

DL-200

Data Logger

User's Manual



Date: July 2006

Version: 2.0

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Manual Revision History

Revision	Date	Update Summary
Issue 1.0	January 2004	Initial release
Issue 2.0	July 2006	Add Google Earth Function

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0. Quick Installation

1. Have the battery full charged.
Before using the battery, please put it in DL-200 and have it recharged for 3 hours.
2. To Connect DL-200 with PC or Notebook
 - 2.1 Check the COM port number used by USB Device. (Example: COM 6).
 - 2.2 To run DL-200 utility and set the right COM port number.

LED Indicators:

Symbol	Color	Status	Light Indication
Battery	Red	Light On	Battery Low
	Green	Light On	In Charging
	N/A	Light Off	Battery Full or Not in charging
Wireless	Blue	Light On/Off 0.1 sec/1.9sec	Linking Completed
		Light On/Off Continued On	Pair Searching
GPS	Red	Light On/Off 1 sec/1 sec	Acquiring Satellites
		Light On/Off 0.9 sec/0.1sec	Position Fixed

1. Introduction

1.1 Overview

The DL-200 is a unique with USB interface for vehicle tracking device in use friendly. DL-200 uses the Global Positioning System (GPS) to record vehicle movement, speed, route and duration of stops. This information can be displayed on a GIS mapping with MapInfo formatted while download data to P.C. so user can view vehicle activity in precise details. Additionally, DL-200 can be used as a receiver for navigation while user connected the unit to PC or Notebook.

1.2 Main Features

- Easy connector to PC/Notebook by USB interface
- Built-in patch antenna
- Receiver, Twelve parallel tracking channels
- Fast TTFF and low power consumption
- On-board rechargeable battery sustained real-time clock and memory for fast satellite acquisition during power-up
- Automatic cold start with no user initialization required
- Large capacity for continuous records for 25,000 positions
- Lithium-ion rechargeable battery lasts for more than 7 hours of use

1.3 Possible Applications

- Land/Marine Navigation
- Telematics
- Fleet Management
- Asset Tracking
- Timing Reference

1.4 Package

Before you start up, make sure that your package includes the following items. If any items are missing or damaged, contact your dealer immediately.

- DL-200 data logger
- DC Car Power Charger
- Super min din 6 pin to USB cable
- CD includes User's Manual, Utility program and USB driver
- Battery (3.7V/1100mAh lithium-ion rechargeable)

(Optional Accessories)

- AC Power Adapter

1.5 LED Status



LED Indicators:

Symbol	Color	Status		Light Indication
Battery	Red	Light On		Battery Low
	Green	Light On		In Charging
	N/A	Light Off		Battery Full or Not in charging
Wireless	Blue	Light On/Off	0.1 sec/1.9sec	Linking Completed
		Light On/Off	Continued On	Pair Searching
GPS	Red	Light On/Off	1 sec/1 sec	Acquiring Satellites
		Light On/Off	0.9 sec/0.1sec	Position Fixed

1.6 Power Jack

The power jack lets you to connect either a DC car power charger (included) or AC power charger to recharge the internal battery.

2. Technical Specification

Items	Description
General	L1 1575.42MHz, C/A code, 12-channel, Carrier-Aided with HWTrack©
Sensitivity	-143 dBm minimum
Update Rate	1Hz
Accuracy	Position: 15m CEP without S/A Velocity: 0.1 m/sec without S/A Time: $\pm 1\mu s$
WAAS Accuracy	Position: 5m CEP Velocity: 0.05m/sec
Acquisition	Cold start: < 120sec (average) Warm start: < 45sec (average) Hot start: < 15sec
Reacquisition	<100msec
Dynamics	Altitude: 18000m Velocity: 515 m/sec Acceleration: $\pm 4g$
Protocol	EverMore Private @ 4800/9600 baud, 8-None-1 NMEA-0183 v2.20 @ 4800/9600 baud, 8-None-1
Datum	219 standard datum, default WGS-84
DGPS	WAAS/EGNOS
Antenna	Built-in Patch Antenna / Option active antenna, MMCX jack
NMEA Message	GGA, GLL, GSA, GSV, RMC, and VTG
Dimension; Weight	98.8 x 48.3 x 28.1mm / 66g

Power Specifications

Items	Description
Battery	Lithium-Ion Rechargeable Battery 3.7V/1100mAH
Charger Power	5V $\pm$ 0.5Vp-p ripple (DC-Jack)
Current Consumption	130 mA
Operation Time	Up to 7 Hours after full charge

Switch Specification

Items	Description
Power Switch	System power switch except charge unit

Environmental Specification

Items	Description
Operation Temperature	-10°C to +60°C
Storage Temperature	-40°C to +90°C
Operating Humidity	5% to 95%

* Preliminary Specification, Subject To Change Without Notice

3. Check Enabled COM Port Number

Windows XP for example

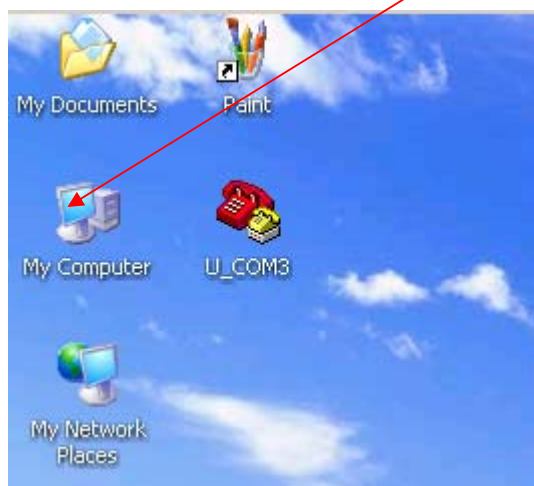
After you install GPS USB driver, you should know which COM port is available, and check enabled COM port number.

You need to know the COM port assignment for the GPS receiver, when configuring map or chart software. Please notice that this remark is very important, and if not configured properly, the mapping software will not communicate with the GPS receiver.

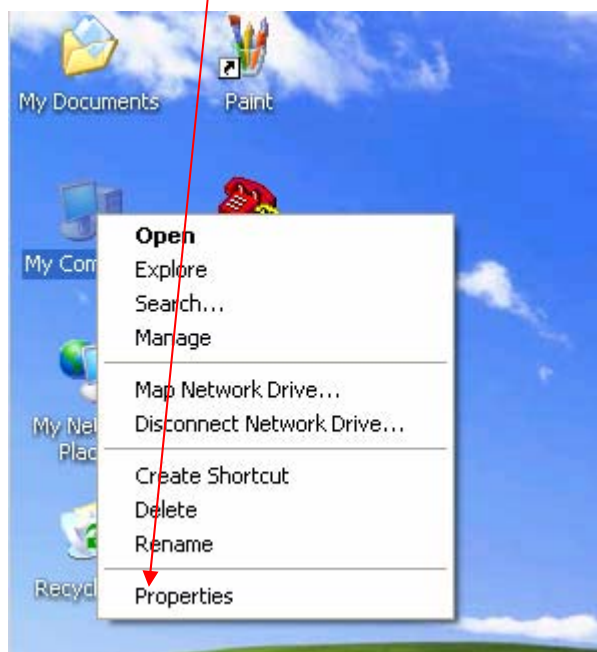
To check your assigned COM port for the GPS receiver, please follow the instructions below.

Step 1: Check enabled COM port number by clicking “Start” → clicking “Control Panel” → double-clicking “System” icon, or another method by step A to C

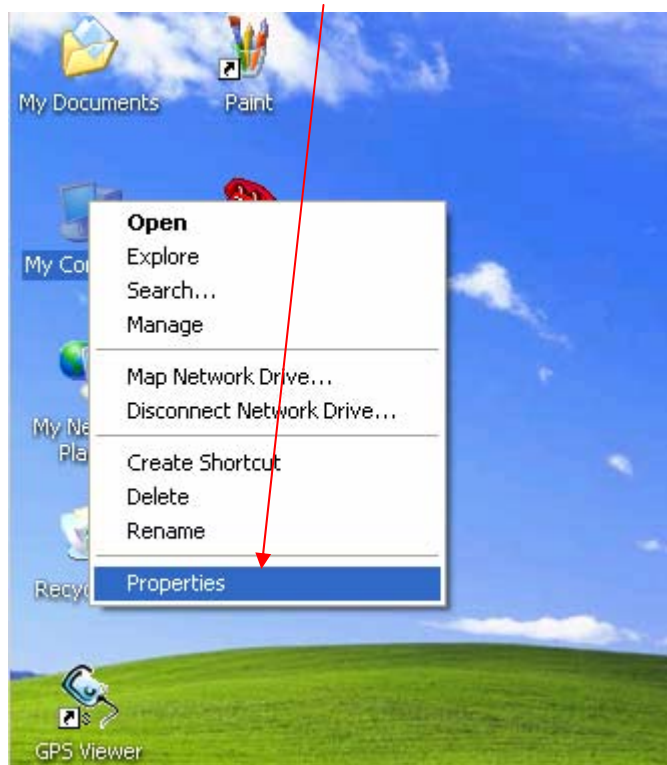
Step 1.1: Put mouse pointer on “My Computer” icon and press mouse right button

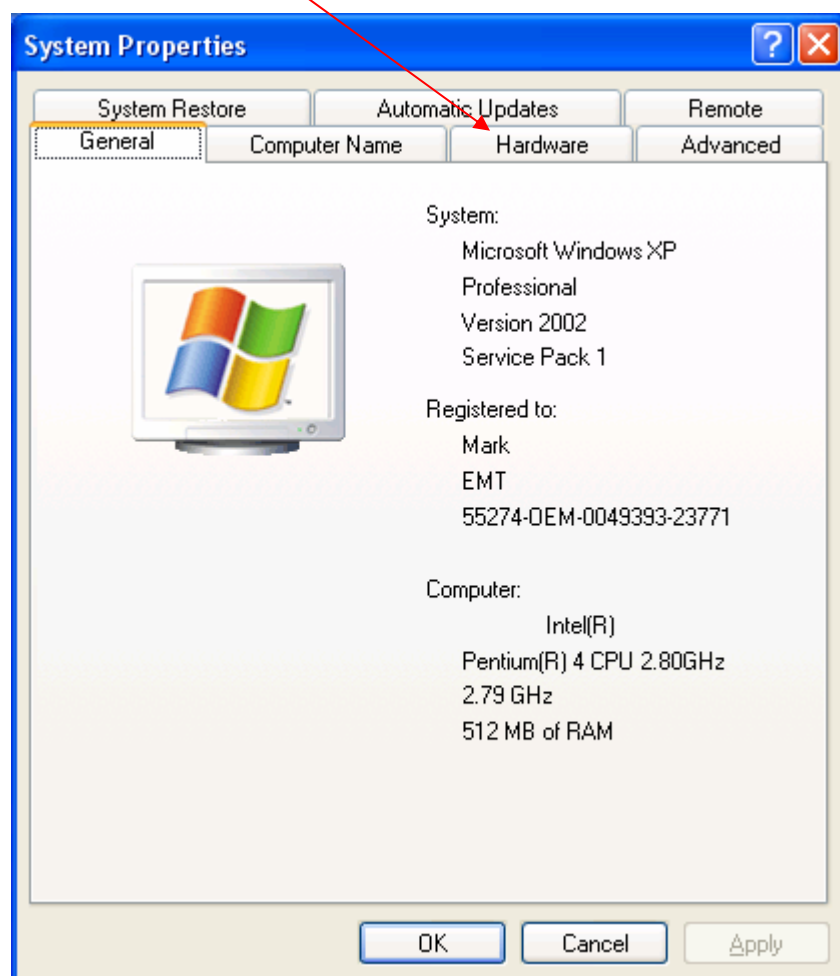


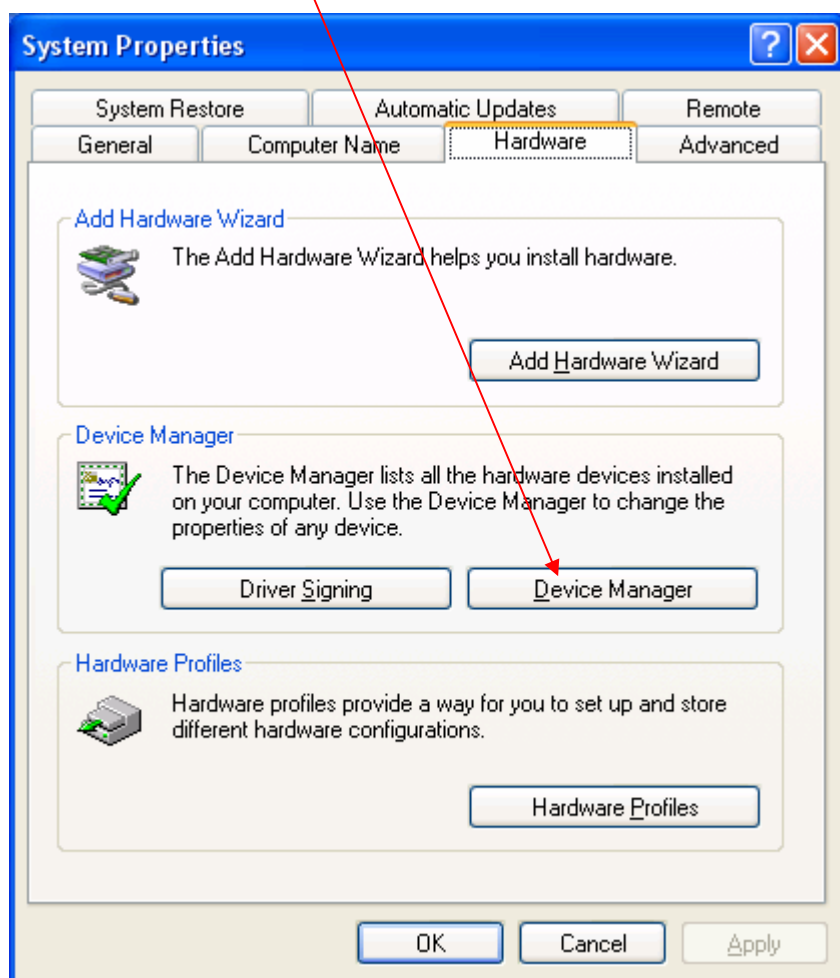
Step 1.2: Select "Properties"

