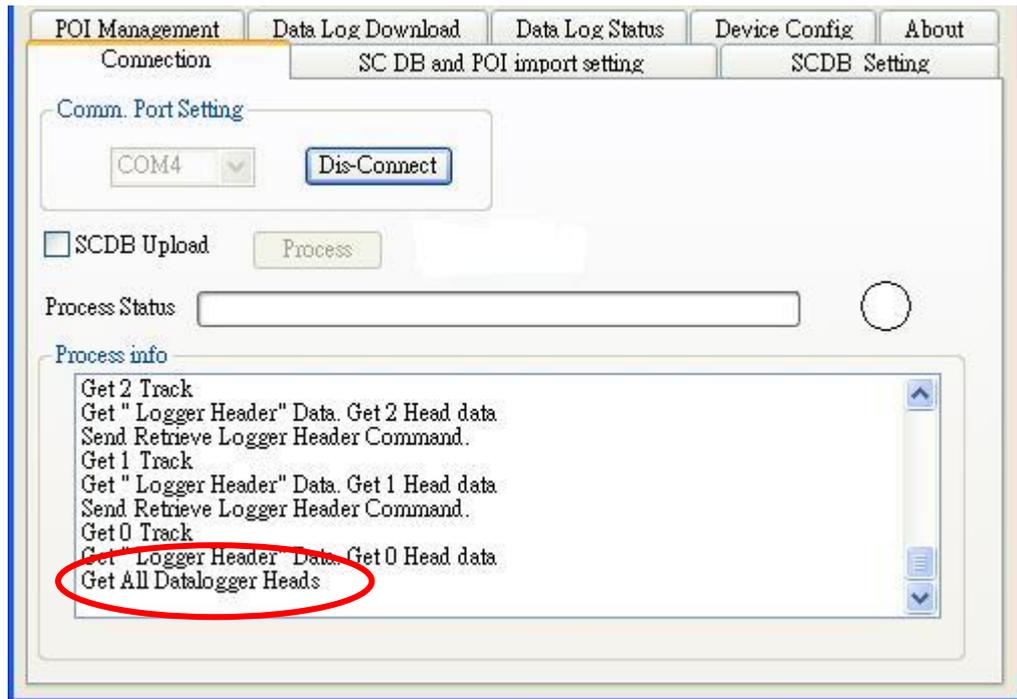


Figure3

Figure 4 is shown **System will download the POI points from device automatically. POI data will be erased from device after POI load process done.**

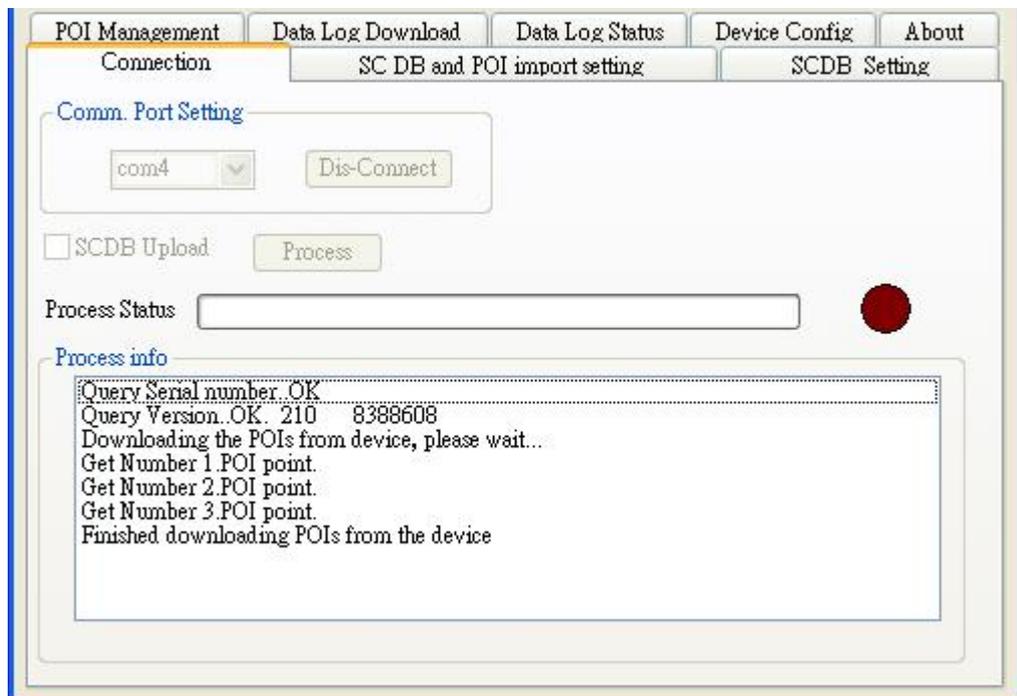


Figure 4

If the figure 5 dialog is shown, it means there is no POI data in the device.



Figure 5

3.2 POI Management Procedure

When proceed the POI Management, system will auto create the POI folder for POI data download.

Note: POI data are stored in the PC side and named POI.csv and stored in the subdirectory /POI/.

User can load POI data, delete POI data or Save POI data by using the Utility.

Note:

◆ **Load POI:** User can edit the POI points by click the button "Load POIs".

There are 5 types of status will show on the Utility screen after loading POI action is done.

