RoyalTek

Data Log GPS Receiver

RGM-3800

User Manual

Version 1.0

Content

1. Product Introduction

1.1 Overview

RoyalTek Data log GPS receiver, *RGM-3800*, is the successor of well-known Data log GPS receiver in 2007. RGM-3800 can receive and record time, date, position and altitude information. It uses *SIRF Star III* extreme fast TTFF GPS engine and provide accurate position tracking solution.

1.2 Main Features

- *SiRF Star III* GPS chipset
- 20 parallel channels
- LED to show the status of GPS, Battery and Power.
- USB Interface.
- Memory storage could up to 650,000 records.
- Log duration: Over 180 days (For log interval 15 sec and log 12 hours for a days)
- USB G-Mouse Function
- User-friendly Software Utility.
  User can easy to set the record interval. Show record data on Google Map or Google Earth.

1.3 Product Notification

- Batteries are not supplied. We recommend user to use the alkaline batteries. Please purchase the 1.5V X2 (Size AAA) batteries before using the GPS Receiver.
- If you turn the power off or remove the battery while using the GPS Receiver, the log data may be damaged or lost. Be sure to place the battery with a new one after you turn the power off.
- RGM-3800 is neither dust-proof, nor splash-proof, nor water-proof.
- Temperature Humidity range up to 95% no condensing

1.4 Application

- Traveling and Personal using
- Sporting and Recreation

2. Specification

2.1 Specification

| Specification	
GPS Chipset	Sirf GSC3f/LP
Frequency	L1, 1,575.42 MHz
Channel	20 parallel
C/A Code	1,023 MHz
Fix time (Open SKY,typical)	Reacquisition: less than 1s Hot start: less than 1s Warm start: less than 35s Cold start: less than 42s
Accuracy	Position: within 10m for 90% Velocity: 0.1m/s
Interface Protocol	Output message: NMEA 0183 ver. 3.0,GGA, GSA, RMC and GSV every 1s, Baud rate 115200bps
DGPS	WAAS, EGNOS
Trickle power mode	Disable
Internal Antenna	Build in Patch Antenna
Dynamics	
Altitude	18,000 meter maximum
Velocity	514 meter/second maximum
LED	
LED	Show Power, Memory and GPS Status
LED operation definition	(1) If the battery power low, the Red LED blinking and Green LED dim. (2) If the battery power is OK and the available flash memory full, the Red LED and Green LED Glowing (Amber color). (3) If the battery power is OK and the available flash memory is OK, and if GPS is no fix, the Red LED dim and the Green LED blinking. If GPS is fix, the Green LED is Glowing.
Battery	
Battery Type	Recommend using Batteries (alkaline), 2 x 1.5v AAA size
Operation Time	Battery Full Power Operation Time Approx. over 10 hrs.

|	
(when used at 25ºC)	*Operating time may differ depending on the situation or the environment condition.
Mechanical	
Dimension	Dimension: 70mm x 36.6mm x 24mm
Weight	<=50g (without battery)
Location Log	
Log data	UTC Time, Longitude, Latitude, Altitude, Velocity
Log Interval	5secs ~ 60secs, user configurable (Default 15secs)
Stored Data Type	There are three types setting for intervals. (User configurable) For the data type, there are 3 options data logger format that can be used. Default setting is <u>UTC Time, Longitude, Latitude</u> For 1: UTC Time, Longitude, Latitude, will be saved. For 2: UTC Time, Longitude, Latitude, Altitude, will be saved. For 3: UTC Time, Longitude, Latitude, Altitude, Velocity will be saved.
Records	For 1: greater than 650,000 For 2: greater than 500,000 For 3: greater than 400,000 Log duration: Over 180 days (For log interval 15 sec and log 12 hours for a days)

2.2 Check the Package Content

Before you start using *RGM-3800*, please check out if your package includes the following items. If any item is damaged or missed, please contact your reseller at once.

● RGM-3800 Data log GPS receiver
● CD (user manual, SW utility)
● USB Cable
● String (optional)

2.3 Hardware Overview
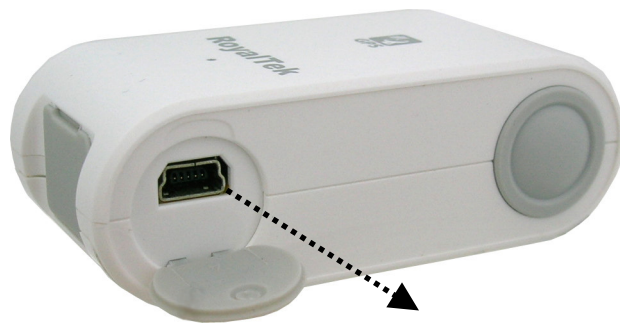
Mini USB Connector
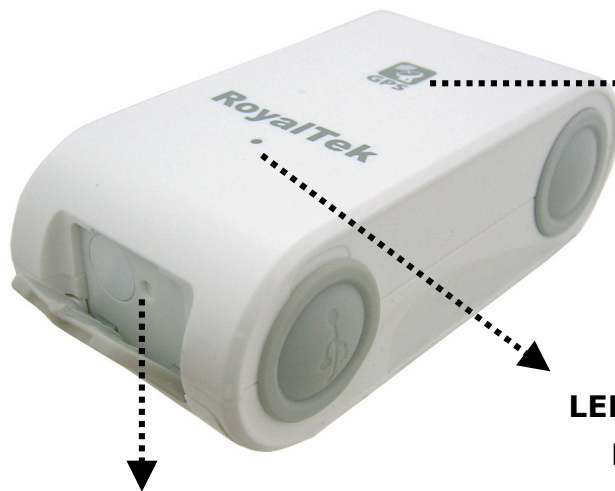
Antenna Location

LED for GPS Status,
Battery Status
And Memory Status

Memory Clear Button

Power Button

2.4 Detailed Hardware Function

2.4.1. Power Switch
Power ON / Power OFF

2.4.2. USB Jack
Using the supplied USB cable to connect with the GPS receiver 's USB connector for data transfer.
USB Cable is without the charging function.

2.4.3. Memory Clear button
While the power turn on, you can push the clear button for 3 seconds to erase the GPS log files from the recording memory if the GPS Receiver battery is ok.

2.4.4. Memory Status LED (Amber)
- Glowing Amber color indicates Memory is full.
- The default flash operation setting is overwrite if the flash is full then the flash will erase the oldest sector.
- When the battery power is turn on and remains power is ok, user can push the clean button for 3 seconds to clear the memory data.
- If the memory clear ON, the Green and Red LED will blink alternately until the serial flash had been erased completely.

2.4.5. GPS Status LED (Green)
Glowing - Position is fixed.
Notes: Tracking may be difficult depending on the environmental condition and please check the status of the GPS LED Status before using.

2.4.6. Battery Status LED (Red)
- If the battery power low, the Red LED blinking and Green LED dim.
- Blinking Red: 10% power remains.
  When the power becomes 10% or lowers, the Battery LED flashes red.
  When the remaining power become even lower (Approx.

lower than 1%), the Battery LED flashes more frequently and please replace the batteries.

- If Battery low, The RGM-3800 will stop to log GPS position data.

2.5. Usage Tip

2.5.1. Inserting the Battery
Insert the batteries with the correct polarity +/-

2.5.2. Turn on Receiver and Wait for GPS Fix
- When user use the GPS Receiver, direct and hold the antenna side upward or outward
  Note: The receiver can't receiver the gps signal when it is in the metallic bag, or when it is covered with a metallic object.

2.5.3. Connect to PC or Notebook
- When connecting the receiver to PC or Notebook, it doesn't need batteries as the power is supplied from the computer.
- User can view the GPS log file recorded using the supplied software.
- Refer the supplied software application user manual to install the software utility.
- User can use the supplied utility to change recording interval, configuration setting, and exporting the log data to PC or Notebook.

2.5.4. How to replace AAA Battery
- Alkaline batteries are recommended.

- Place new AAA battery into the room of *RGM-3800*.
- Be sure not to drop the battery.
- Battery duration can last Approx. over 10 hours in continuous operation mode (when used at 25ºC).

Cautions: Remove the batteries when you do not use the RGM-3800 for a long time. Otherwise, it may result in leakage of the batteries.

3. Software Installation and Usage

The Main Menu of Installation CD shows as above.

- Click the **Install USB Driver** to install the USB Driver, which is needed when you connect the RGM-3800 to your PC or Notebook.
- Click the **PC Software** to install the software application.
- Click the **User Manual** to open the user manual of RGM-3800.
- Click the **View Royaltek Website** to link our
  http://www.royaltek.com, please make sure your PC connects to Internet first.
- Click the **Browse CD Contents** to open the explorer to browse the files within the CD.

3.1 Install USB Driver

Install the USB Driver from CD.