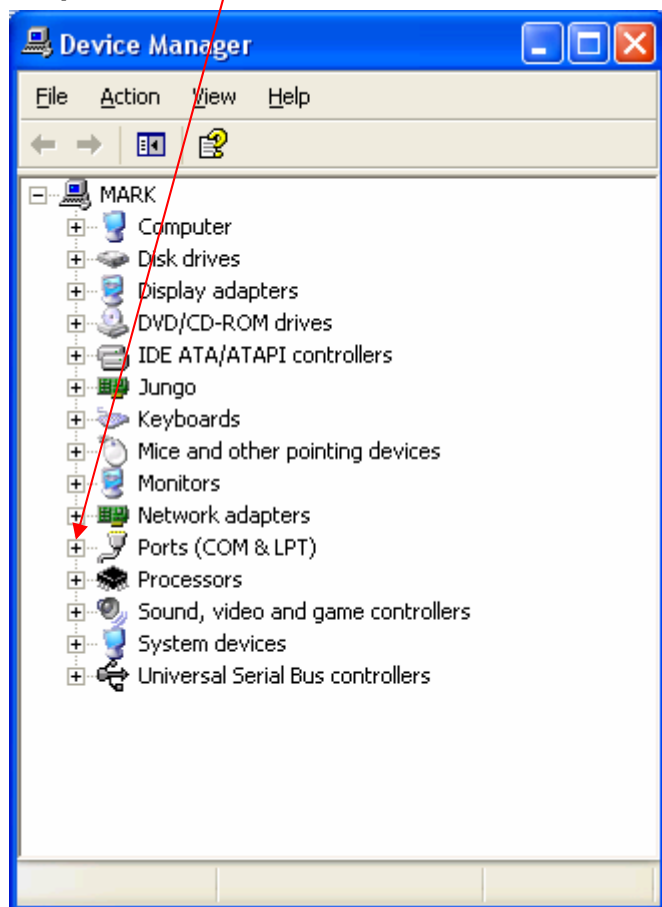


Step 1.3: Clicking "Properties"

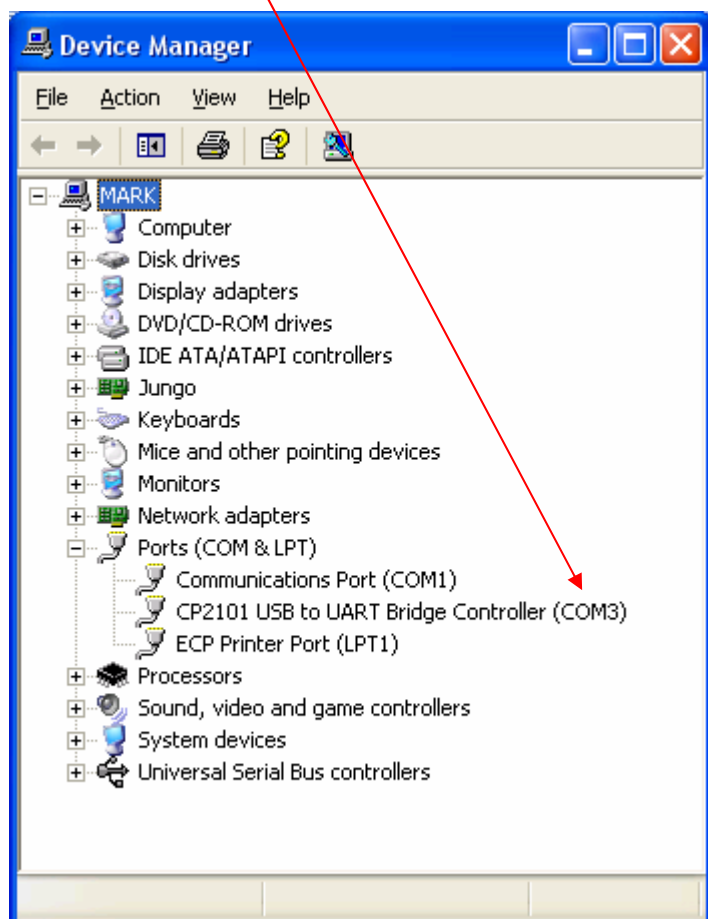


Step 2: Select "Hardware"

Step 3: Select "Device Manager"

Step 4: Click “+” of Ports (COM&LPT)

Step 5: Select COM3 and press mouse right button

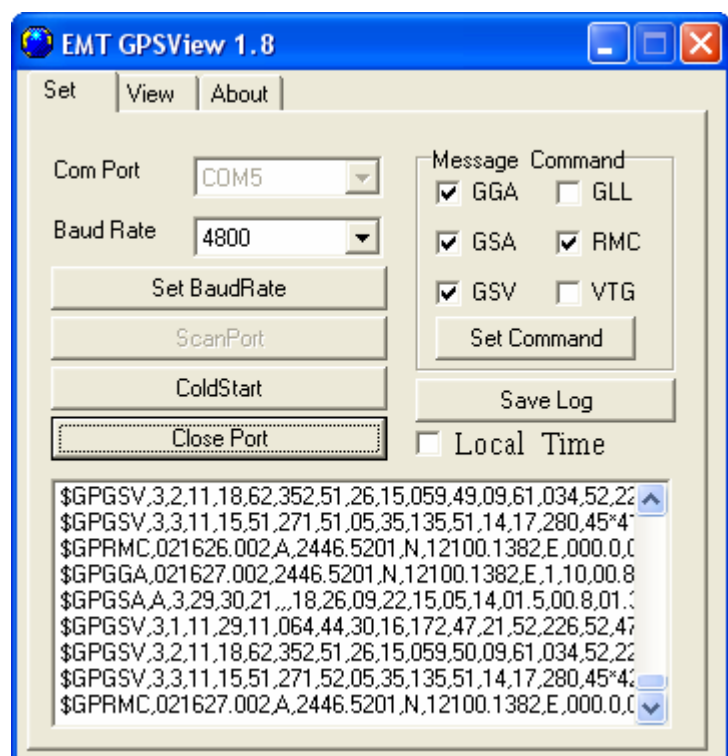


4. Test Datalog By GPSView

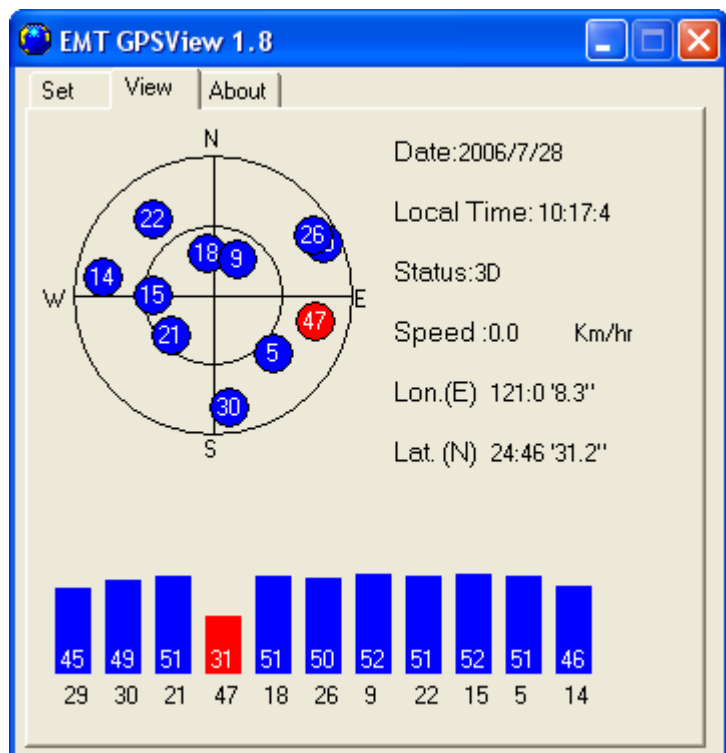
Step 1: Double click GPSView icon



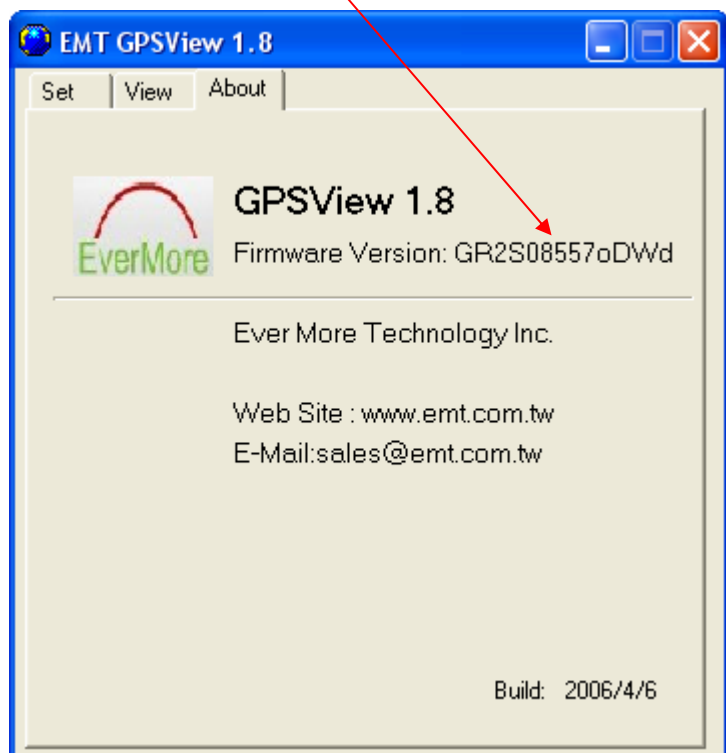
Step 2: To select Com Port and Baud Rate then press "Open Port"