***Duplicated with No. X:** means the distance between the current POI point and No. X POI point less than 1km.

***Out of SCDB range:** means the current POI point is not in the SCDB coverage range.

***OK:** means the valid POI point.

***Speed is out of range:** means the POI's speed is over the spec " the speed range is from 0 to 300km/hr"

***Surpass 255 characters:** means the POI's comments are over the spec.

◆ **Delete POI:** User can select the POI by click the checkbox and press the button "Delete POI" to delete the POIs that user selected. If user delete POIs, confirmation message will be shown to user as Figure 8.

◆ **Save POI:** When user finishes the POI points edition, user can press the button "Save POI" to save the modification and integrate the POI to speed camera data base. Please refer to Figure 11 (The function "integrate POI with SCDB " will be enabled).

Check the page "**POI management**", and the AP will go to the page "POI management",
English

please refer to Figure 6.

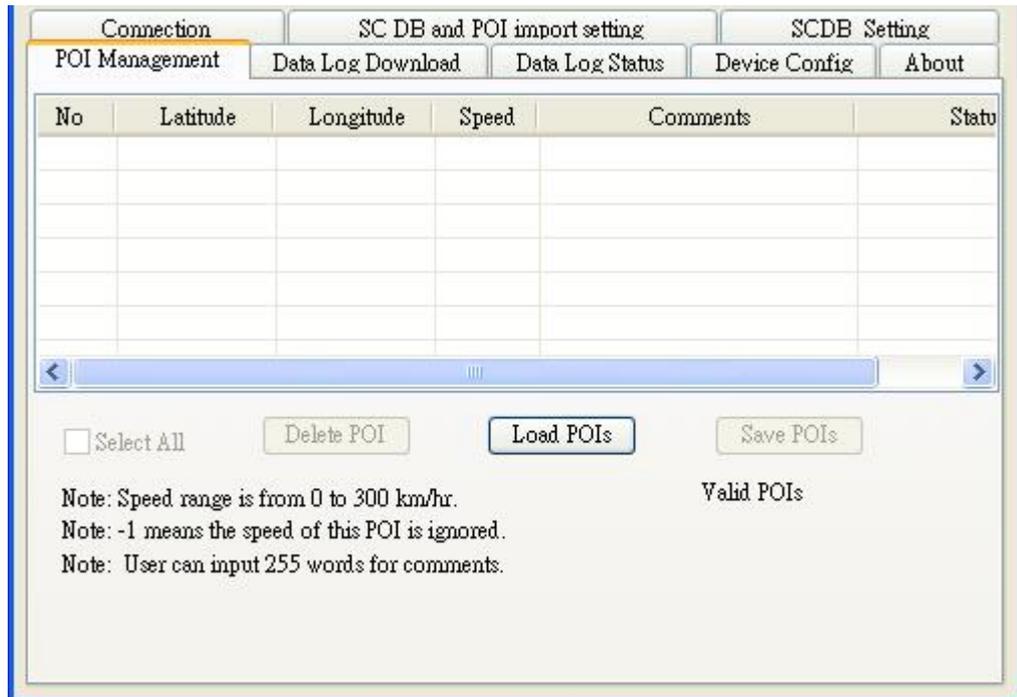


Figure 6

Figure 7 shows the Load POI process done.

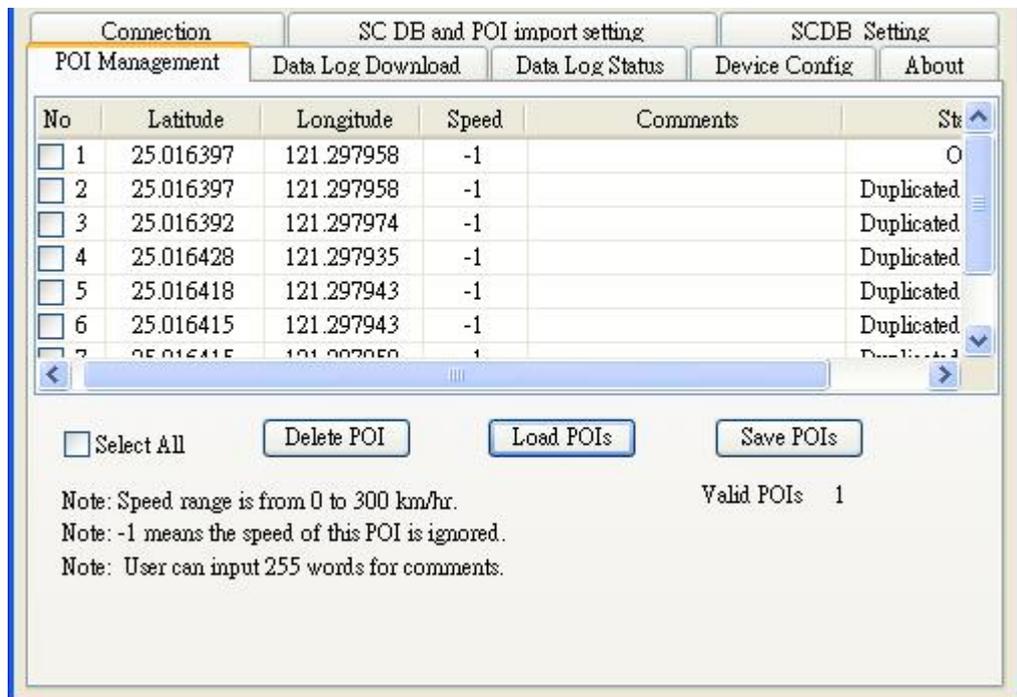


Figure 7

Figure 8 shows the Delete POIs process.