When screen shows the installation window as follows:
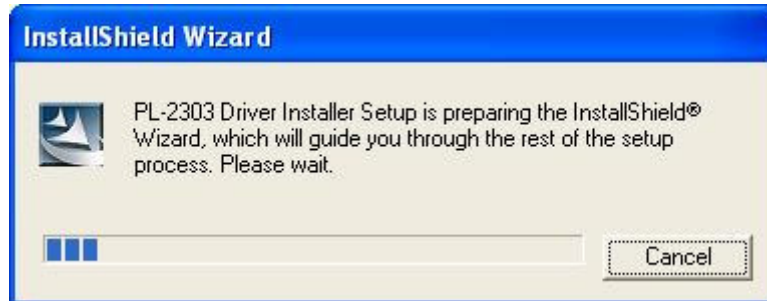
Click "Next> to next page", or click"<Back" to back last stage or
"Cancel" to give up installation.

Please click "Finish" to finish the Installation.

InstallShield Wizard

InstallShield Wizard Complete

InstallShield already successfully to installed PL-2303 USB-to-Serial driver. Please press [Finish] button to close and out of InstallShield.

If you have been plugged cable on PC before run this setup, please unplug and then plug cable again for system detect this device!
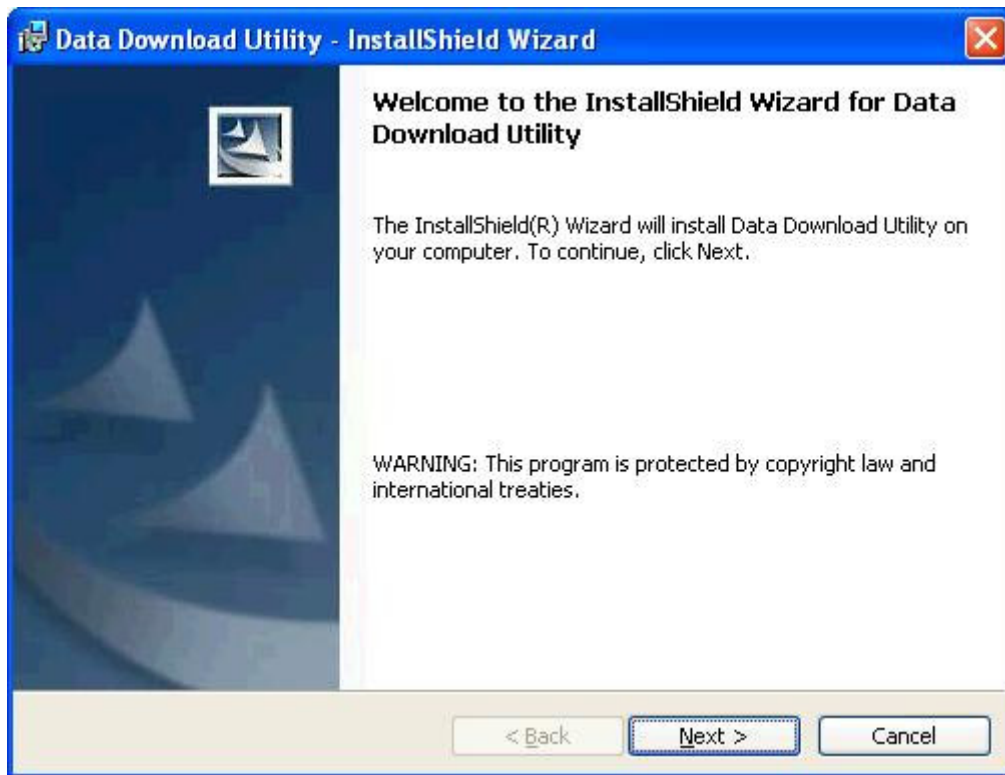
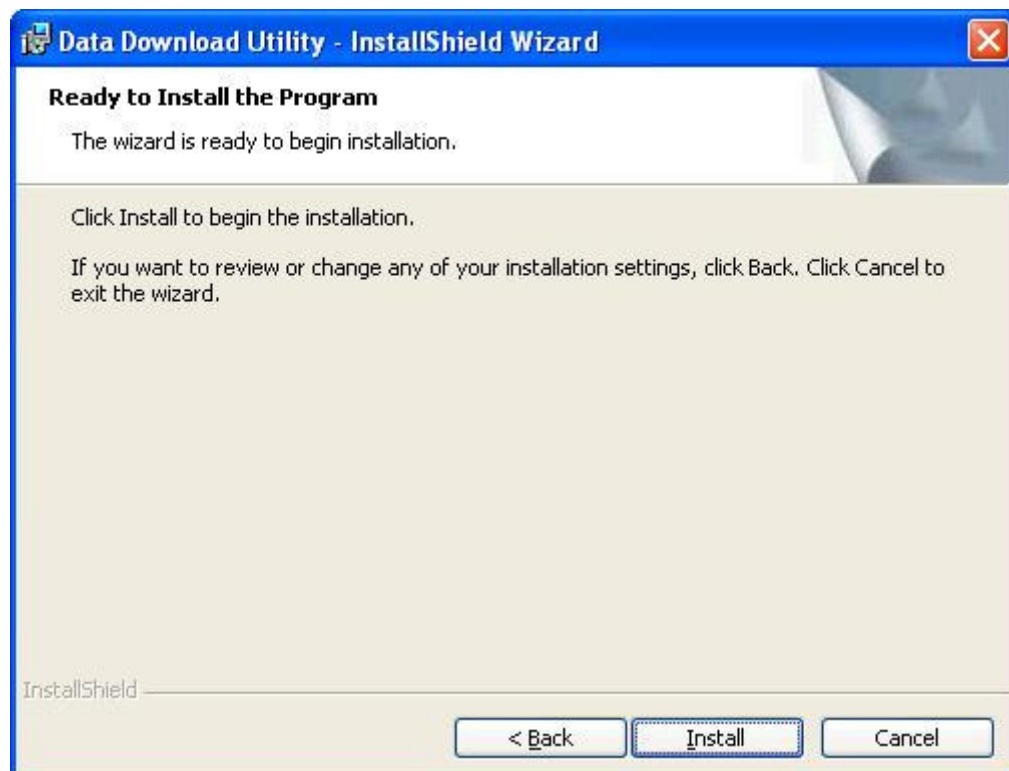< Back   **Finish**   Cancel

3.2 Install Data download Utility

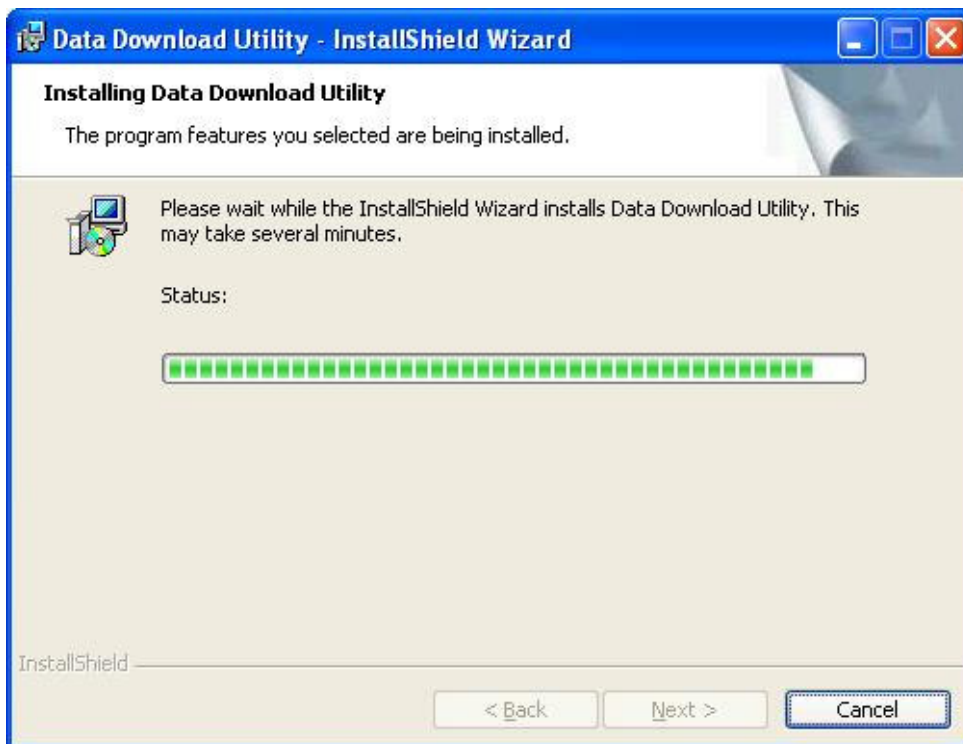Click "Next> to next page", or click"<Back" to back last stage or "Cancel" to give up installation.