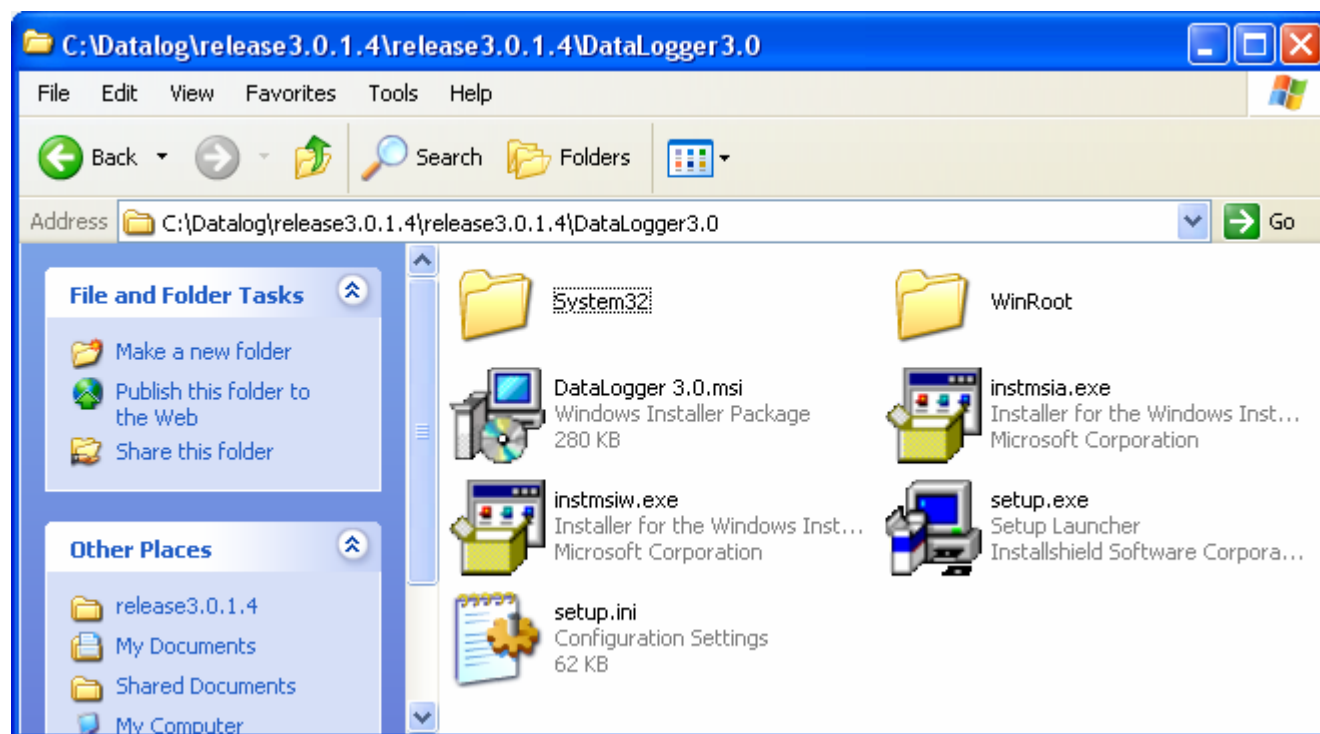
Step 3: To check the datalog fix



Step 4: To read firmware version



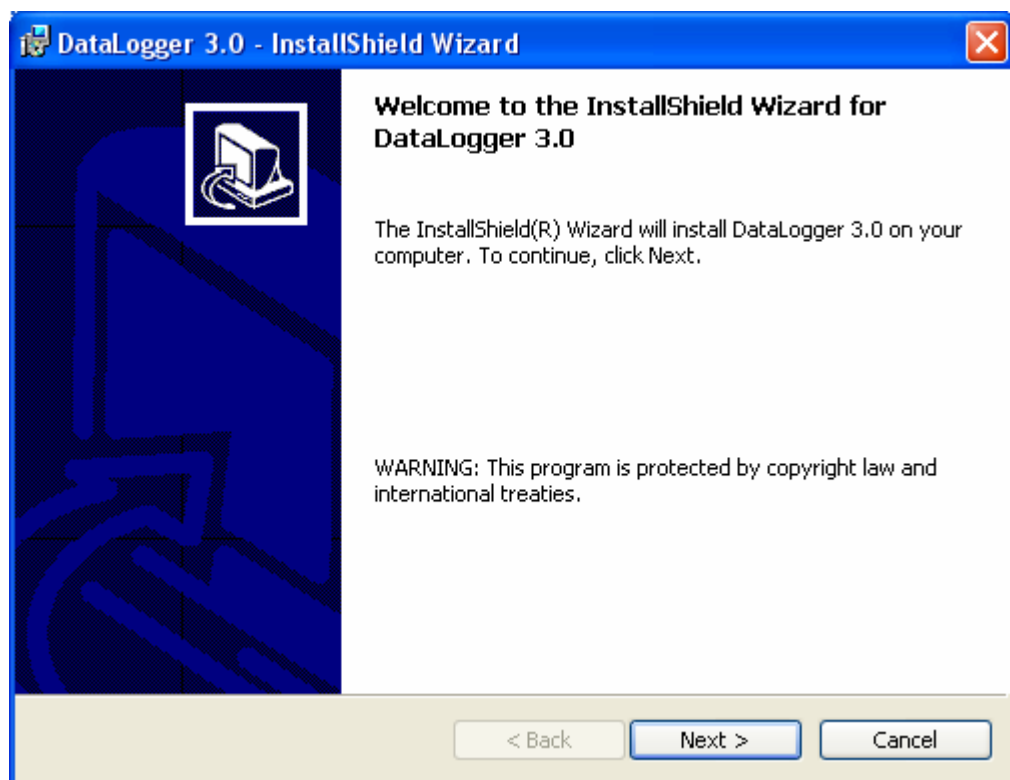
5. Datalog Utility Installation



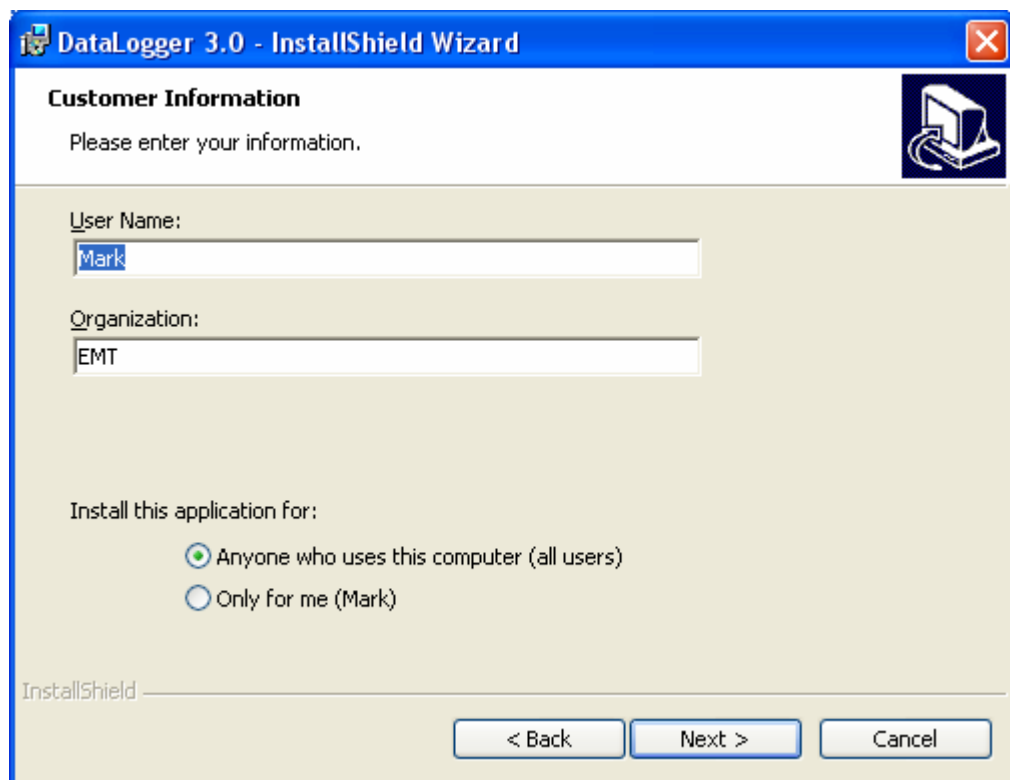
Step 1: Double click “setup.exe” icon



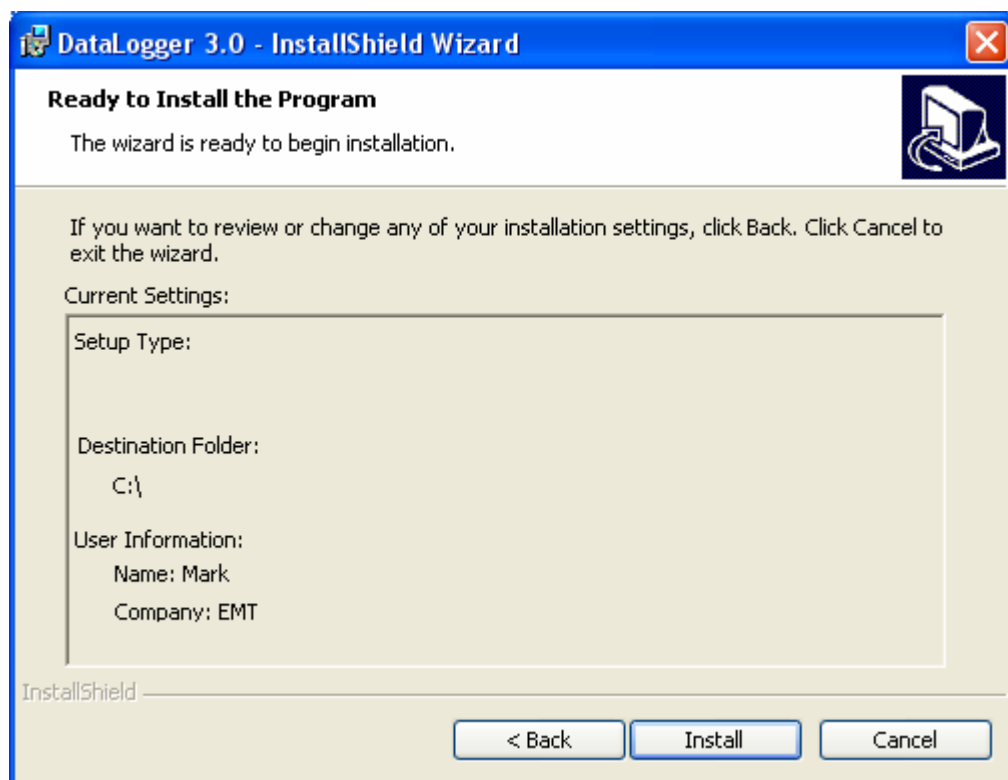
Step 2: To press “Next” button



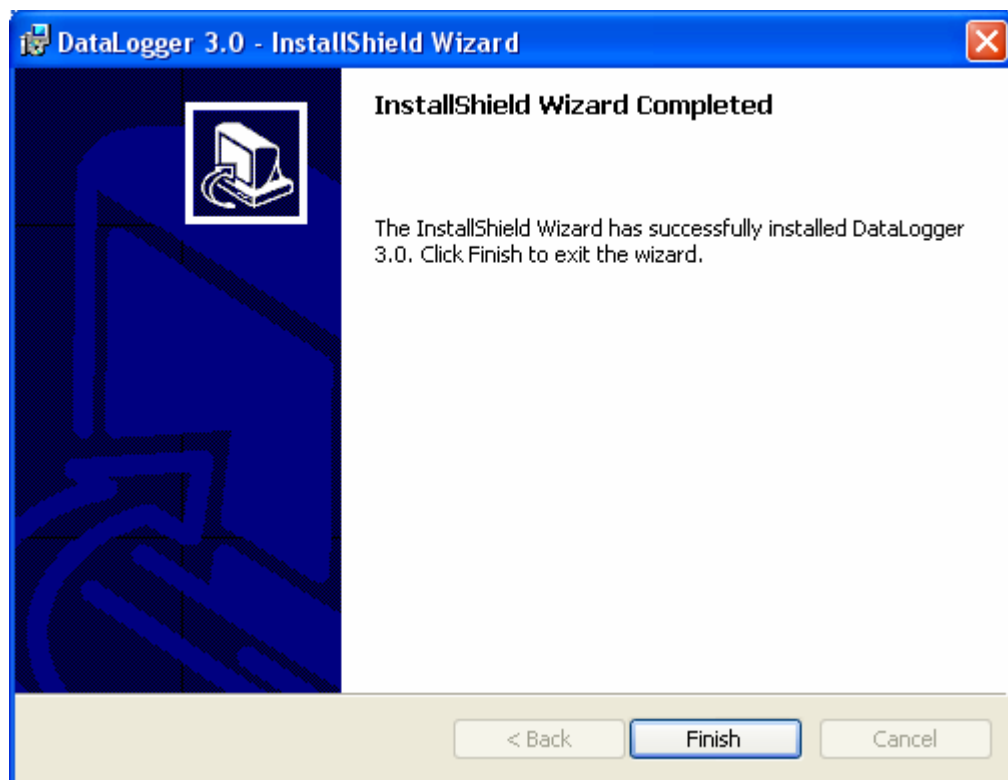
Step 3: To press “Next” button



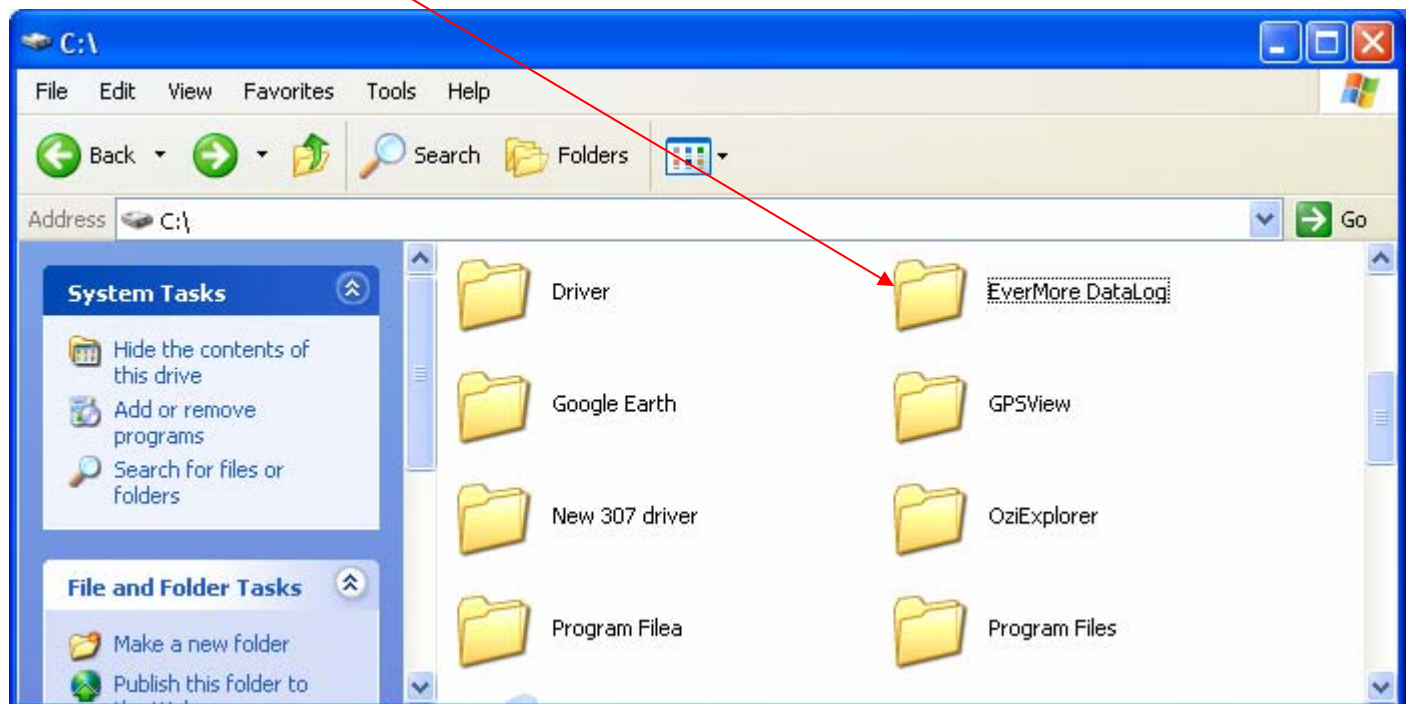
Step 4: To press “Install” button



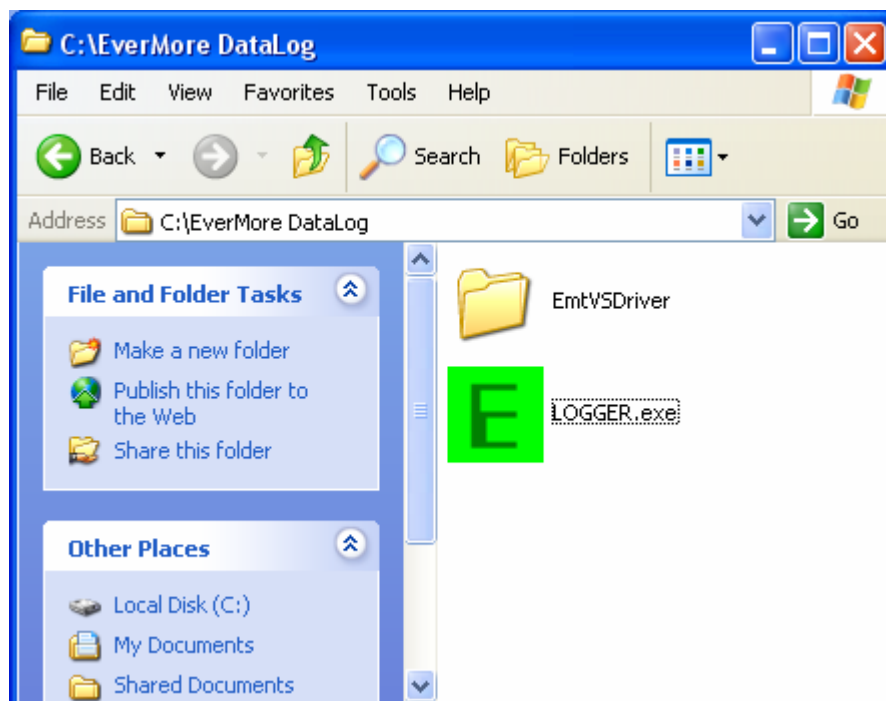
Step 5: To press “Finish” button



Step 6: To check new create folder



Step 7: To open this folder



Step 8: To check the new create Datalog icon for execution



6. Datalog Utility Operation

6.0 Install Google Earth

Install Google Earth before use datalog utility.