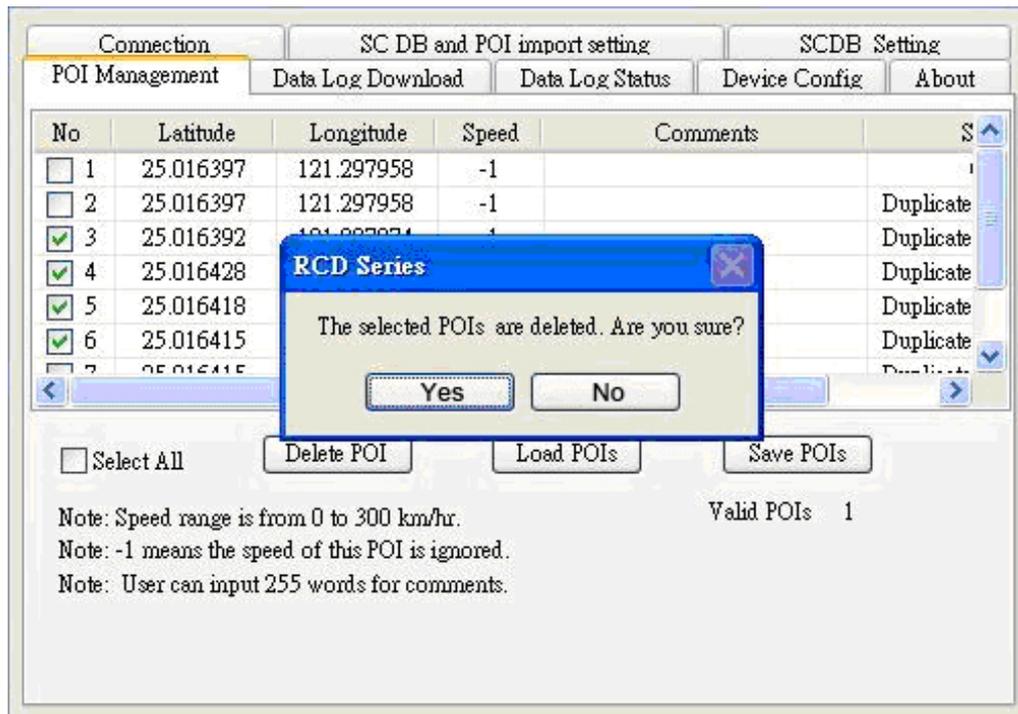


Figure 8

3.2.1 POI Management and shown on Map

To display the POIs on Google Map, the Internet connection is needed.

Move the mouse cursor to the required "Latitude" or "Longitude" point column then press the mouse right key, the message "Go to Google Map" showed as Figure 9

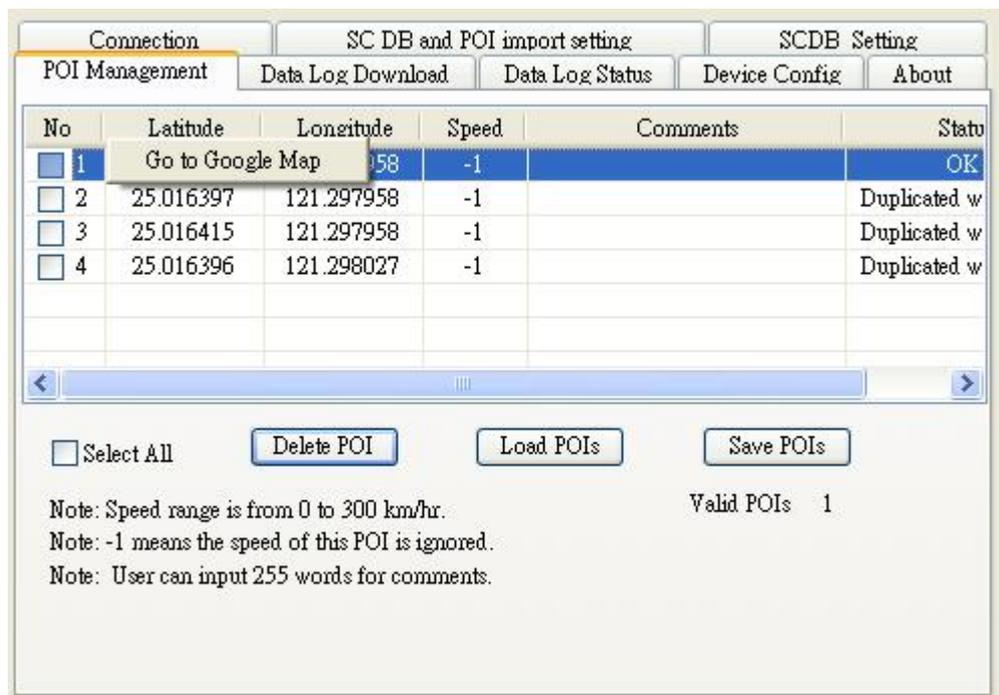


Figure 9

3.2.2 POI data modification

User can modify the speed, latitude, and longitude and add comments.