To the License Agreement page: Click " I accept the terms in the license agreement" then click "Next>" to next page, or click"<Back" to back last stage or "Cancel" to give up installation.
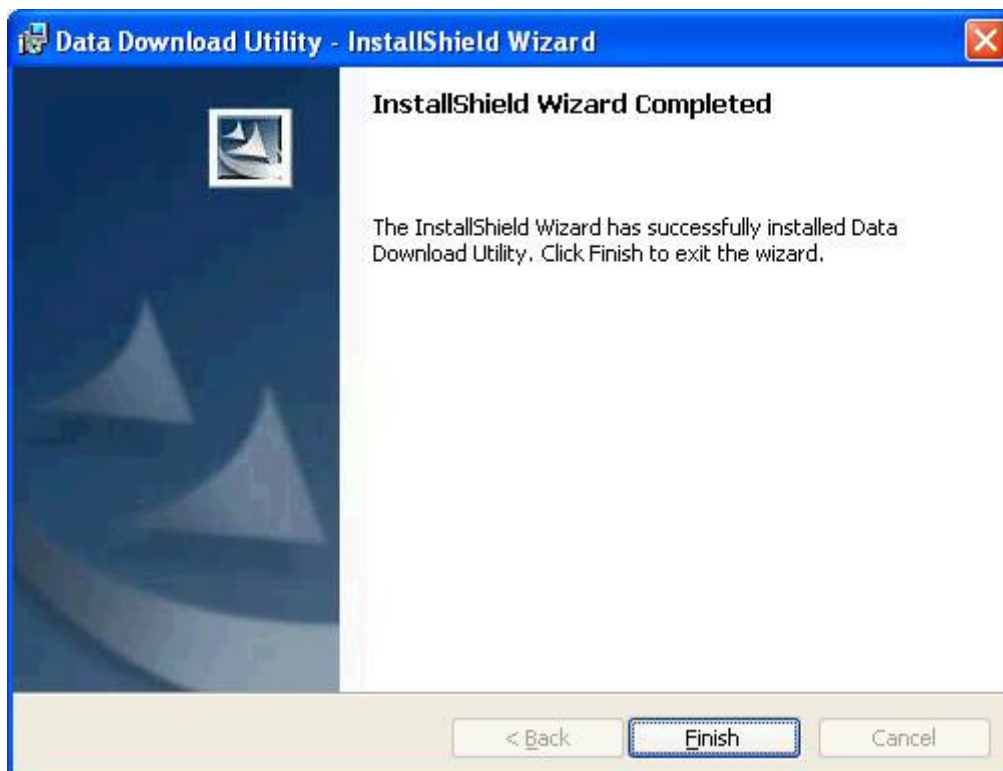
Click "Install" to start installation. Or click"<Back" to back last stage
or "Cancel" to give up installation.

Start installation.
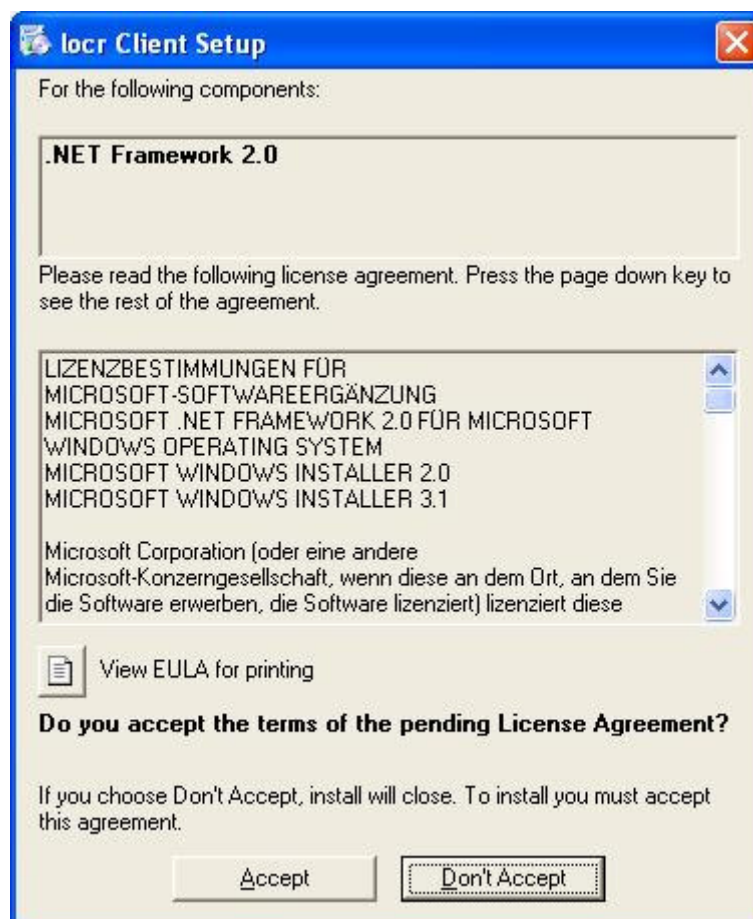

Please click "Finish" to finish the Installation.
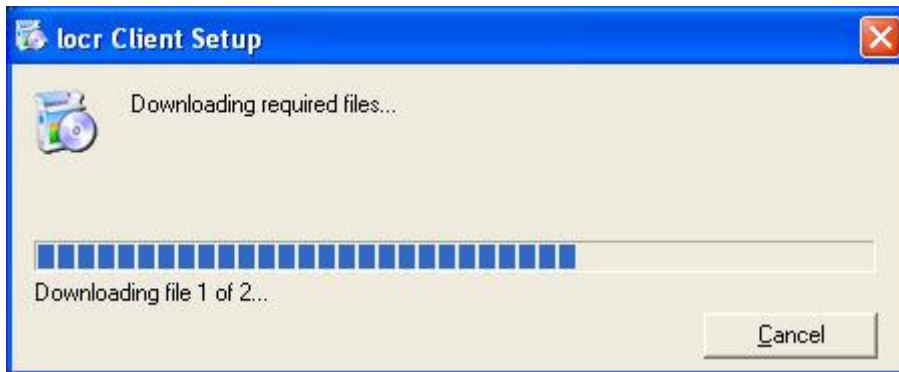
Finally you will see the icon on **Programs** menu.

3.3 Install locr PC Client Utility

To the License Agreement page: Click "Accept" to start installation, or click "Don't Accept" to give up installation. Then
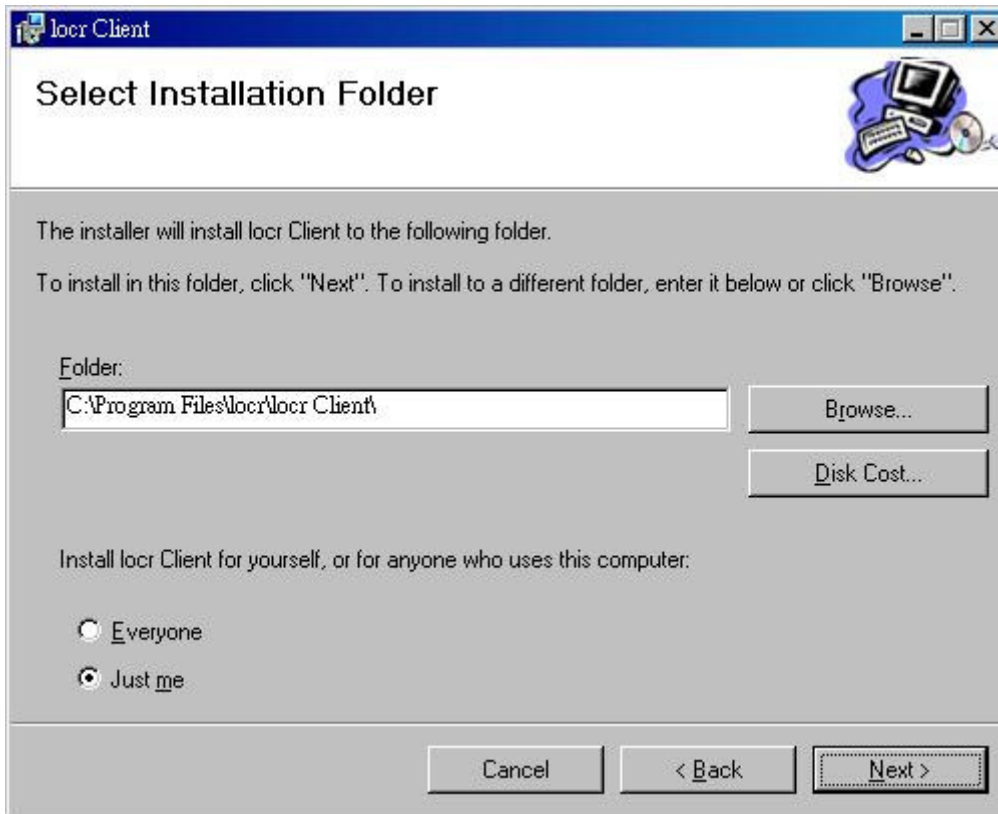
Start installation.

Click "Next> to next page", or click"<Back" to back last stage or "Cancel" to give up installation.