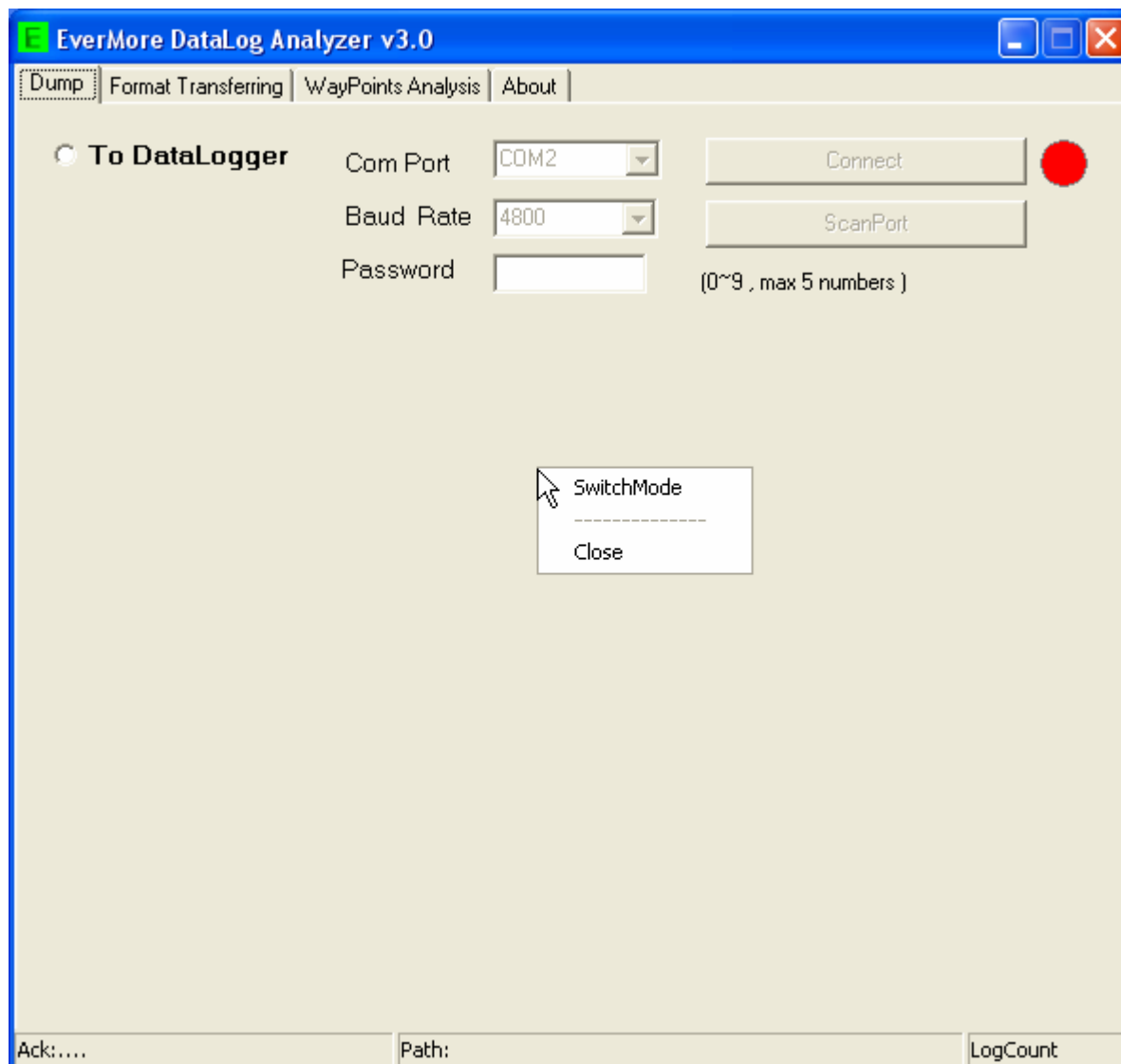
6.1 Switch Mode Change

Step 1: Double click Datalog icon

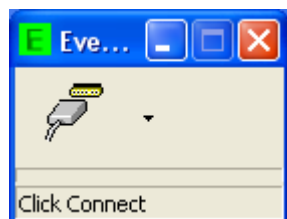


Step 2: To put the mouse cursor in the window then click mouse right button.

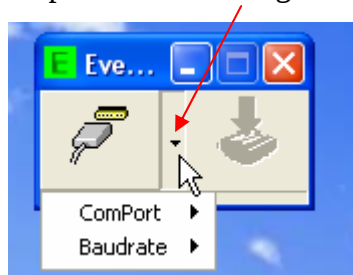
It will pop up switch mode window then to select Switch Mode for small mode.



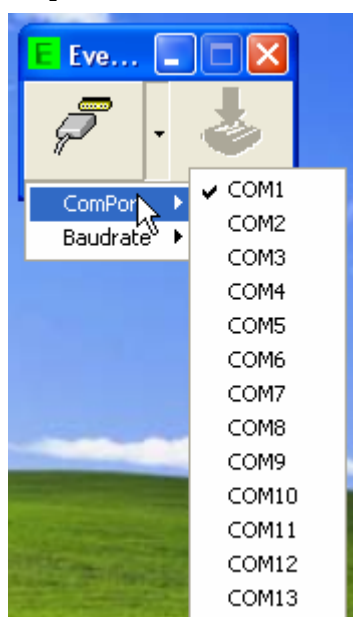
It will from big mode change to small mode



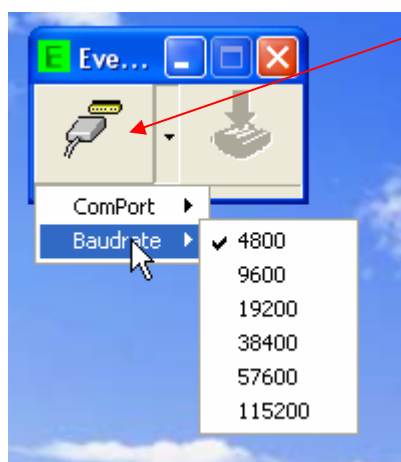
Step 3: To click triangle



Step 4: To select COM Port



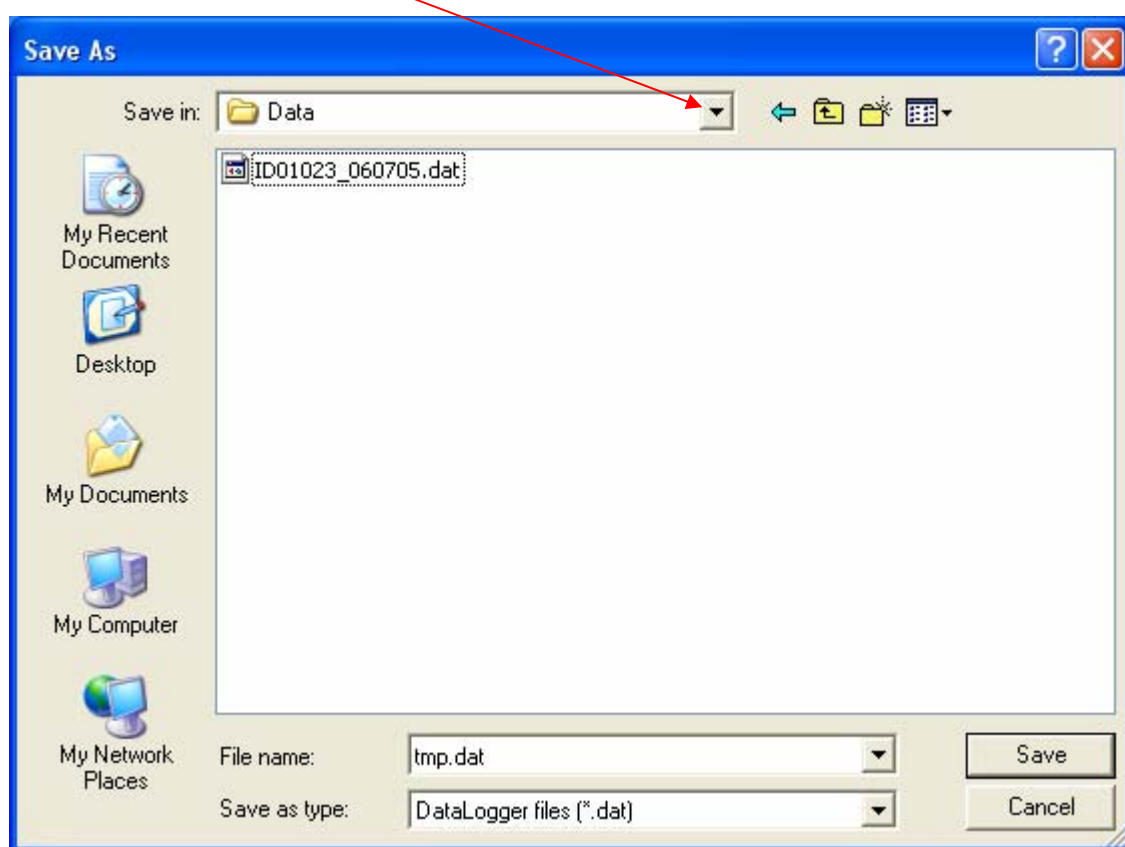
Step 5: To select Baud Rate and to click connect



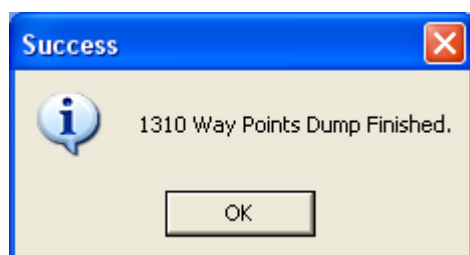
Step 6: It will become connect status and to click dump button



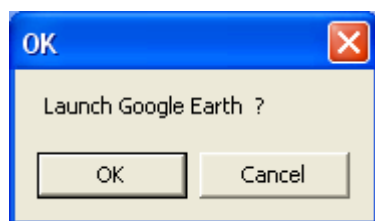
Step 7: To select the dump data folder



Step 8: Dump Finished window



Step 9: If you already install Google Earth then click ok button otherwise click cancel button.



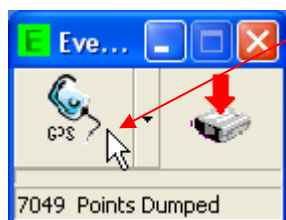
Step 10: It will automatic link with Google Earth and show out the trail.



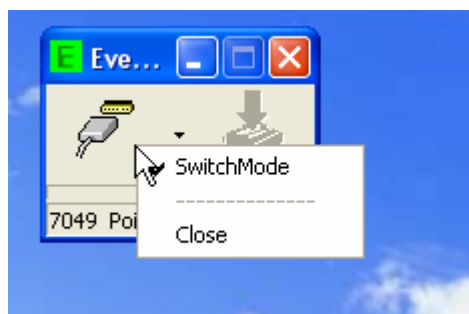
Step 11: To close Google Earth and ready to disconnect datalog



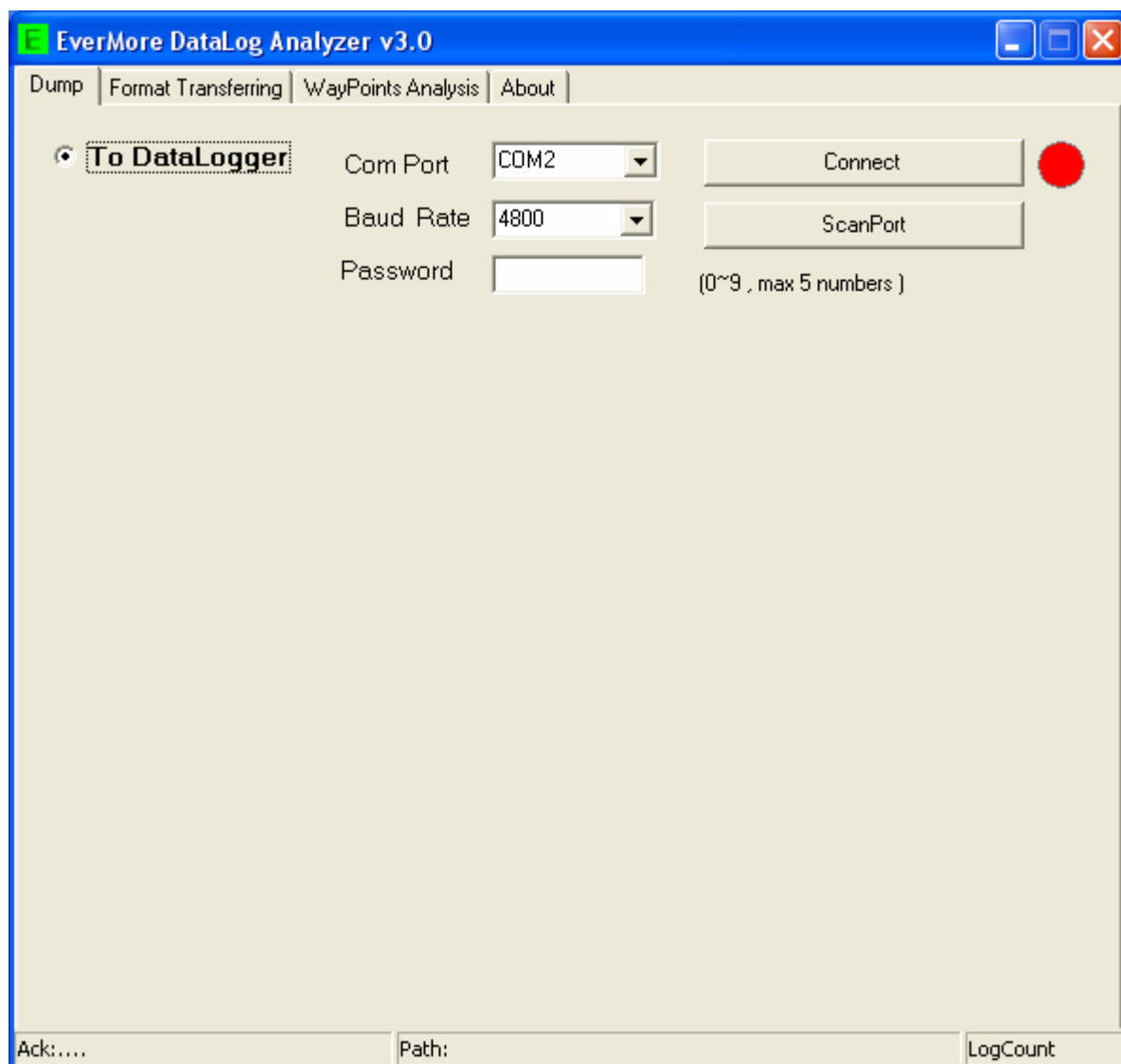
Step 12: To click disconnect button



Step 13: To press mouse right button and select switch mode. It will change to big mode.