1) Modification of the latitude and longitude:

When user clicks the “Go to Google Map” pop up menu, user can modify latitude and longitude, the utility will show as Figure 10.

User can drag the mark  to set the position of the POI on Google Map window.

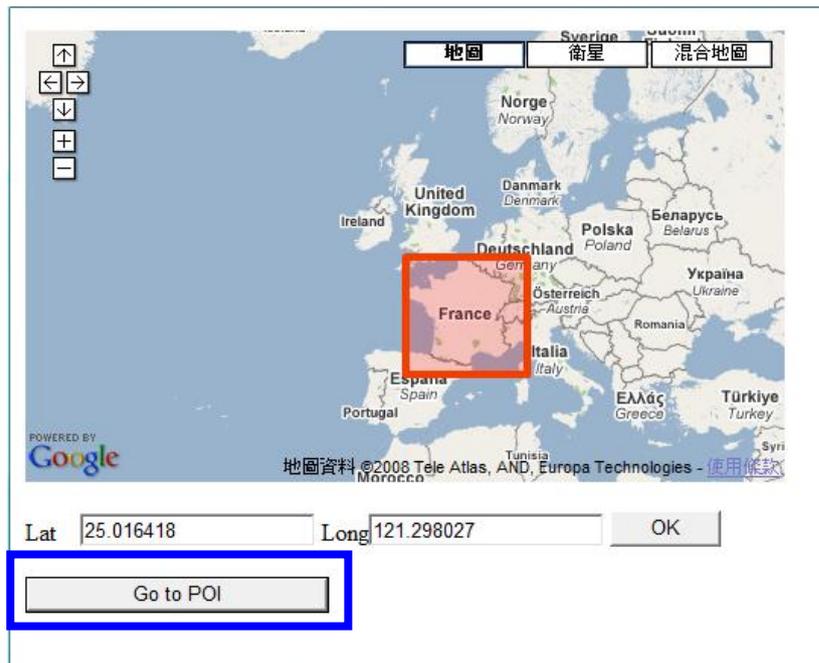
After the modification is complete, please press the button “OK” to save the modification.

◆Go to SCDB Coverage:

Show the device’s speed camera database coverage on Google Map

◆Go to POI:

When user clicks the “Go to POI” button, the screen will back to the POI point Map window.



2) Modification of the comments and speed:

Check the “comments” or “speed” column of POI then user can add the comments or speed on it, shows as Figure 10

After the modification is complete, please press the button “Save POIs”

Note:Users can add comments for the POI and only 255 words can be added..

Speed range is from 0~300km/hr.

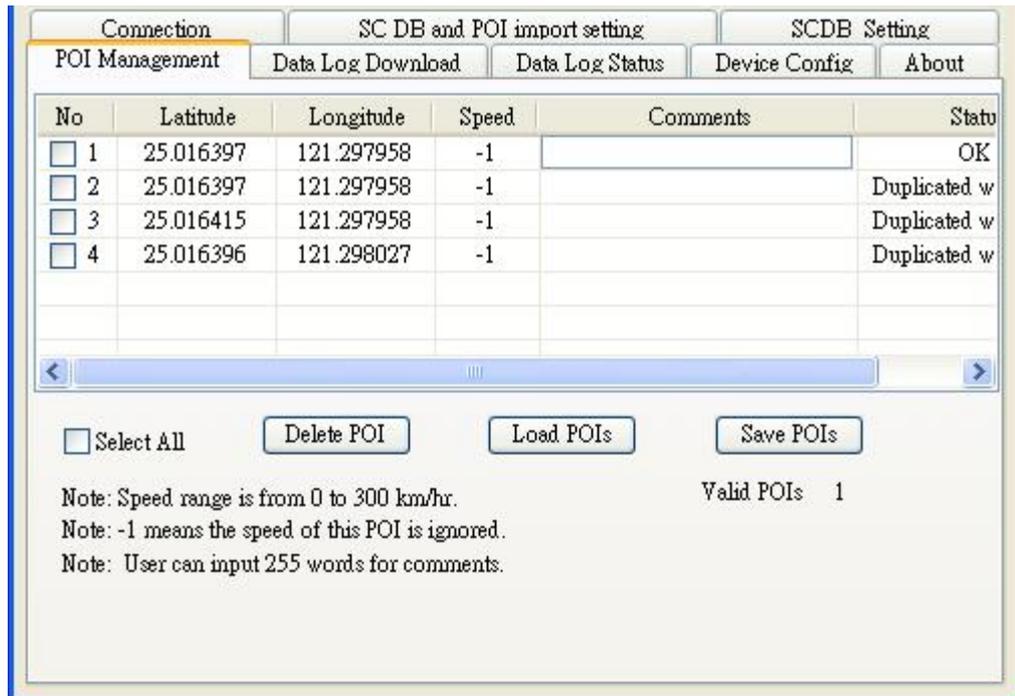


Figure 8

3.3 SCDB and POI import setting

◆ SCDB Setting :

There is one type Camera database data. Fixed Speed Camera database data

User can download the Speed Camera database from his computer (local file).

For the Speed camera database file format, please reference the example:

File name: *.csv

Latitude, Longitude, direction, vmax, Type

46.55886,2.2,35.40,2

◆ POI Setting :

Note: The function will be enabled after the Save POI action was done by user.

User can integrate the POI data into SCDB database.