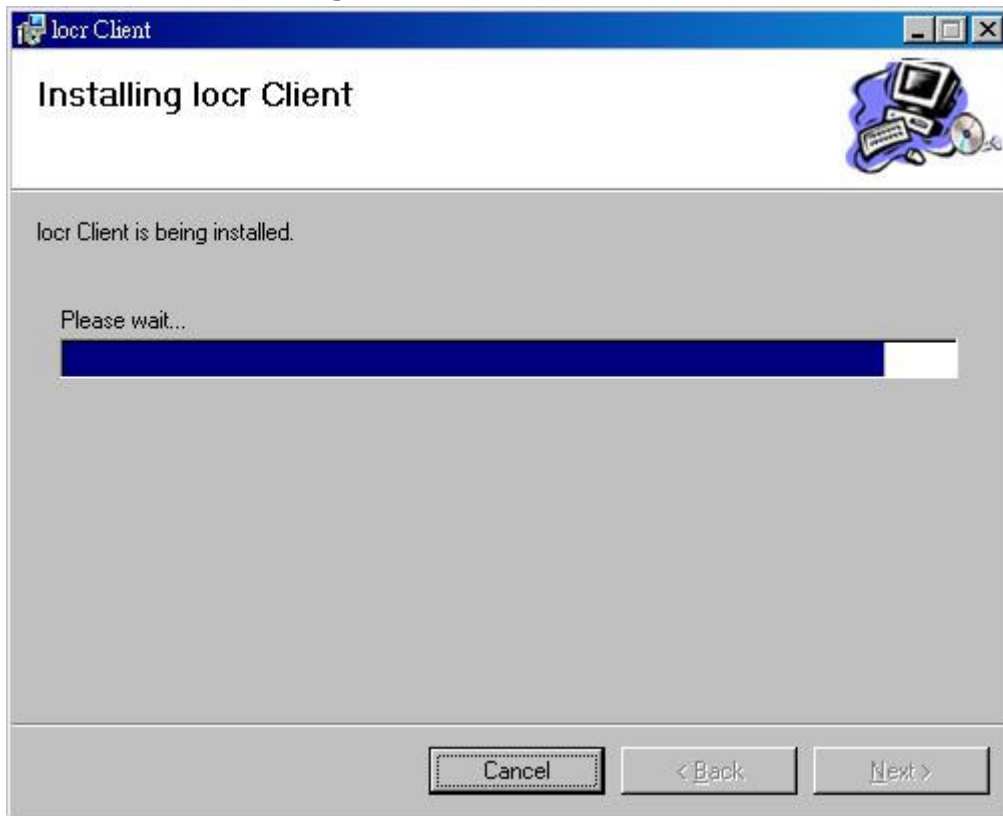Select Installation folder and Click "Next> to next page", or click"<Back" to back last stage or "Cancel" to next step.
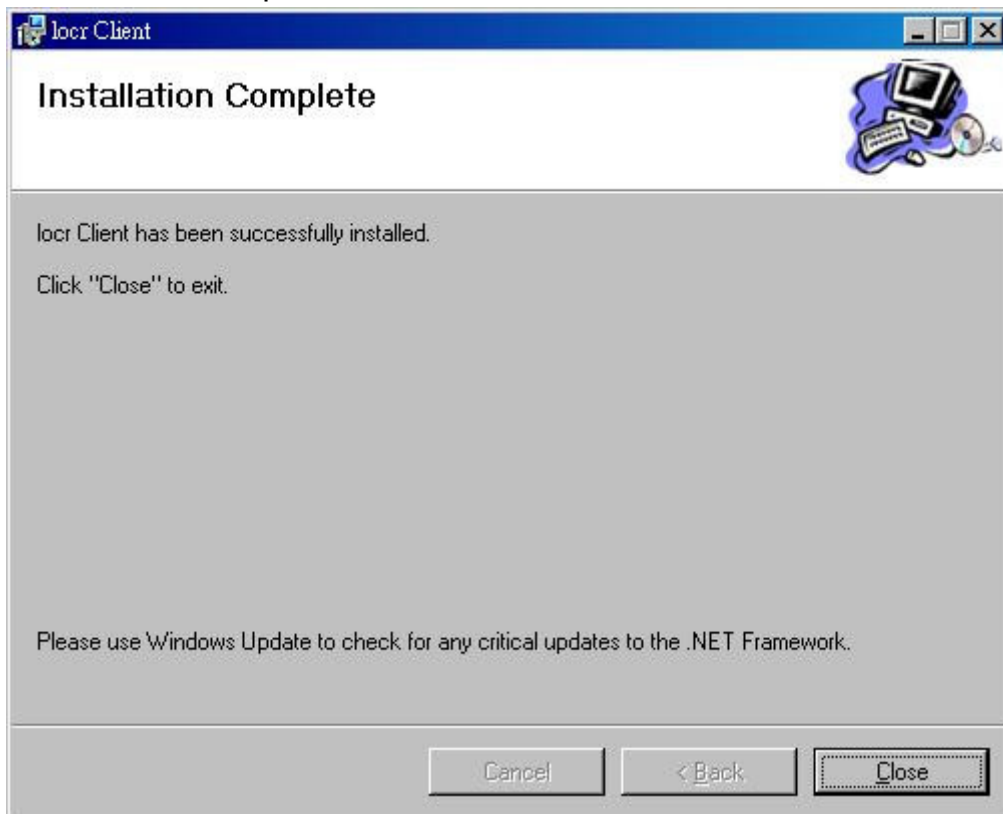

Click "Next> to start installation", or click"<Back" to back last stage or "Cancel" to give up installation.
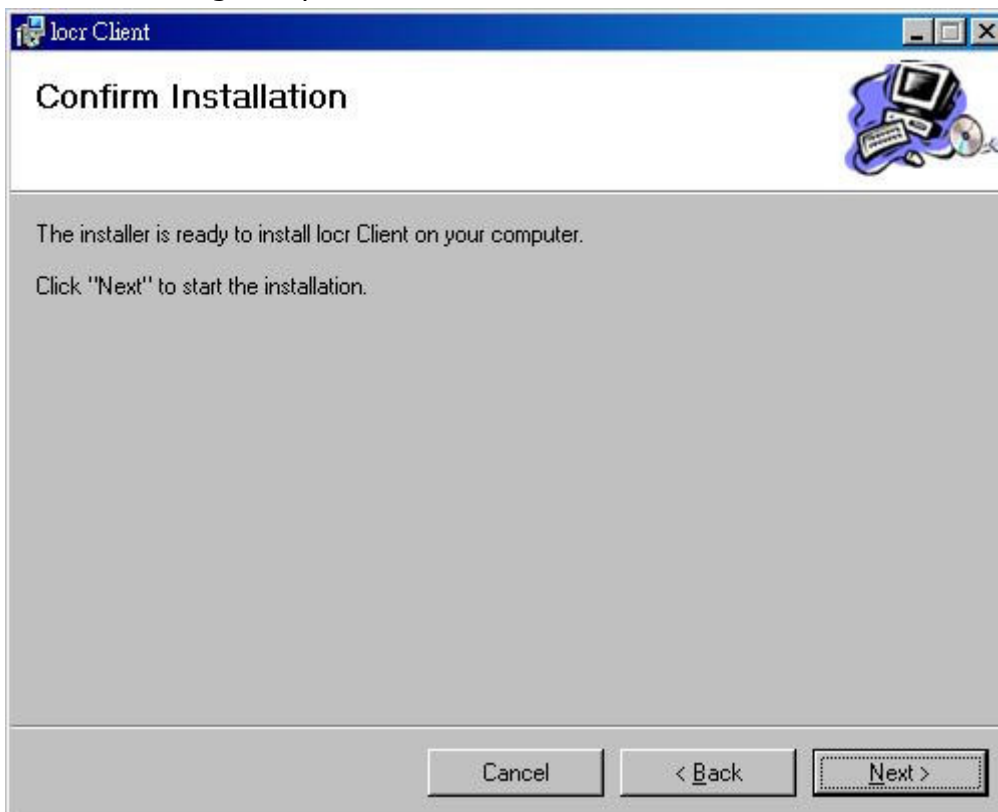
locr PC Client is being installed

Installation Complete

Finally you will see the icon on the windows desk.

3.4 Transfer data to your PC or Notebook

Usage Notes:

(1) When you turn on the power button, it starts to search the GPS Signal. After the GPS position fixed, it will begin to record and save the position data.

(2) If you want to stop recording the GPS data, just turn the power off.

(3) When download or erase data form RGM-3800, Receiver still continues record and save the position data.

(4) The time of the log data of RGM-3800 is UTC Time. User doesn't need to adjust the Clock setting of a camera.