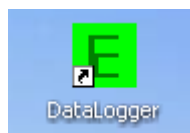
Step 14: The datalog utility change to big mode



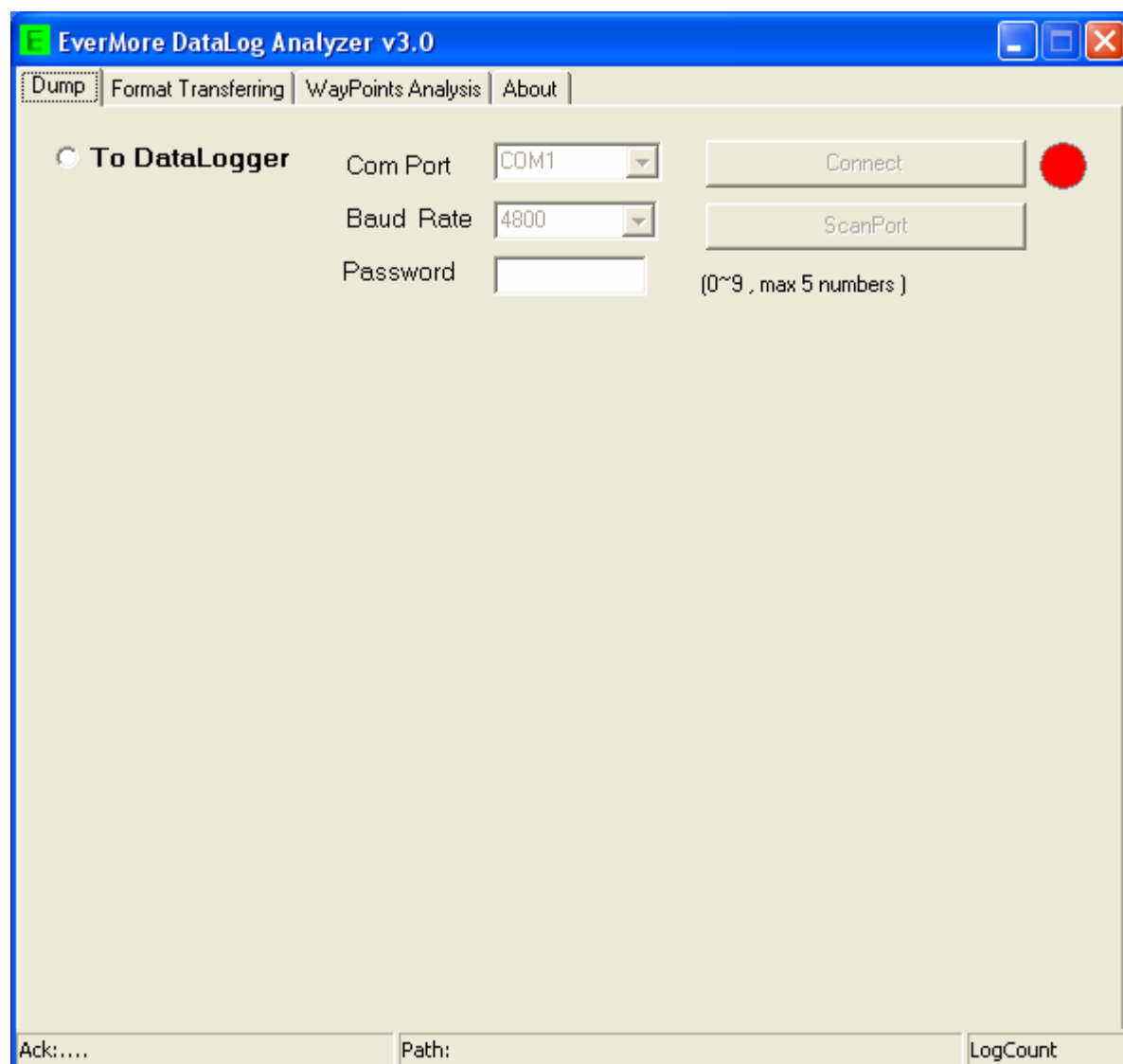
6.2 Dump

6.2.1 Data Dump and Erase

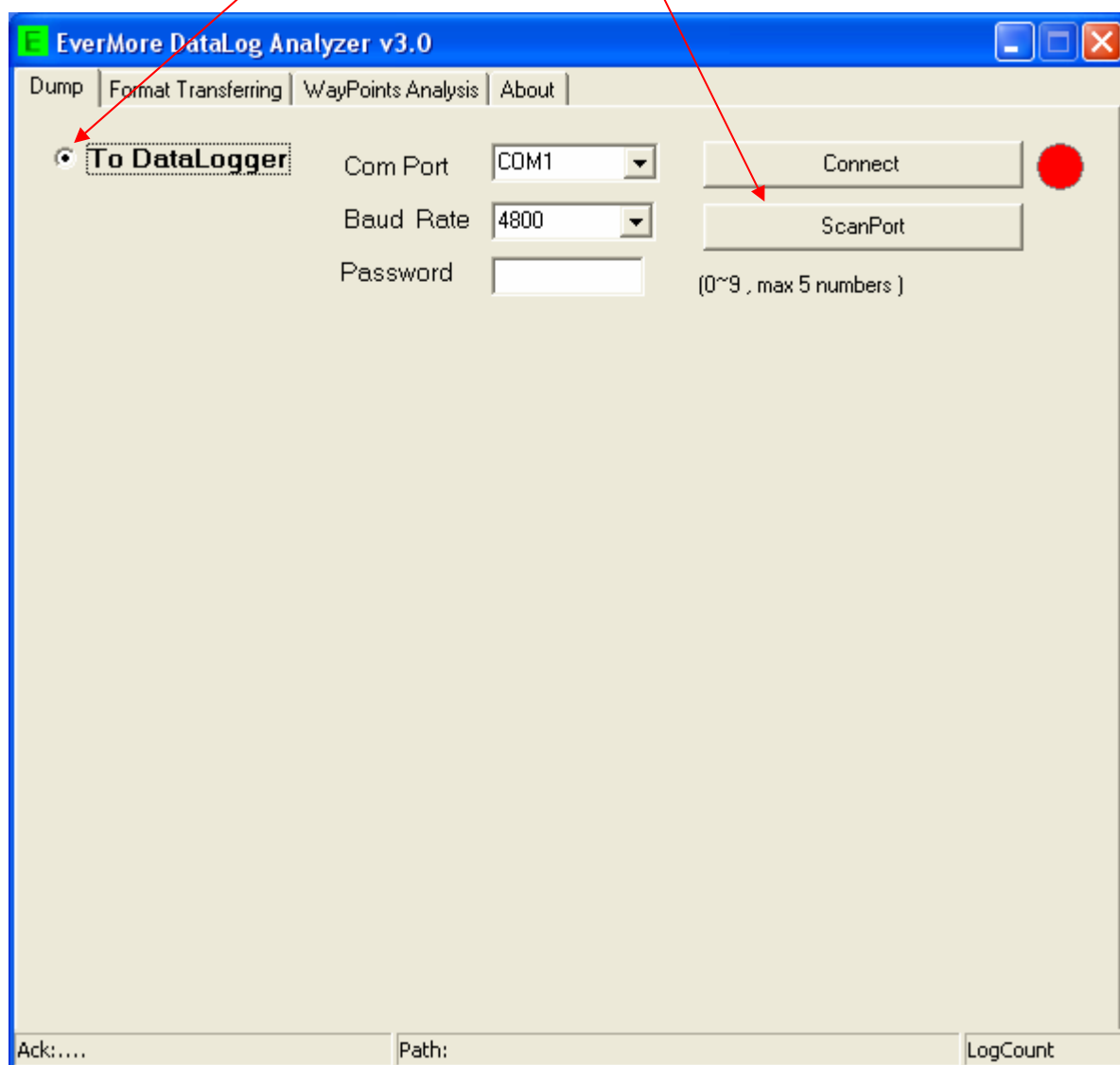
Step 1: Double click datalog icon



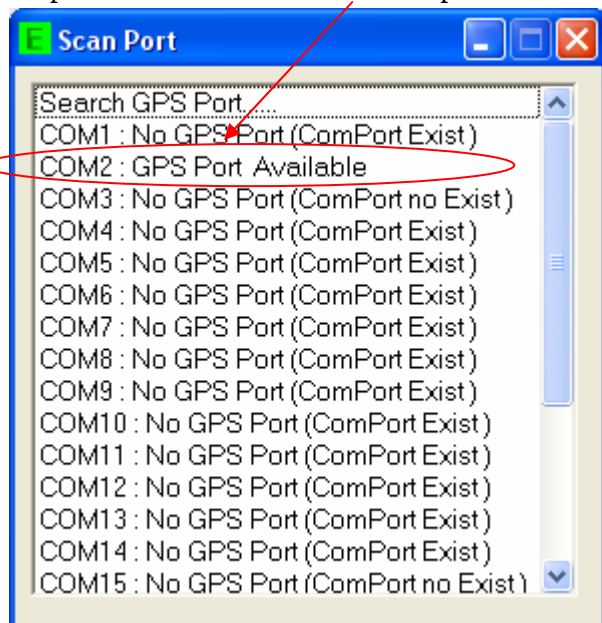
Step 2: It will pop up a window



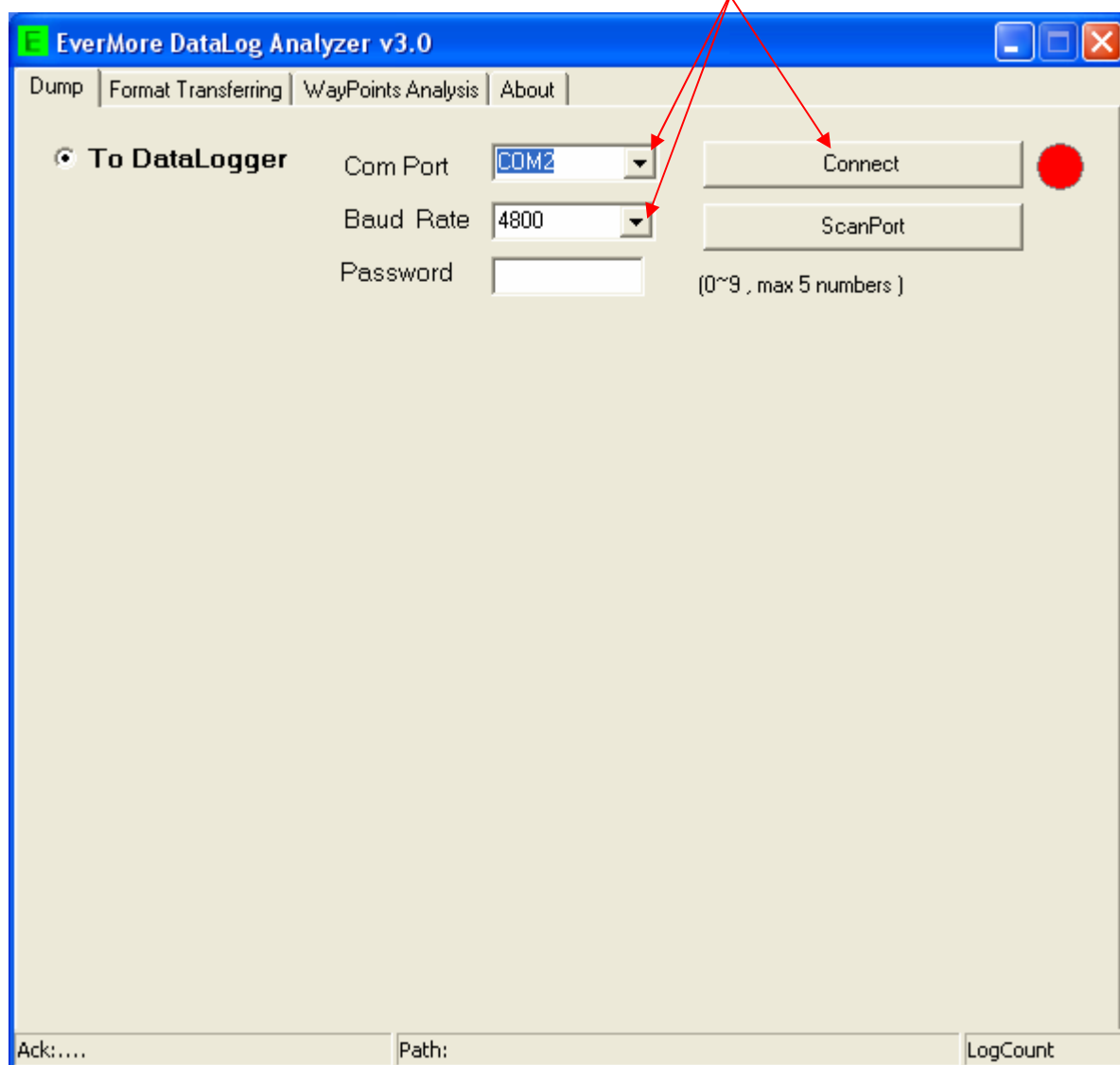
Step 3: To select “To DataLogger” and to press “ScanPort” button