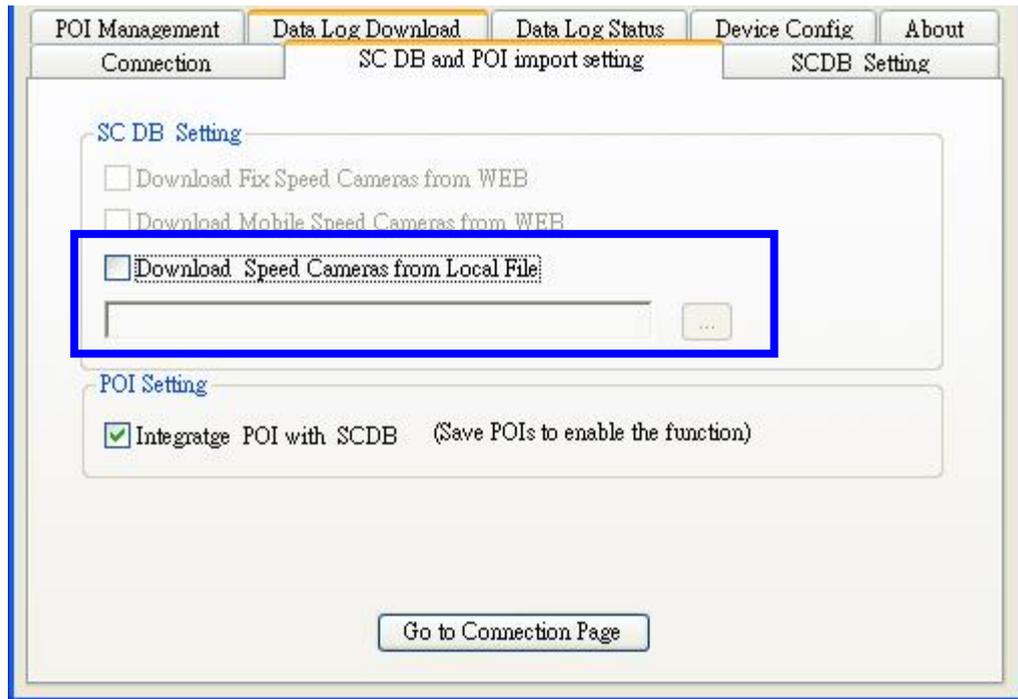


Figure 11

3.3.1 Download SCDB data from Local file

Currently, users can upload DB data combinations are as follows:

- 1) Only SCDB
- 2) SCDB + POI

4.3.1.1 Download SCDB data from Local file

If user wants to download SCDB data from user computer (local file), please check the "Download Speed Cameras from Local file." And select the local path. Shows as Figure 12

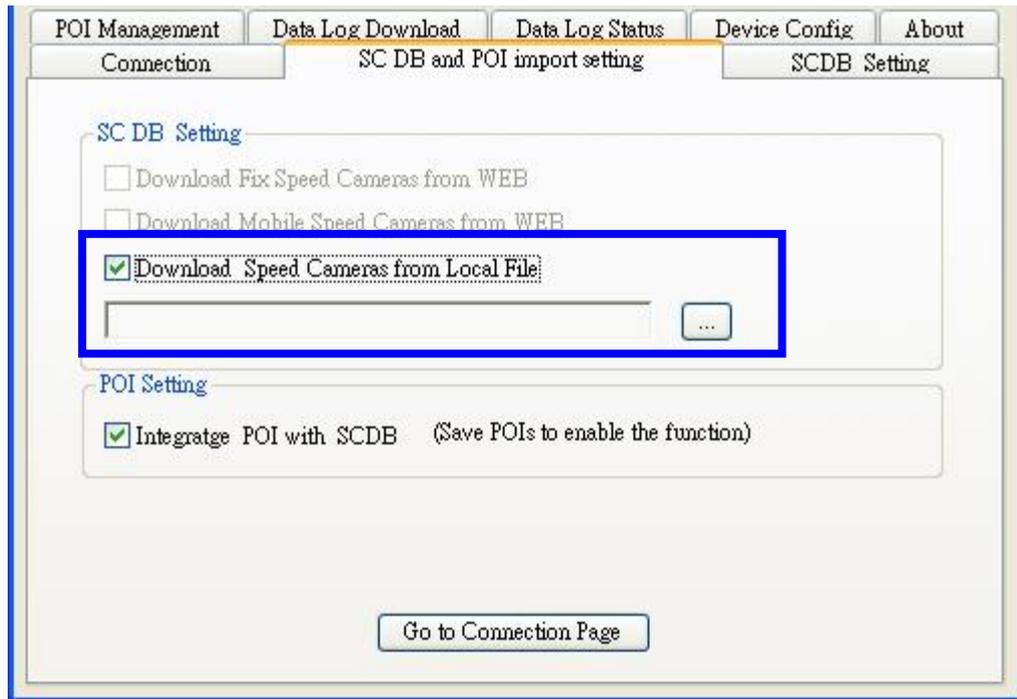


Figure12

Press the button "Go to Connection Page" and the AP will go to the "connection" page. System will show the notification message. Shows as Figure 13 and 14



Figure13

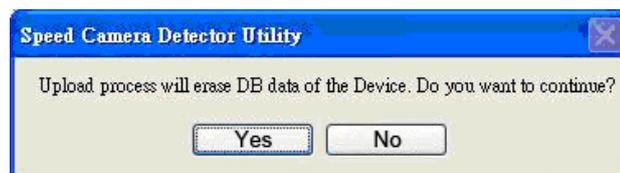


Figure14

Figure 15 shows that the upload proceed.