3.4.1 Connect RGM-3800

- **Turn on the power of RGM-3800 and use the USB cable to connect to the USB port on PC.**
- **Check the COM port of RGM-3800 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 RGM-3800.**
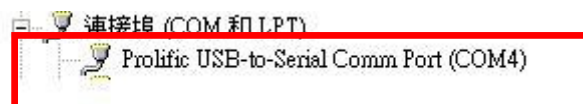
Open data download Utility

Step 1: Select the COM Port. System can search the USB com port and let user to connect.
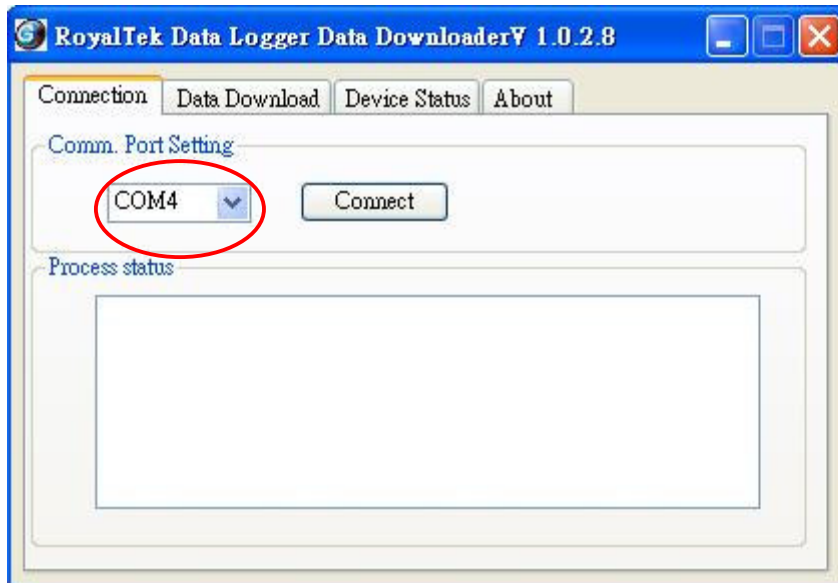
Step 2: Push the "Connect" Button
Step 3: Wait the "Get All Datalogger Head" finished then change to the "Data Download" menu bar

If you don't want to download the logger data, please choose the "Dis-Connect" button
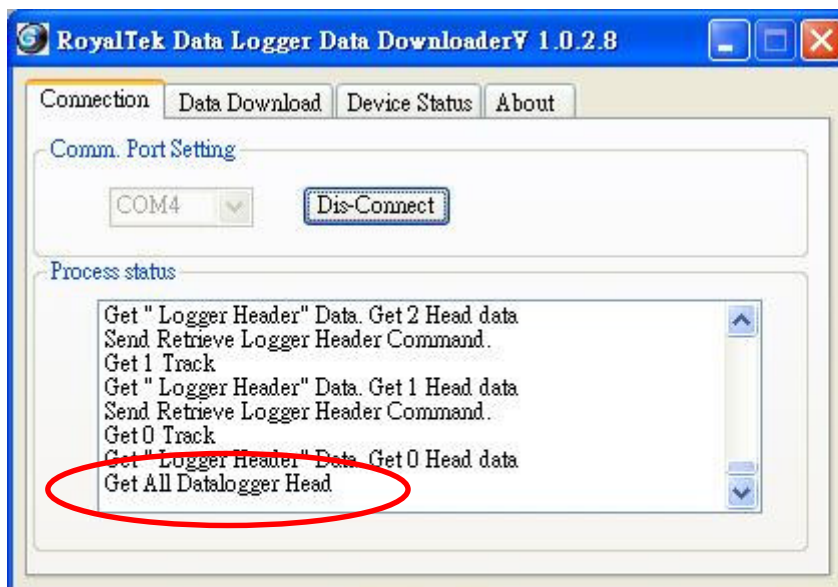
3.4.2 Download Data

Step 1: Change page to "Data Download" menu bar

Step 2: Select the download data items, which you want to load from RGM-3800
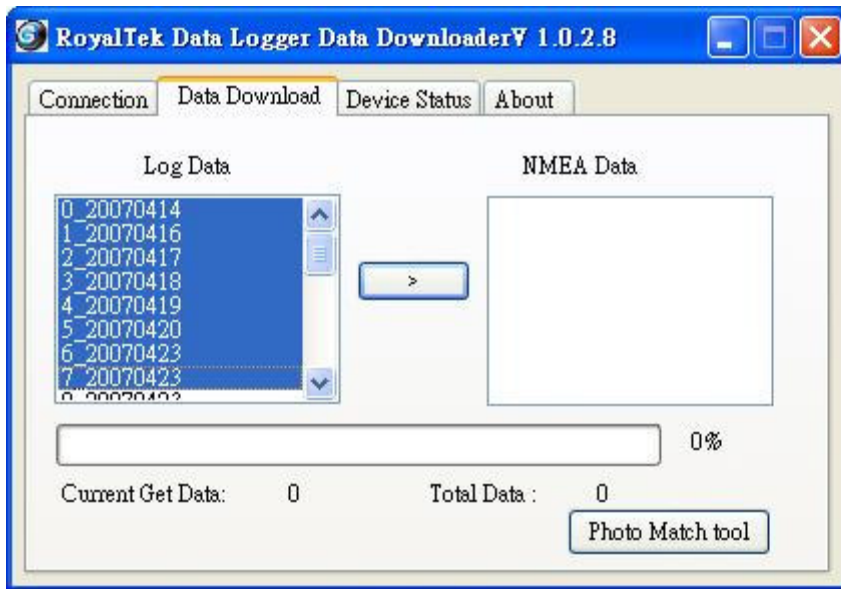
Step 3: Push download the conversion button
Select Folder or set a new folder for saving NMEAData.

Step 4: Wait the get Data action Finish. Data from RGM-3800 was success transferred to NMEA sentence.
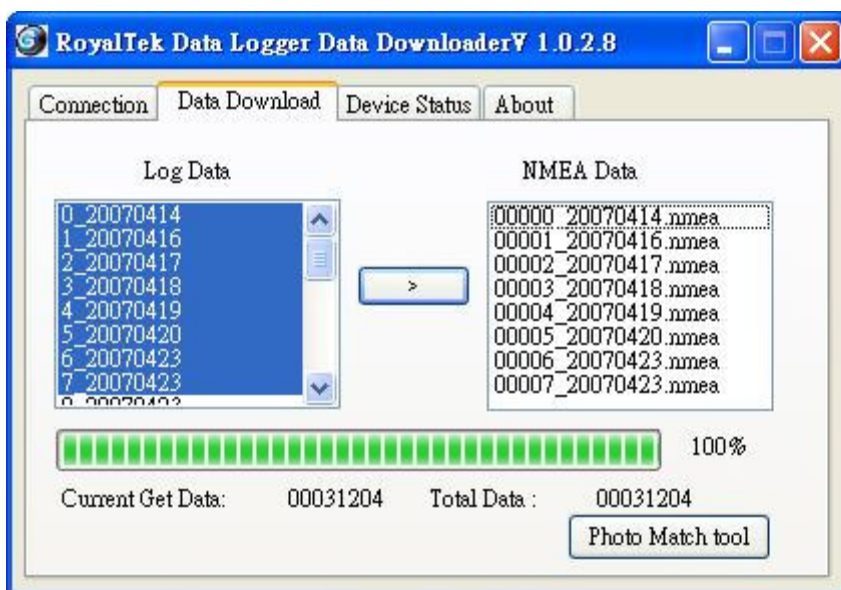
3.4.3 Get and Set RGM-3800 Device Status

Step1: Change to "Device Status" menu bar

Step 2: You can review the RGM-3800 default setting configuration.

◆**Time Interval (user adjustable)**

   Default setting is 15secs

   5secs ~ 60secs, user adjustable

◆**Data Type (user adjustable)**

There are 3 options for user to choose these data items to be saved in the RGM-3800.

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.

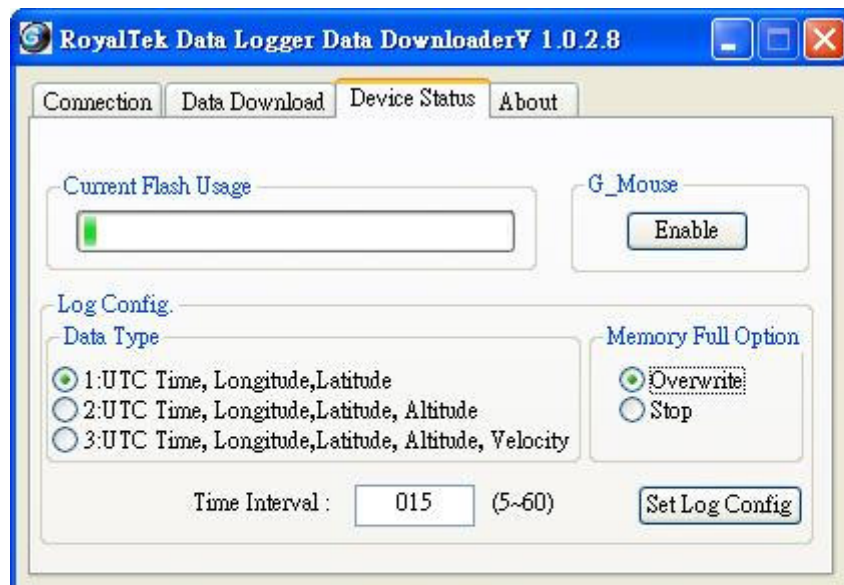◆**G-Mouse (user adjustable)**

Default is GPS Mouse Disable.