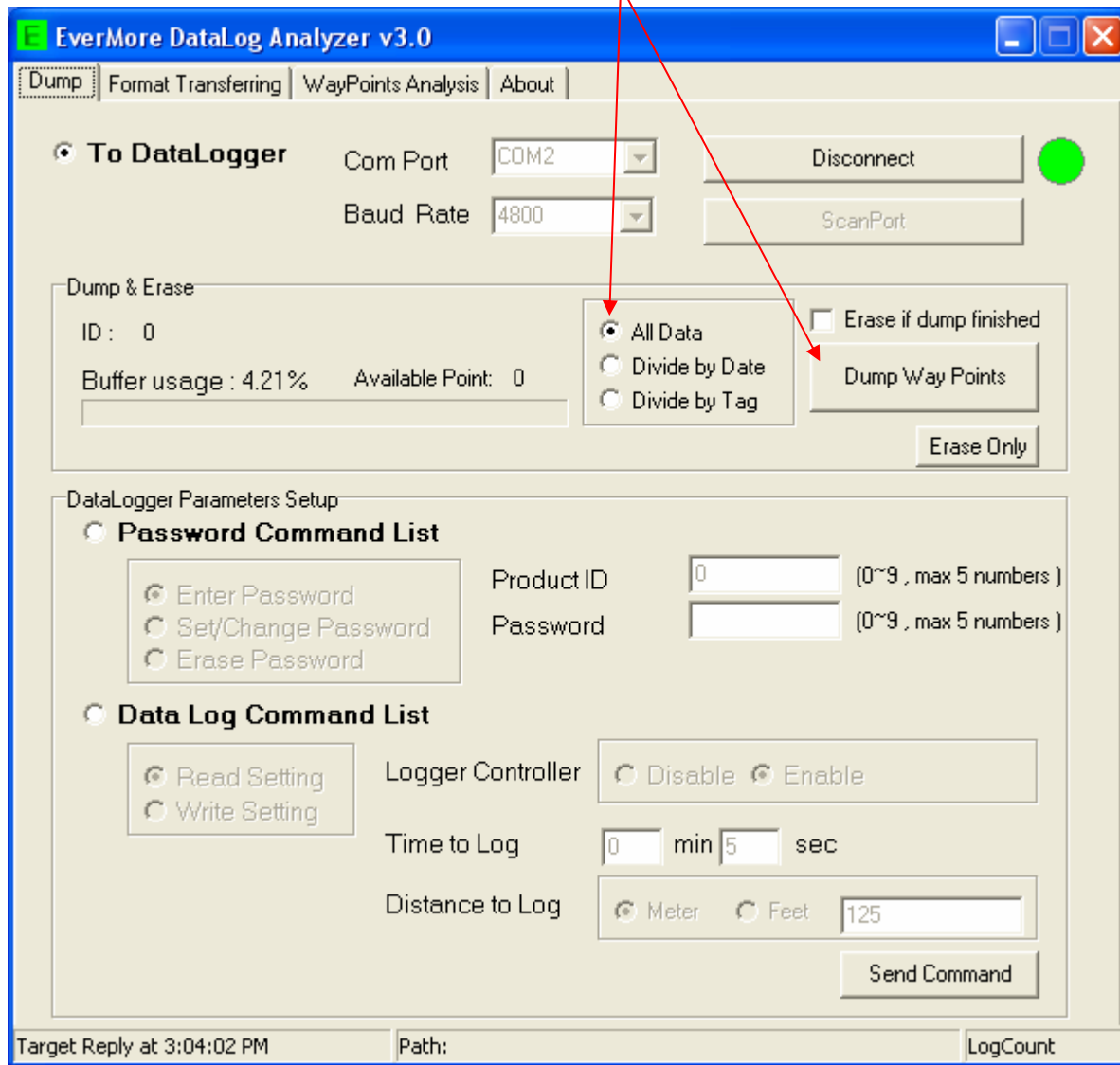
Step 4: It will show out available ports.



Step 5: To select COM port and Baud Rate and to press “Connect” button



Step 6: Connecting success window. Dumping all data into a file.



EverMore DataLog Analyzer v3.0

Dump | Format Transferring | WayPoints Analysis | About

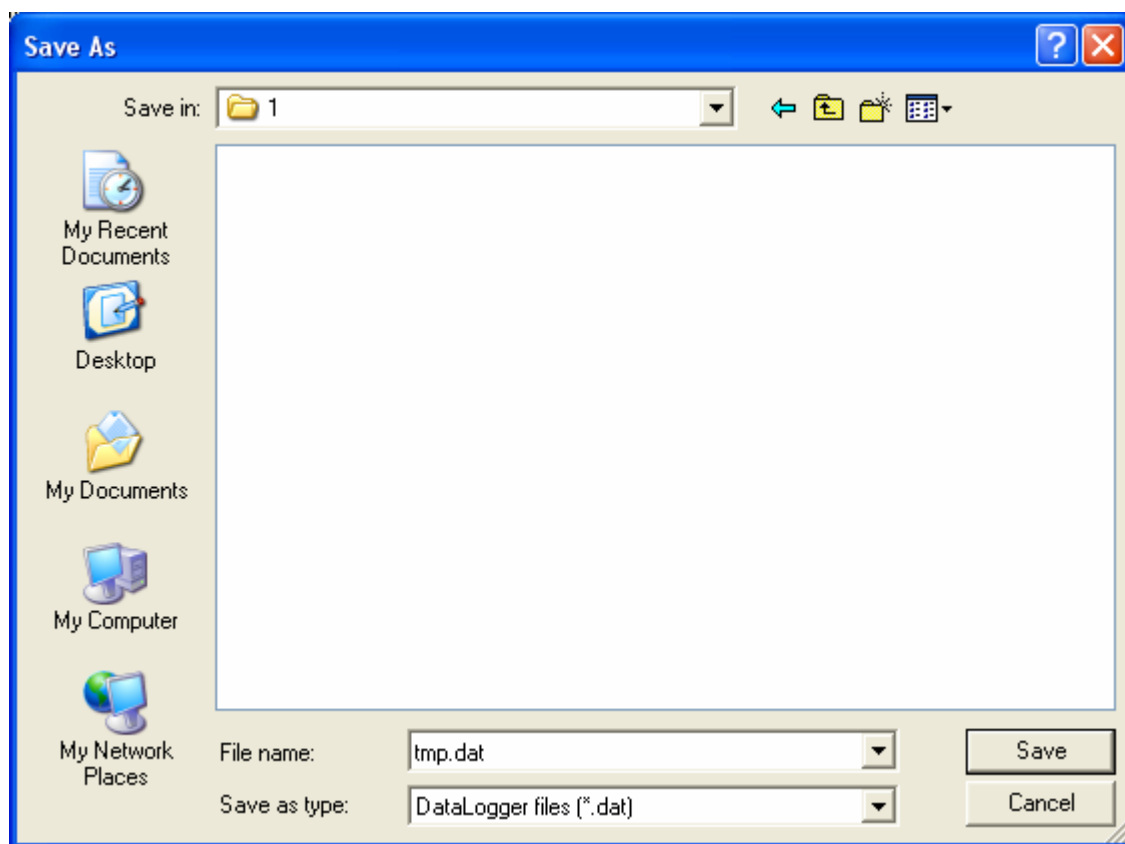
To DataLogger Com Port: COM2 Baud Rate: 4800 Disconnect ScanPort

Dump & Erase
 ID: 0
 Buffer usage: 4.21% Available Point: 0
☒ All Data ☐ Divide by Date ☐ Divide by Tag
☐ Erase if dump finished
 Dump Way Points
 Erase Only

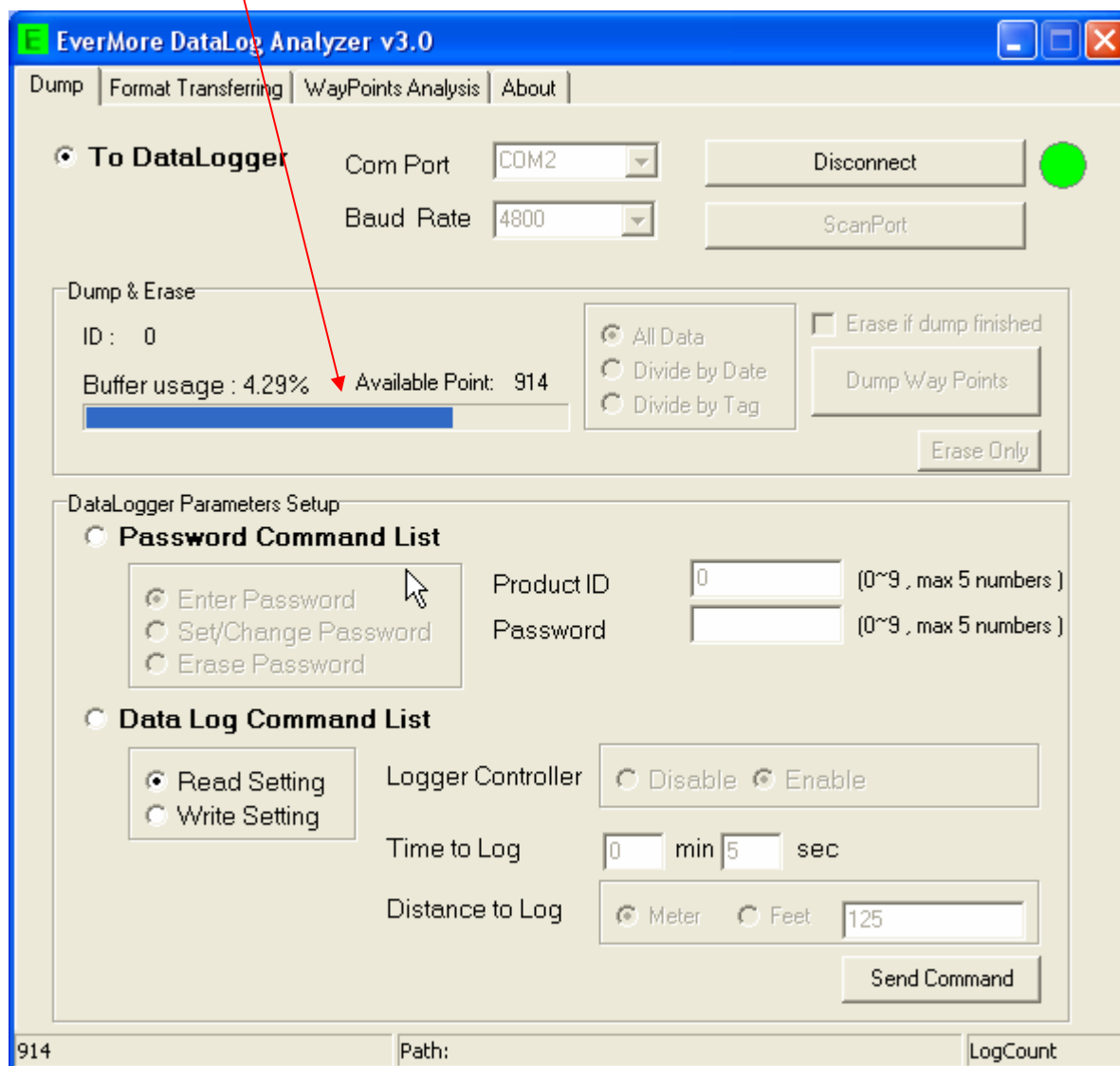
DataLogger Parameters Setup
☒ **Password Command List**
☒ Enter Password ☐ Set/Change Password ☐ Erase Password
 Product ID: 0 (0~9, max 5 numbers)
 Password: (0~9, max 5 numbers)
☒ **Data Log Command List**
☒ Read Setting ☐ Write Setting
 Logger Controller: ☐ Disable ☒ Enable
 Time to Log: 0 min 5 sec
 Distance to Log: ☒ Meter ☐ Feet 125
 Send Command

Target Reply at 3:04:02 PM Path: LogCount

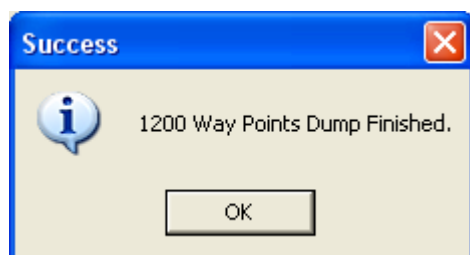
Step 7: To select a data folder.



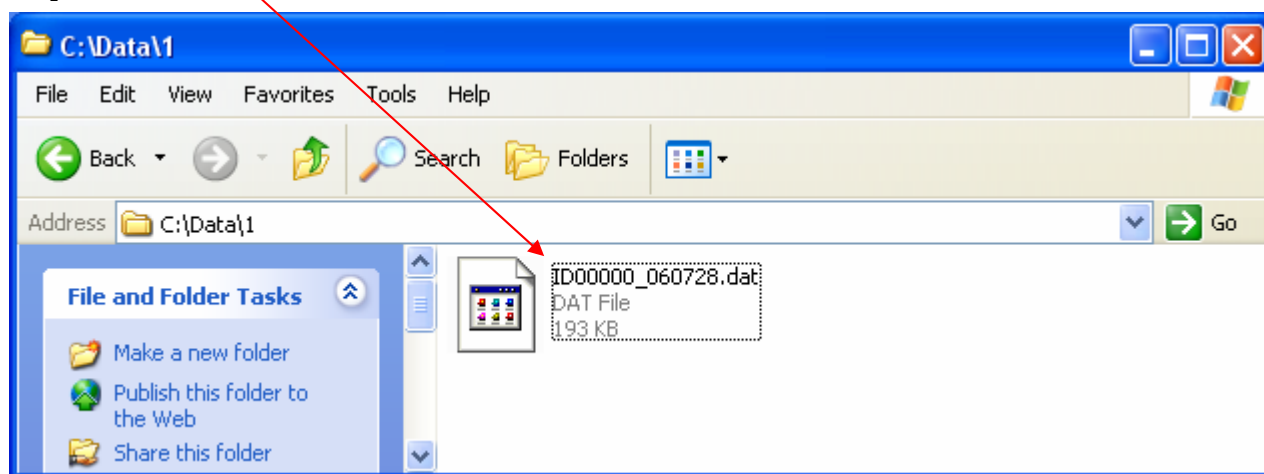
Step 8: Dumping window (It will take about 10 minutes to download 25,000 points.)



Step 9: Dump finished window

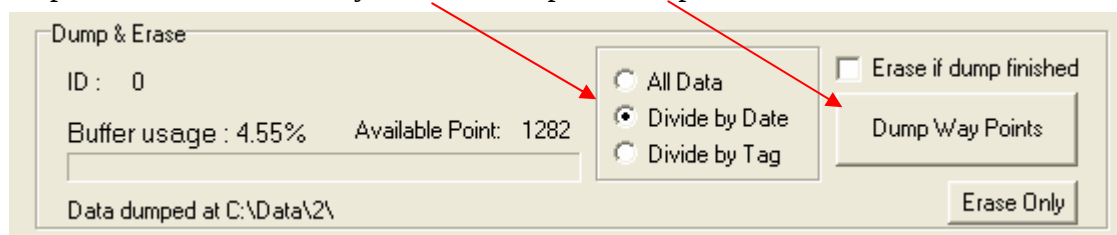


Step 10: To check the data file.