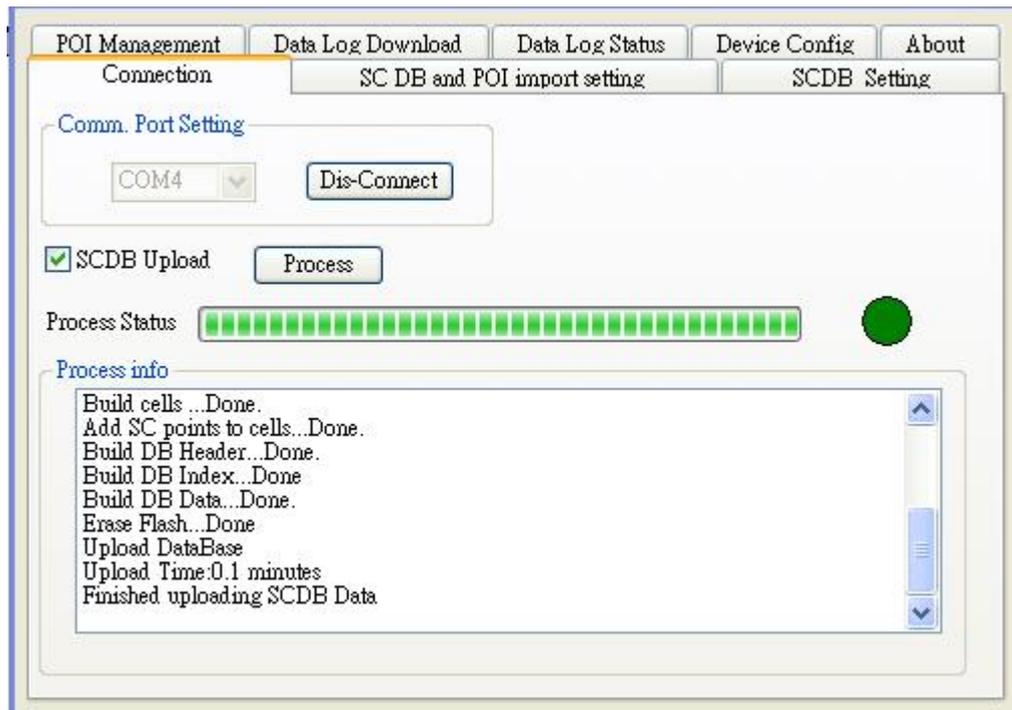


Figure15

Figure 16 shows that the download process is completed. And system will auto alert you to do the action "RESRT and Reconnect the device" after the upload process was completed.

Please re-connect the device.



Figure16

3.3.2 POI Setting process

Go to the page "SCDB and POI import setting", user should check the checkbox "SCDB setting" to choose the SCDB at the same time, then press the button "Go to connection Page', .The utility will go to page "Connection" and integrate SCDB automatically.

Note: (1) Saved POIs: User press the POI button, then the device will record a POI point, This POI point is called Saved POI.

(2) If user want to use the RCD-1100 device in another PC, please copy the original PC's POI data (stored in the subfolder /POI/ POI.csv) to the new PC.

3.4 Datalog download and device configure Function

User can download log data by using the Utility.

Figure 17 shows: Change to “Device Config.” menu bar.

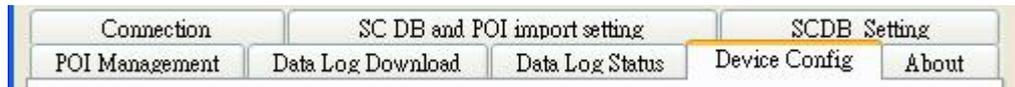


Figure 17

Figure 18 shows: select Folder or set a new folder for saving NMEAData.

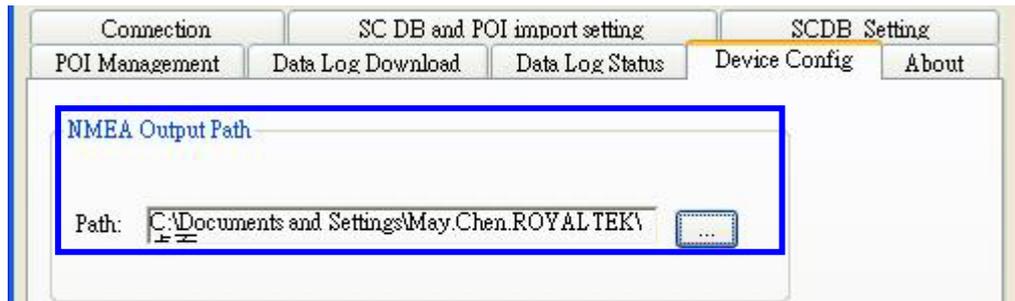


Figure 18

Figure 19 Show: Change page to “Data Log Download” menu bar and the AP will go to the page “Data Log Download”.