You also can use RGM-3800 as the GPS Mouse. RGM-3800 will not output any NMEA message after power ON. You can use G_Mouse "Enable" button to let the RGM-3800 output the NMEA sentence. If you need to use RGM-3800 as a G-Mouse, just enable the G_mouse function then close the "Data Downloader Utility". Use the navigation program and set the Com port to 115200.n.8.1

◆**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.

Step 3: User adjustable: Memory Full Option, key in the Time Interval and G-Mouse Enable/Disable Option
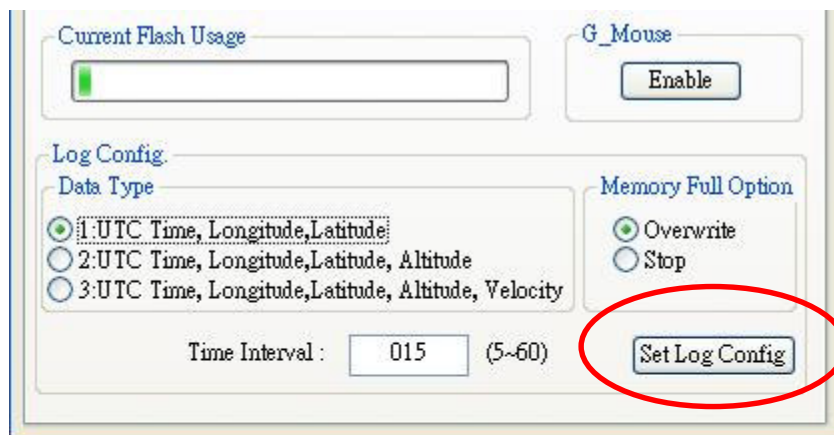
When you done the configuration setup, press the "**Set Log Config.**" button to save the setting to the receiver.

Finally, these setting take effect.

3.4.4 Get the Data Logger Data Downloader revision information

Step1: Change to "About" menu bar

User can get the Royaltek Data Logger Data Downloader version.
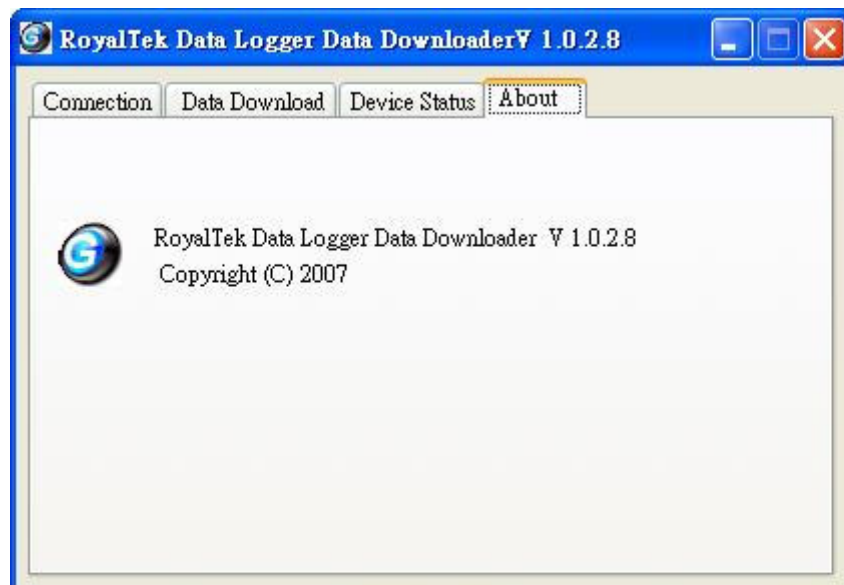
3.4.5 How to connect the Photo Match Tool -locr

Step1: Change to "Data download" menu bar and Press the Photo Match Tool button

Step 2: You can connect to the Photo match tool-locr
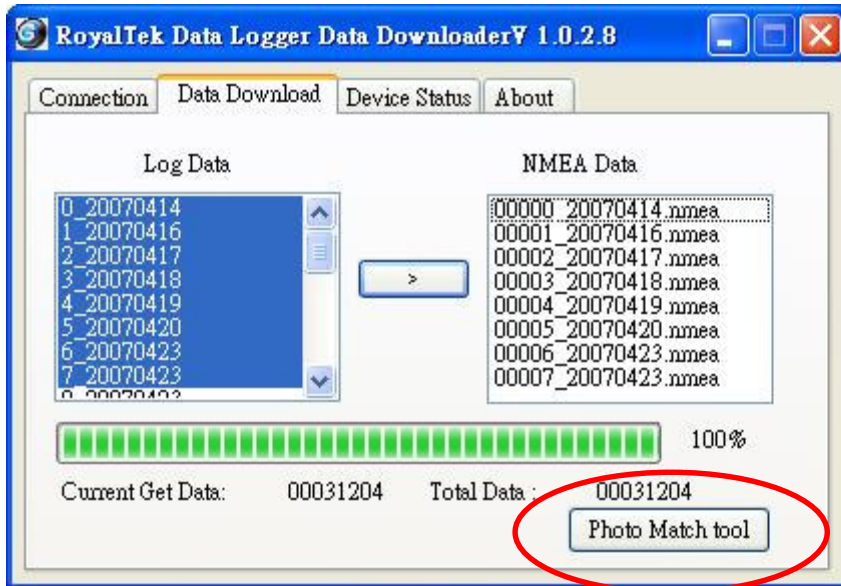
4. locr PC Client introduction

locr PC Client

– Automatic Geotagging Made Easy –

locr

locate your photos

locr PC Client

Quick Installation Guide

© locr GmbH 2007

All rights reserved.

First steps …

How to sign up at locr

Signing up at locr is easy.

- To sign up for the **first time** open the locr web site: http://www.locr.com.
- Click on "Sign up".

- On the next page, please fill the compulsory fields (with *).
- The Anti spam verification is obligatory, too. Therefore, in the list box please select the place name in the middle of the map.
- Click on "Create" to complete the registration.

Having successfully signed up locr will send you an e-mail.

You can change the password at any time.

If you have already signed up, just click "Log in".

How to install the locr PC Client

If you want to download, install, and use the locr PC Client you need an account and a password, so sign up ("How to sign up at locr", see page 1).

To install the locr PC Client, you can either download and open the installation program from the locr web site, or open it on the included CD-ROM.

Download and install the locr PC Client from the locr web site

- On the locr web site (http://www.locr.com) click on "Downloads" and follow the instructions on the screen.

- To install the locr PC Client, double-click the "setup.exe" file.
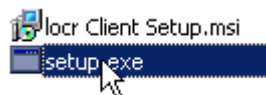
- Follow the instructions on the screen.

Install the locr PC Client from the included CD

- To install the locr PC Client, insert the included CD into your CD-ROM drive.
- If necessary, select the locr PC Client setup folder.
- Double-click the "setup.exe" file to start the installation program.
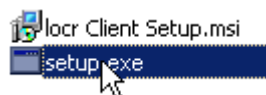
- Follow the instructions on the screen.

Geotagging with the locr PC Client

To geotag your photos automatically you have to download and install the locr PC Client.

Manual or automatic geotagging?

There are two ways to geotag your photos: The photos can be tagged manually or automatically. For automatic geotagging you need a datalog GPS receiver in addition to your digital camera. If you want to view your geotagged photos on Google Maps, you have to be connected to the Internet.

Tip: Geotagging adds information to your photos. Therefore, locr recommends you to safe the original photos to a backup folder before geotagging them with the locr PC Client!

How to use manual geotagging

Geotagging using the address

Geotagging using the address is an easy way to find out the position where a photo was taken.

- Start the locr PC Client: "Start" > "Programs" >"locr" > "locr Client".
  On the left you see the "Photos" area.

- To open a photo, click "Add..." and select a photo/photos.

- In the list choose the photo/s you'd like to geotag.
  You will see the photo in the "Photo Preview".

- If you know exactly where the photo had been taken, enter the address and click "Search".

  Address can be:
    - Street, number, city, country, ...
      Example: Kurfürstendamm 12 Berlin Germany
    - Geographic locations, country
      Example: Zugspitze Germany

Please note: The correct order is important, whereas a comma is not needed between the search criteria.

Tip: If a location cannot be found, omit the street information. Or, in addition, specify the country. If you specify the country, you should always use the English spelling. Doing so, the location will be found reliably.
If you are not sure of the right English spelling, there is a simple trick to find out. Have a look at the FAQ topic "Some address cannot be found. What can I do?" on the locr web site.