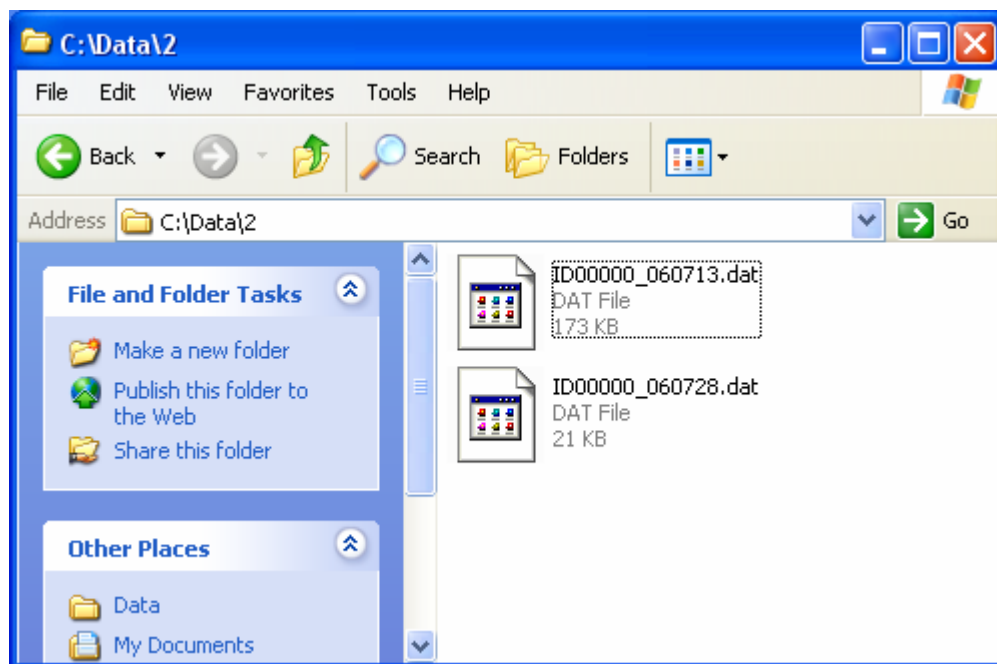


Dumping data by date

Step 1: To select “Divide by Date” and to press dump button

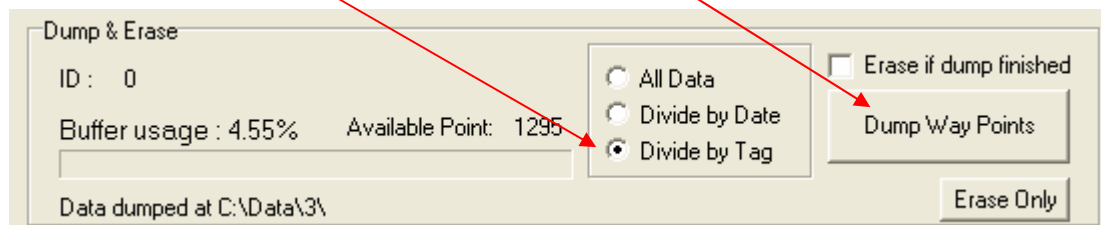


Step 2: To check the data files

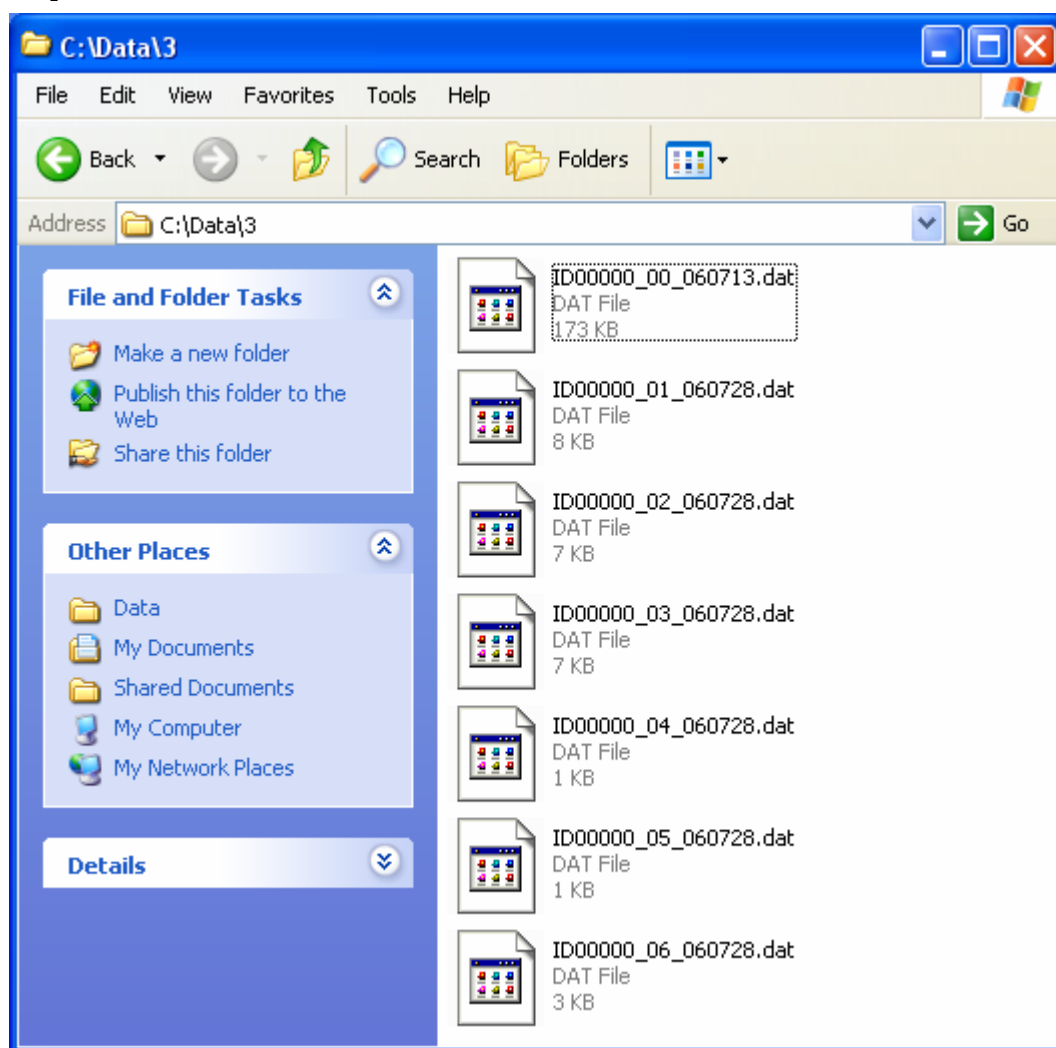


Dumping data by each On/Off datalog power

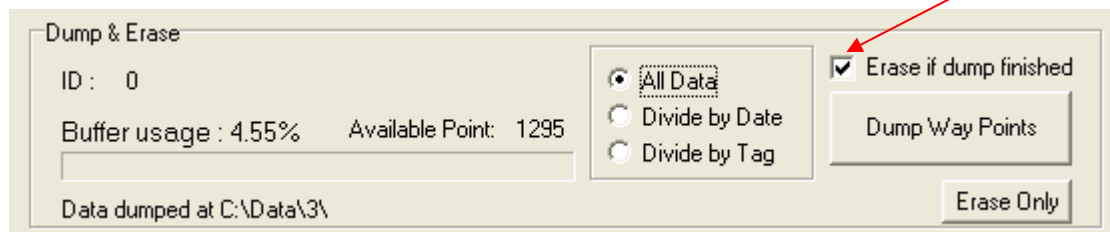
Step 1: To select “Divide by Tag” and to press dump button



Step 2: To check the data files

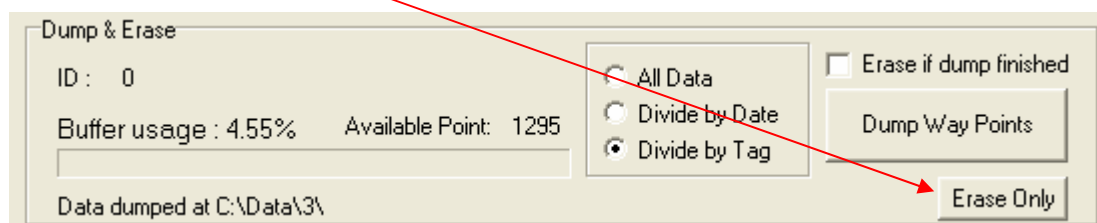


“Erase if dump finished” meaning is it would automatic erase data when had finished dump.

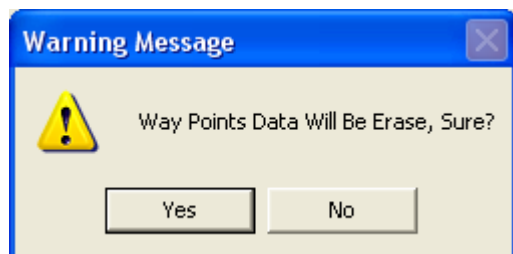


How to erase SRAM data

Step 1: To press “Erase Only” button



Step 2: To press “Yes” button for make sure



6.2.2 Product ID and Password Setting

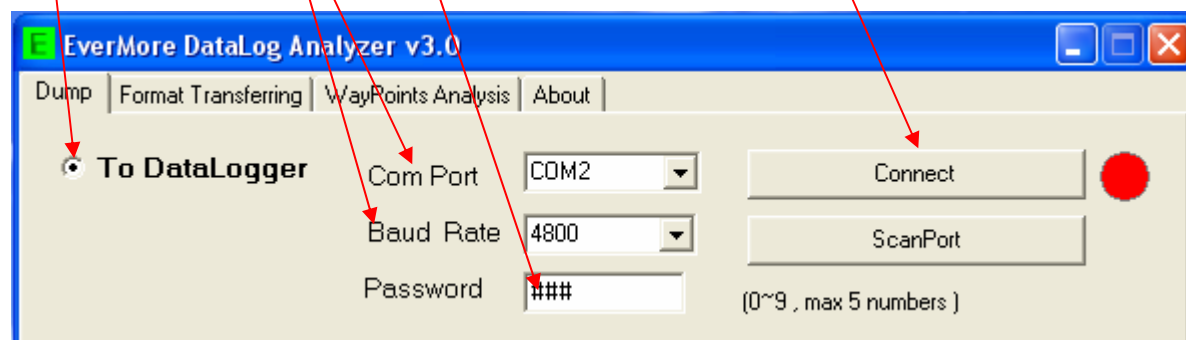
How to enter password

Step 1: To select "Password Command List"

Step 2: To select Com Port and Baud Rate

Step 3: To key-in password

Step 4: To press "Connect" button



This "Enter Password" item does not have function only default value

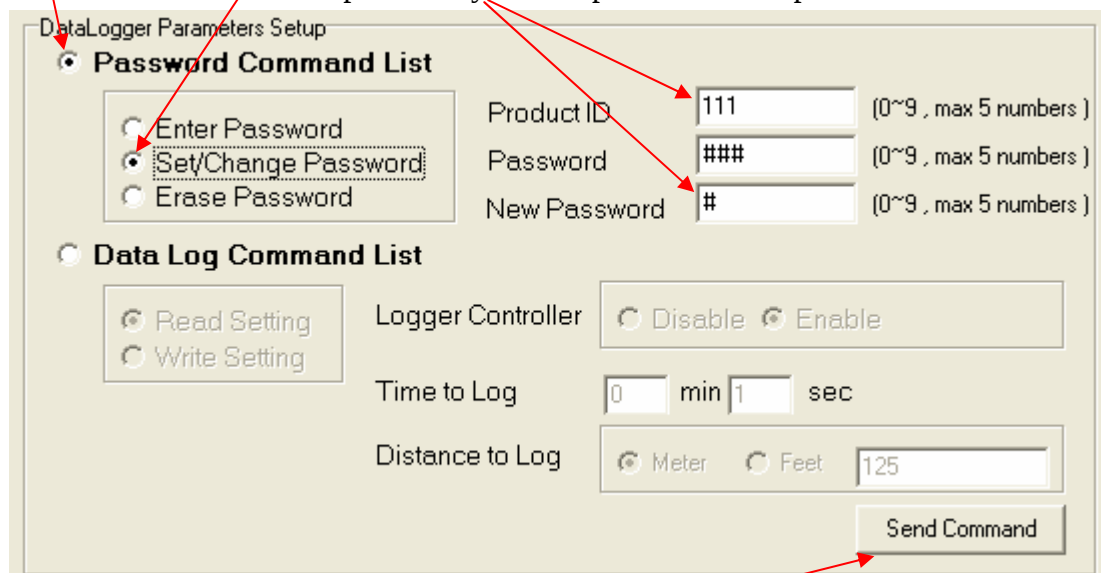


How to set/change password

Step 1: To select "Password Command List"

Step 2: To select "Set/Change Password"

Step 3: To key-in new product ID and password



DataLogger Parameters Setup

• Password Command List

☐ Enter Password

☒ Set/Change Password

☐ Erase Password

Product ID: 111 (0~9 , max 5 numbers)

Password: ### (0~9 , max 5 numbers)

New Password: # (0~9 , max 5 numbers)

• Data Log Command List

☒ Read Setting

☐ Write Setting

Logger Controller: ☐ Disable ☒ Enable

Time to Log: 0 min 1 sec

Distance to Log: ☒ Meter ☐ Feet 125

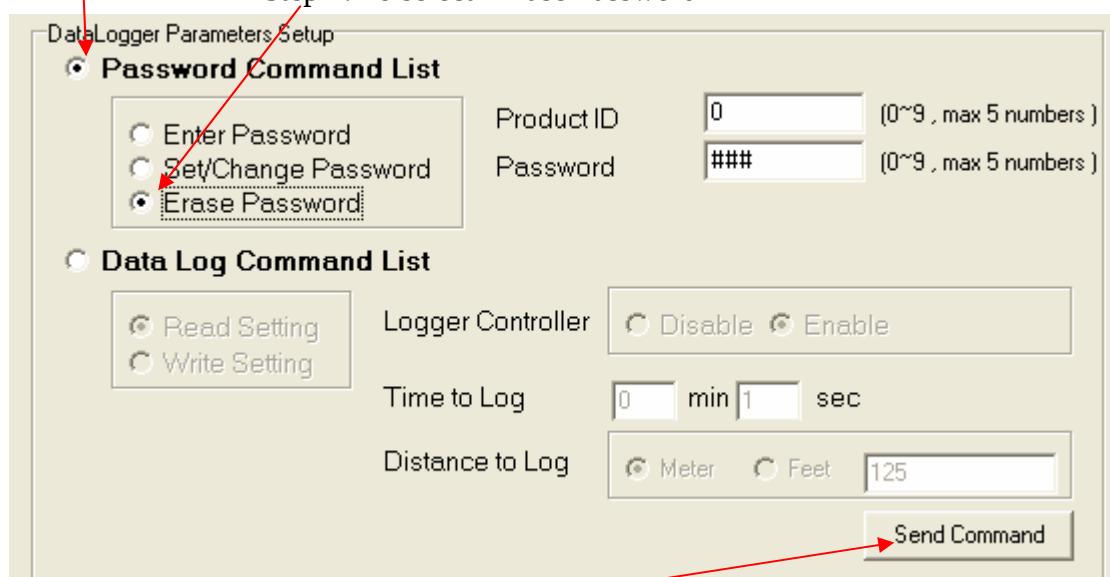
Send Command

Step 4: To press "Send Command"