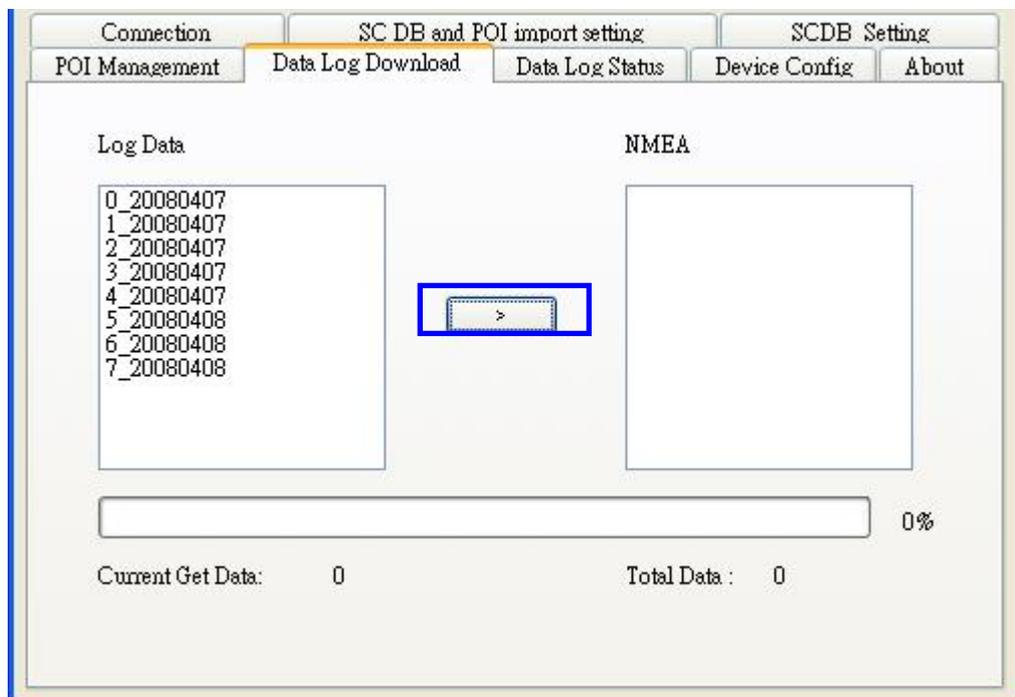


Figure 19

3.5 Get and Set RCD-1100 Data Log Status

User can review the RCD-1100 default setting configuration.

Figure 20 shows: Change to “Data Log Status” menu bar

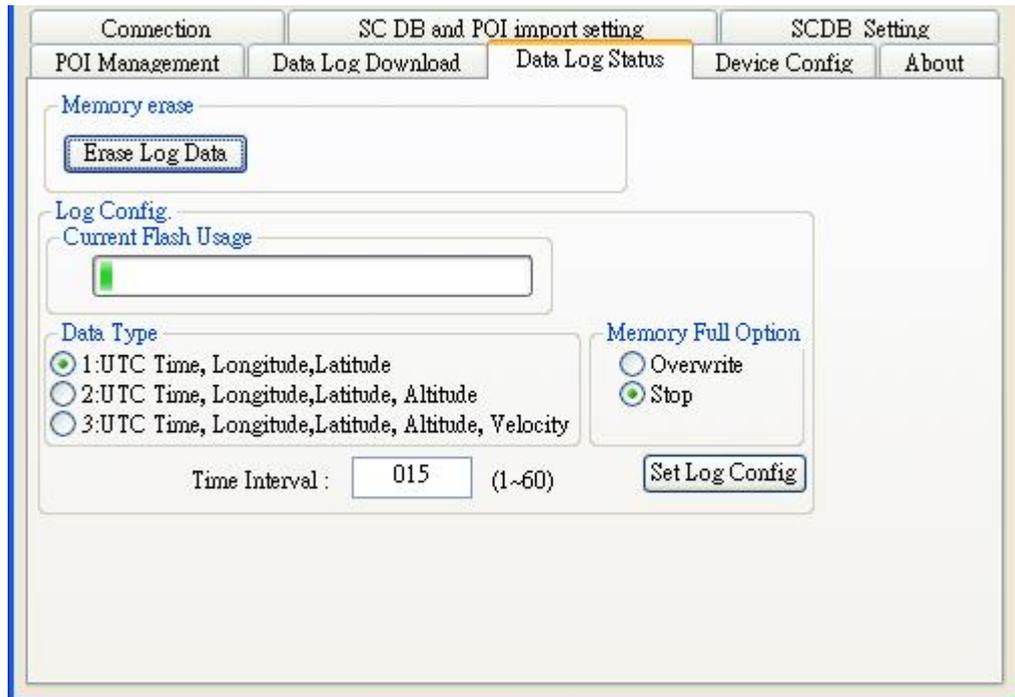


Figure 20

◆ **Time Interval (user adjustable)**

It means the time distance between the record two positions
Default setting is 15secs
1sec ~ 60secs, user adjustable

◆ **Data Type (user adjustable)**

There are 3 options for user to choose these data items to be saved in the RCD-1100.

- 1: UTC Time, Longitude, Latitude, will be saved.
- 2: UTC Time, Longitude, Latitude, Altitude, will be saved.
- 3: UTC Time, Longitude, Latitude, Altitude, Velocity will be saved.

◆ **Memory Full Option (user adjustable)**

The default memory operation setting is “overwrite”.
If the memory is full then the system will erase the oldest sector.
The other memory operation setting is “Stop”.
If the memory is full then the system will stop log function.