- For final adjustment you can use the mouse to move the map. Drag it to the desired position. The crosshairs should be in the middle of the map.
- If necessary, zoom in/zoom out the section of the map, or select another view: map, satellite, hybrid (satellite view with locations).
- Then click on "Manual Geotagging" to save the new information. The marker will be set right in the middle of the map.
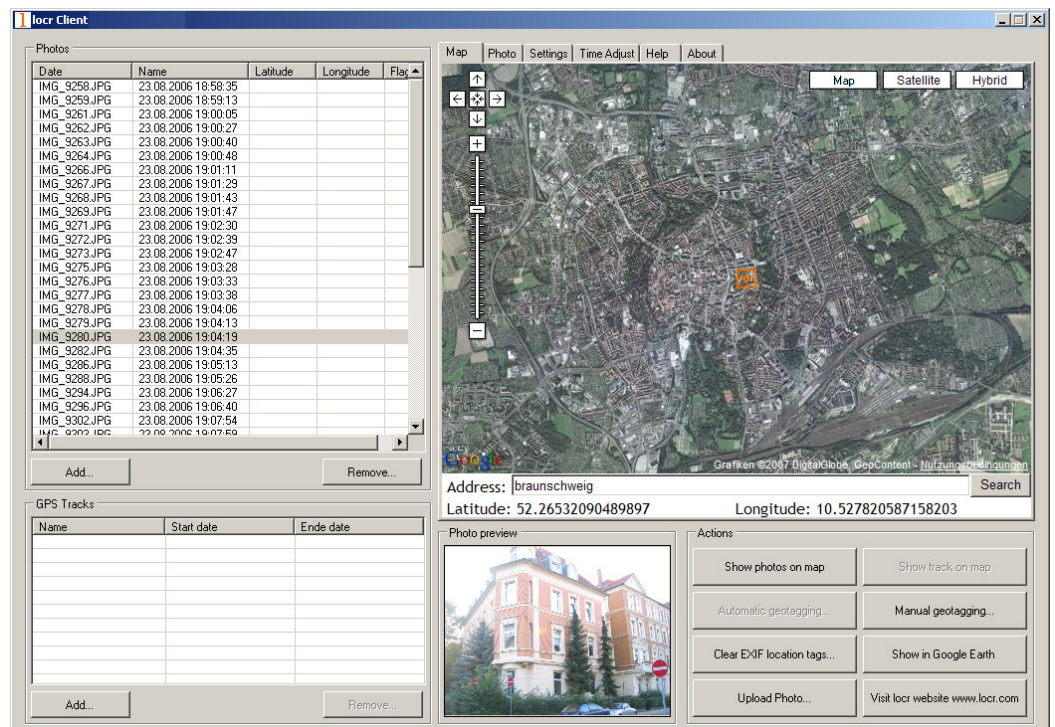
- Clicking the "Show Photos on Map" button, shows your photos in combination with their position on the map. Note: To show the position on the map, locr uses Google Maps, which means you need a fast Internet connection.
- The "Clear EXIF location tags…" button allows you to delete the latitude and longitude information.

- To view the photos in Google Earth, first click the "Show in Google Earth", and then the "Yes" button.

- Now select the photo/s you want to upload and click the "Upload Photos" button.
- At least determine the privacy status, click "OK", and then have a look at the locr web site.

Please note: Uploading the photos may take a while.

Geotagging via "zoom and click"

Sure, geotagging using the address is the easiest way. But if you do not know the exact address, or rather prefer to look, where the photo may have been taken, do the following:

- Start the locr PC Client: "Start" > "Programs" > "locr" > "locr Client".
  On the left you see the "Photos" area.
- To open a photo, click "Add…" and select a photo/photos.
- In the list choose the photo/s you'd like to geotag. You will see the photo in the "Photo Preview".
- Zoom to the position where the photo has been taken.
- If necessary, select another view: map, satellite, hybrid (satellite view with locations).
- The located position should be in the middle of the map's section.
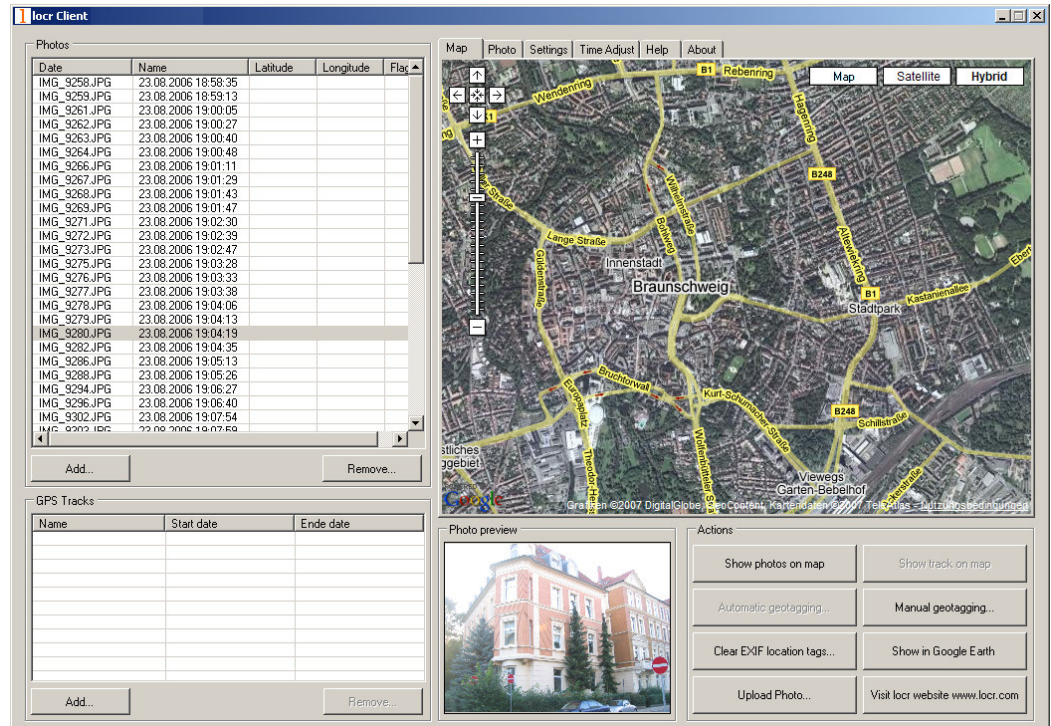
- Click the "Manual Geotagging" button to save the new information.
- The marker will be set right into the middle of the section of the map.
- If necessary, you can drag the marker to the desired position for a final adjustment, and click "Manual geotagging" again.
- Clicking the "Show Photos on Map" button, shows your photos in combination with their position on the map. Note: To show the position on the map, locr uses Google Maps, which means you need a fast Internet connection.
- The "Clear EXIF location tags…" button allows you to delete the latitude and longitude information.
- To view the photos in Google Earth, first click the "Show in Google Earth", and then the "Yes" button.
- Now select the photo/s you want to upload and click the "Upload Photos" button.
- At least determine the privacy status, click "OK", and then have a look at the locr web site.

Tip: Double-clicking the left mouse button (zoom in), or

double-clicking the right mouse button (zoom out) makes zooming much faster.

How to use automatic geotagging

- Connect the datalog GPS receiver to your PC.
- Start the locr PC Client.: "Start" > "Programs" > "locr" > "locr Client".
  On the left you see the "Photos" area.
- To open a photo, click "Add..." and select a photo/photos.
- Now, you need the GPS information. In the "GPS Tracks" area click on "Add..." to read the needed files from the datalog.
  Matching photos will be marked green and the calculated latitude and longitude will be displayed in "()".

The position (latitude/longitude) has **not yet** been written into the EXIF header. This will **only** happen if you click the "Automatic geotagging" button.
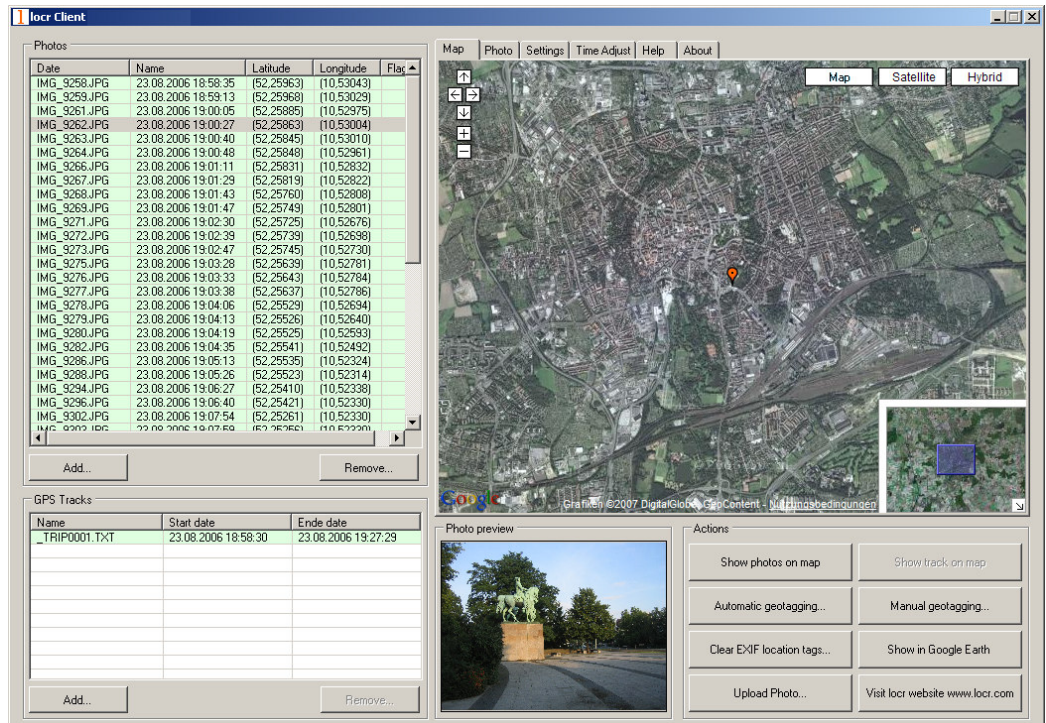
- Then click "Automatic Geotagging".
  The locr software now automatically completes the given photo data with the GPS information. The information will be written into the EXIF header, the

"()" in the "Latitude" and "Longitude" columns will disappear.