◆ **Current Flash Usage**

This bar only shows the rough current flash usage status. You should check the

LED to see if the flash is full.

◆Set Log Config.

When user finished the configuration setup, press the “Set Log Config.” button to save the setting to the receiver.



◆Memory Erase

User can erase all the log data from the device.



3.6 SCDB Setting

Change to “SCDB Setting” menu bar

◆Speed Camera Alert Setting :

User can set the Critical Range value and Notification range of the device.

Note: Notification range should be bigger than Critical range 200m.

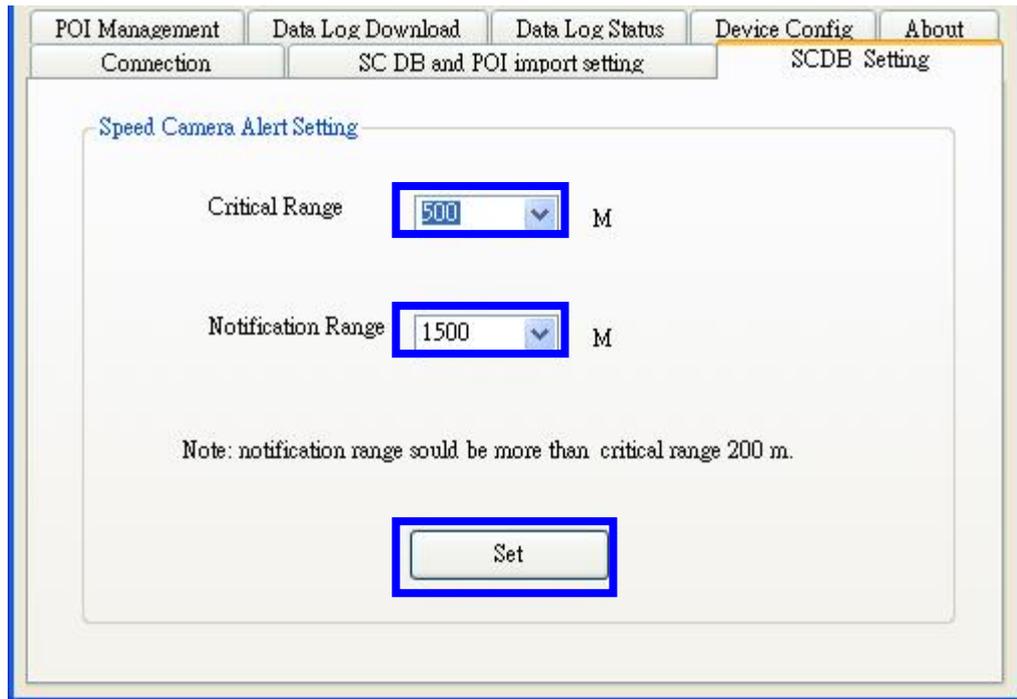


Figure21

3.7 Utility Revision information

Change to "About" menu bar

User can get the RoyalTek SCDB Utility version.

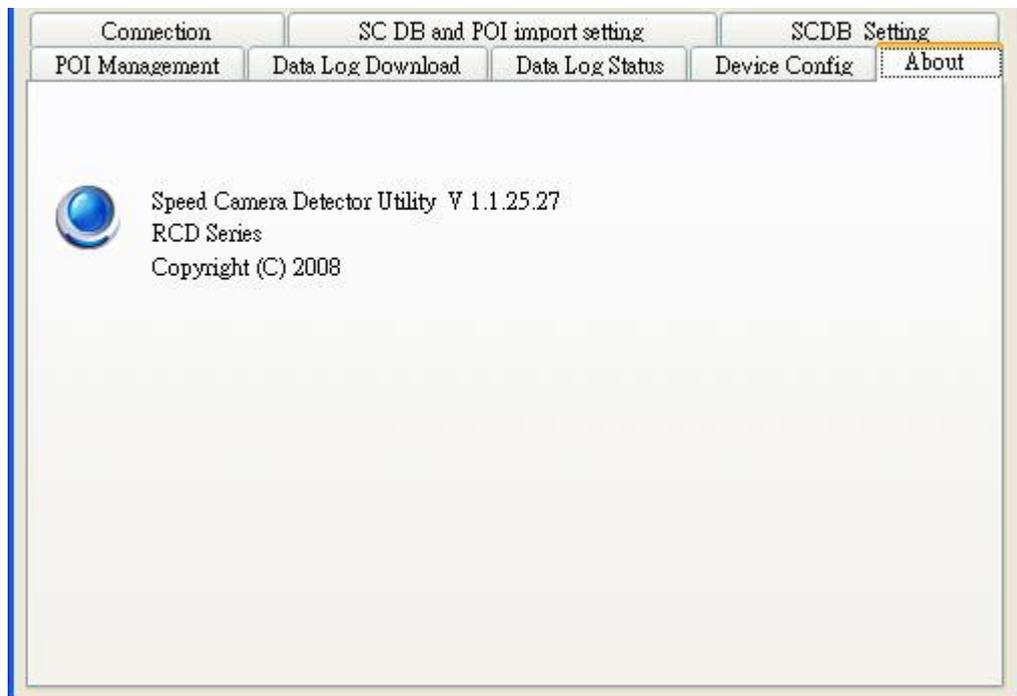


Figure22