- Clicking the "Show Photos on Map" button, shows your photos in combination with their position on the map. Note: To show the position on the map, locr uses Google Maps, which means you need a fast Internet connection.

- The "Clear EXIF location tags…" button allows you to delete the latitude and longitude information.

- To view the photos in Google Earth, first click the "Show in Google Earth", and then the "Yes" button.

- Now select the photo/s you want to upload and click the "Upload Photos" button.

- At least determine the privacy status, click "OK", and then have a look at the locr web site.

Please note: Uploading the photos may take a while.

Further Settings
The "Settings" tab

Show large map control

If you select the "Show large map control" option, all zoom & pan controls will be displayed: the complete zoom buttons (⊞, ▤, ⊟) as well as all pan buttons (⇐, ⇒, ✳, ↑, ↓.).

Note: A change of the map control option will only take effect after a map's reload.

Show small map control

The "Show small map control" only displays the reduced zoom & pan controls: ⊞, ⊟, and ⇐, ⇒, ↑, ↓.

Note: A change of the map control option will only take effect after a map's reload.

Show overview map control

Activating the "Show overview map control" check box brings up the small overview map in the downright edge of the map.

Note: A change of the map control option will only take

effect after a map's reload.

Upload a Resized Copy of the Original Photo

During the upload your photos will be uploaded with a maximum resolution of 1024 pixels as default. This accelerates the upload procedure!

If you'd like to upload your photos with maximum quality and resolution, you'll have to **de-**activate the "Upload a resized copy of the original photo" option in the "Settings" tab.

The "Time Adjust" tab

You made a lot of shots, used a datalogger, uploaded the photos and the GPS file, but after the automatic geotagging with the locr PC Client the displayed positions seem to slightly wrong?

May be you forgot to set your camera time correctly. **Before** taking the photo simply set the camera according to the system time displayed on the computer you want to use for uploading the photos later. If you forgot to do so, or did not know it, you can adjust the time subsequently using the locr PC Client.

- Start the locr PC Client.
- Open the respective photos and the associated GPS file/files.
- Select the "Time Adjust" tab.
  "System time" displays the current system time of your computer.
- Use "Days", "Hours", etc. to set the "Camera time" according to the time displayed on the camera, with which your photos were taken.
  Based on this time correction an exact positioning can be made.
- Click the "Automatic Geotagging" button.
  The calculated position will be taken over. It will be written into the EXIF header automatically, and will be saved on your hard disk as a part of the photo.

Important note: For an exact calculation of the position during the automatic geotagging you should **always** set and keep the camera time set according to the system time of your computer – *regardless, where you are driving or flying to!*

The locr PC Client and Google Earth

To be able to view locr photos in Google Earth, Google Earth has to be installed on your computer.

No matter whether you use the locr website, or the free locr PC Client for geotagging, the information on the position (longitude and latitude) is saved. In order to position the photos correctly Google Earth needs exactly this information.

For data transfer with Google Earth locr uses the KML file format.

To view the photos on Google Earth, first click the "Export to Google Earth", and then the "Yes" button.

Zoom in, zoom out, move map - the easiest way

Basically you can use either the buttons of GoogleMaps or the mouse solely. Zooming and panning using the mouse or the buttons can be used on the locr website as well as with the locr PC Client.

Zooming and panning with the mouse

- **Zooming in/magnifying the map**
  Double-click the left mouse button. The map view will be enlarged around the cursor.

- **Zooming out/de-magnifying the map**
  Double-click the right mouse button. The map view will be reduced around the cursor.

- **Moving the segment of the map**
  Press *left* mouse button, *keep it pressed*, and, at the same time, move the segment of the map into the desired direction.

Zooming and panning using the buttons

- **Zooming in/magnifying the map**
  Mouse click the Magnifying ⊞ button. The map view will be enlarged.

- **Zooming out/de-magnifying the map**
  Mouse click the Minimize ⊟ button. The map view will be reduced.

- **Moving the segment of the map**
  Mouse click on one of the respective buttons: ⬅,
  ➡, ⬆, ⬇. The visible section of the map will be
  moved left, right, up, or down.

Note: You can also zoom using the scroll wheel of your mouse - if you mouse has a scroll wheel. Try out. Exception: the overview page (Photo, Map, More information, More photos) does not allow zooming with the scroll wheel. There you scroll within the page instead.

Uploading photos with geo information

You have lots of geotagged photos with the exact geo coordinates? The respective coordinates are stored in the EXIF header of your files?

Great: So you don´t have to geotag your photos manually again!

The information will be read automatically when uploading the photo via the
locr PC Client. Your photo will be displayed with the exact position on the map. If you want to know more about the place where the photo was taken, just have a look at the Wikipedia articles which are also automatically assigned to the picture on the locr website.

Note: Uploading photos is only possible if you have signed up, or are logged in. You haven't signed up yet? Have a look at "How to sign up at locr" on page 1.

Help (FAQs)

In case you need some help or find some answers, simply click the "Help" tab and you will find a comprehensive list of FAQs (**F**requently **A**sked **Q**uestions).

Map | Photo | Settings | Help | About |

Help

First steps ...

1. [I am new at locr. What can I do?](#)
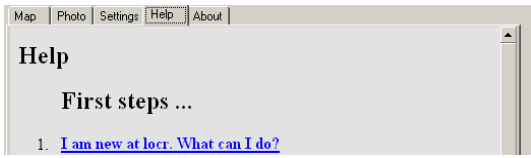
I have a question ...

What does "Geotagging" actually mean?

The term "geotagging" is sometimes also referred to as "geocoding".

Using "geotagging" e.g. photos, or videos, can be complemented with geographical coordinates (latitude and longitude, or physical address). This geographical identification data is saved together with the photos. Thereby photos can be assigned easily and explicitly to maps like GoogleMaps, or can be viewed on Google Earth.

Via the **locr web site** the coordinates are determined by manual geotagging. Together with the respective photo they are stored in the locr data base.

The **locr PC Client** works differently. No matter whether the coordinates have been associated using manual or automatic geotagging, the information is written into the EXIF[*] header of the photo. Suitable software can read and use this information.

What is a datalog GPS receiver and how does it work?

A datalog GPS receiver is a device, which - as long as it is switched on - continuously receives and logs (stores) data concerning its current position.

The operating mode of a datalog GPS receiver is based on the principle of the global satellite-based positioning system (GPS).

GPS

GPS (**G**lobal **P**ositioning **S**ystem) uses satellites that permanently emit their changing position and time. On the basis of this information global positioning can be generated.

GPS receivers

Based on the information emitted by the satellites GPS receivers generate their own position. Therefore they need the signals of at least three satellites.

---

[*] **E**xchangeable **I**mage **F**ile **F**ormat. Specification created by the Japan Electronic Industry Development Association (JEIDA) for the image file format used by digital cameras header of the photo.

Datalog GPS receivers

Contrary to a "pure" GPS receiver the datalog GPS receivers store the received data to an internal memory. Being switched on, datalog GPS receivers start writing the position, date, and time into a log file. This logged data can be read and saved on e.g. a PC. So the data is also available for other applications like the locr PC Client.

Note: Different datalog GPS receivers create log files in different formats. How these files can be used with the locr PC Client is explained here: "Which GPS datalogger can I use for automatic geotagging anyway?"

FCC Notices

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.

Revision History

Data	Revision	Note
May 9th, 2007	V1.0	Final Release

Contact information

Headquarters

1071 Chung Cheng RD., Suite 9F-1

Tao Yuan City, Taiwan.

Tel: 886-3-256-9666

FAX: 886-3-358-0050

Branch Office – Sales Department

8F, 256, Yang Guang St., Nei Hu Chiu,

Taipei, Taiwan.

Tel: 886-2-7721-5000

FAX: 886-2-7721-5666

Http://www.royaltek.com

Sales: Http://www.royaltek.com/contact

FAE: fae@royaltek.com