How to erase password

Step 1: To select "Password Command List"

Step 2: To select "Erase Password"



DataLogger Parameters Setup

• Password Command List

☐ Enter Password

☐ Set/Change Password

☒ Erase Password

Product ID: 0 (0~9 , max 5 numbers)

Password: ### (0~9 , max 5 numbers)

• Data Log Command List

☒ Read Setting

☐ Write Setting

Logger Controller: ☐ Disable ☒ Enable

Time to Log: 0 min 1 sec

Distance to Log: ☒ Meter ☐ Feet 125

Send Command

Step 3: To press "Send Command"

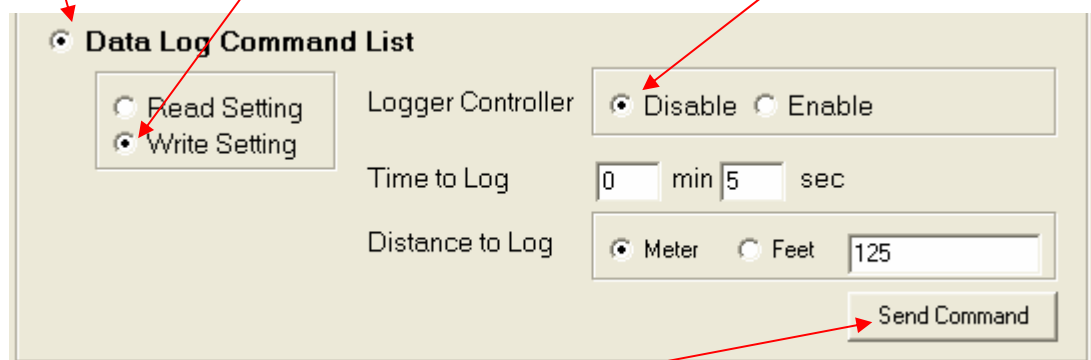
6.2.3 Log Time and Log Distance setting

How to disable data log function

Step 1: To select "Data Log Command List"

Step 3: To select "Write Setting"

Step 2: To select "Disable"



The screenshot shows the 'Data Log Command List' window. On the left, there are two radio buttons: 'Read Setting' and 'Write Setting', with 'Write Setting' selected. In the center, there are three fields: 'Logger Controller' with 'Disable' selected, 'Time to Log' set to 0 min 5 sec, and 'Distance to Log' set to Meter with a value of 125. At the bottom right is a 'Send Command' button. Red arrows point from the text labels to the corresponding elements in the interface.

Step 4: To press "Send Command"

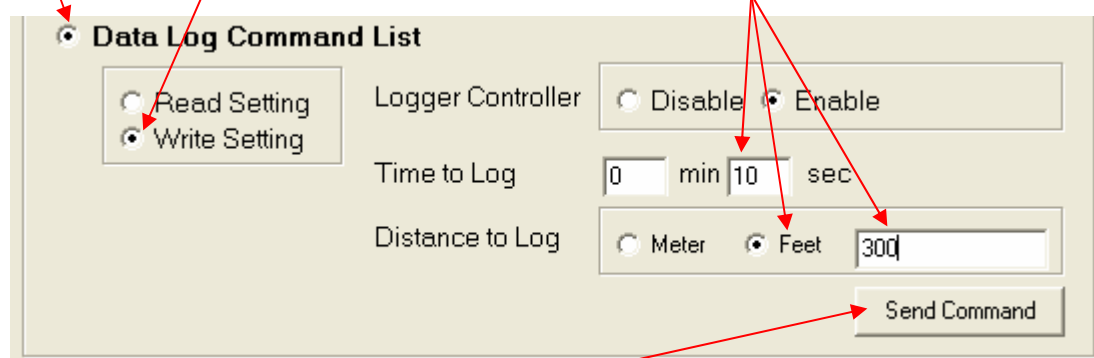
How to setup log time and distance

To select "recycle" function it would let SRAM can be overwrite log when SRAM log is full.

Step 1: To select "Data Log Command List"

Step 3: To select "Write Setting"

Step 2: To key-in time and distance



The screenshot shows the 'Data Log Command List' window. On the left, there are two radio buttons: 'Read Setting' and 'Write Setting', with 'Write Setting' selected. In the center, there are three fields: 'Logger Controller' with 'Enable' selected, 'Time to Log' set to 0 min 10 sec, and 'Distance to Log' set to Feet with a value of 300. At the bottom right is a 'Send Command' button. Red arrows point from the text labels to the corresponding elements in the interface.

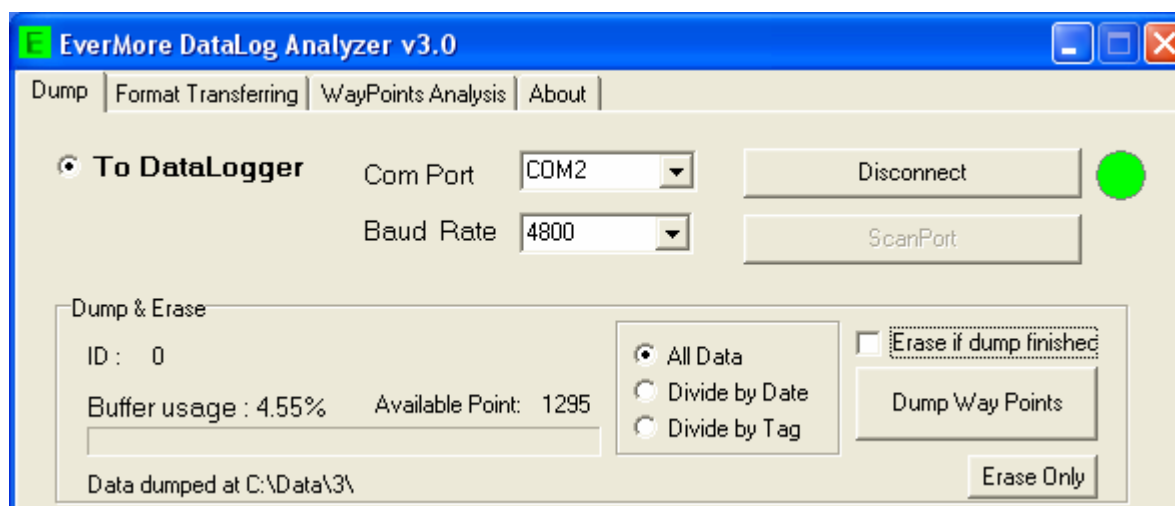
Step 4: To press "Send Command"

6.3 Format Transferring

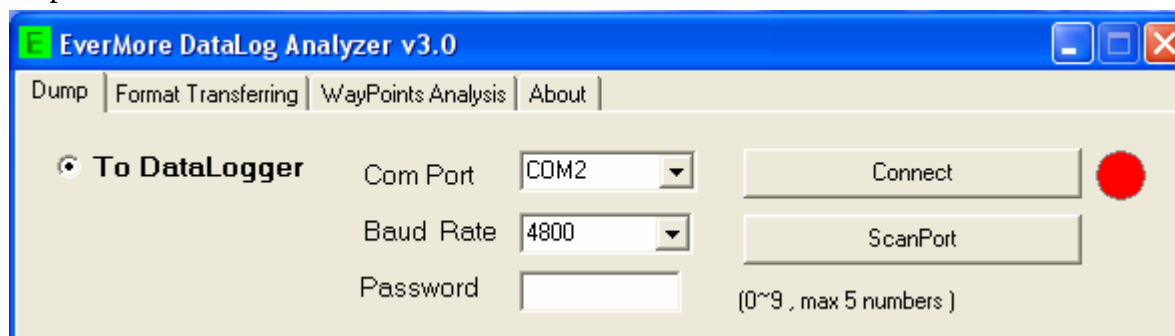
6.3.1 Show trace file on E-map

This example will show datalog link with Microsoft Streets and Trips map

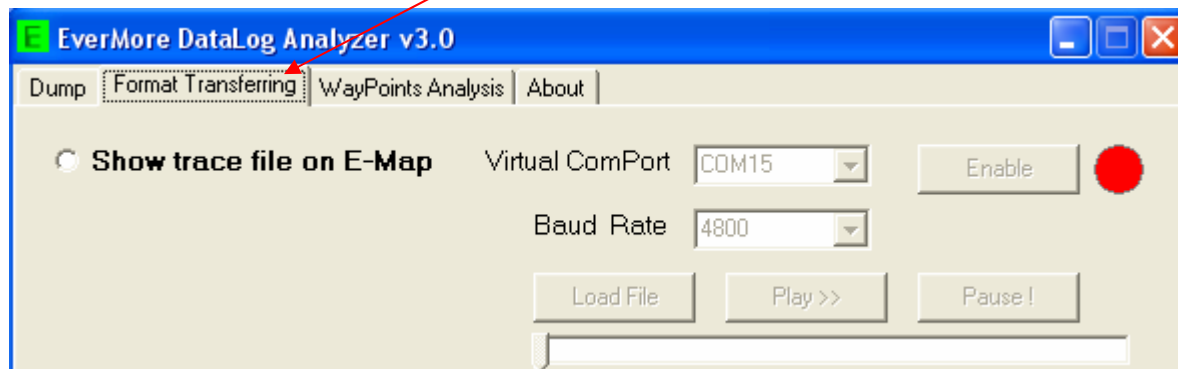
Step 1: To press “Disconnect” button



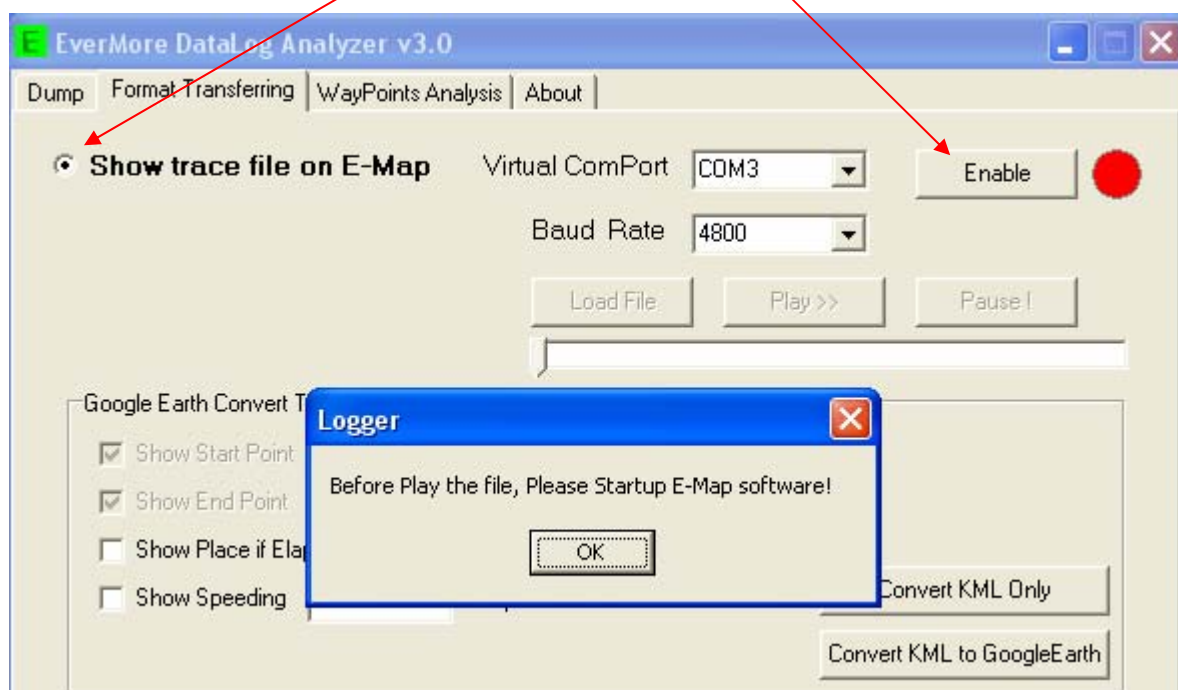
Step 2: The disconnect window



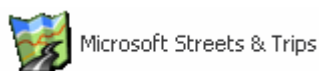
Step 3: To select “Format Transferring” page



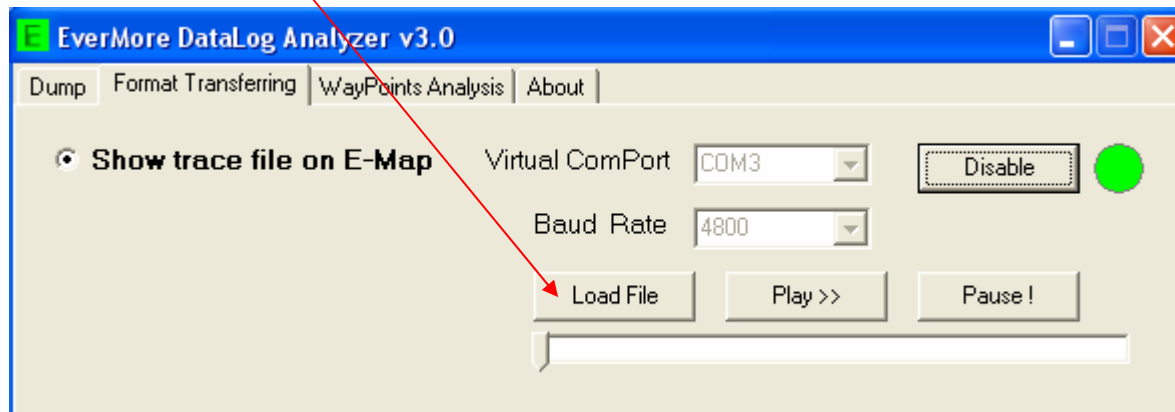
Step 4: To select show trace file on E-map and to press “Enable” button



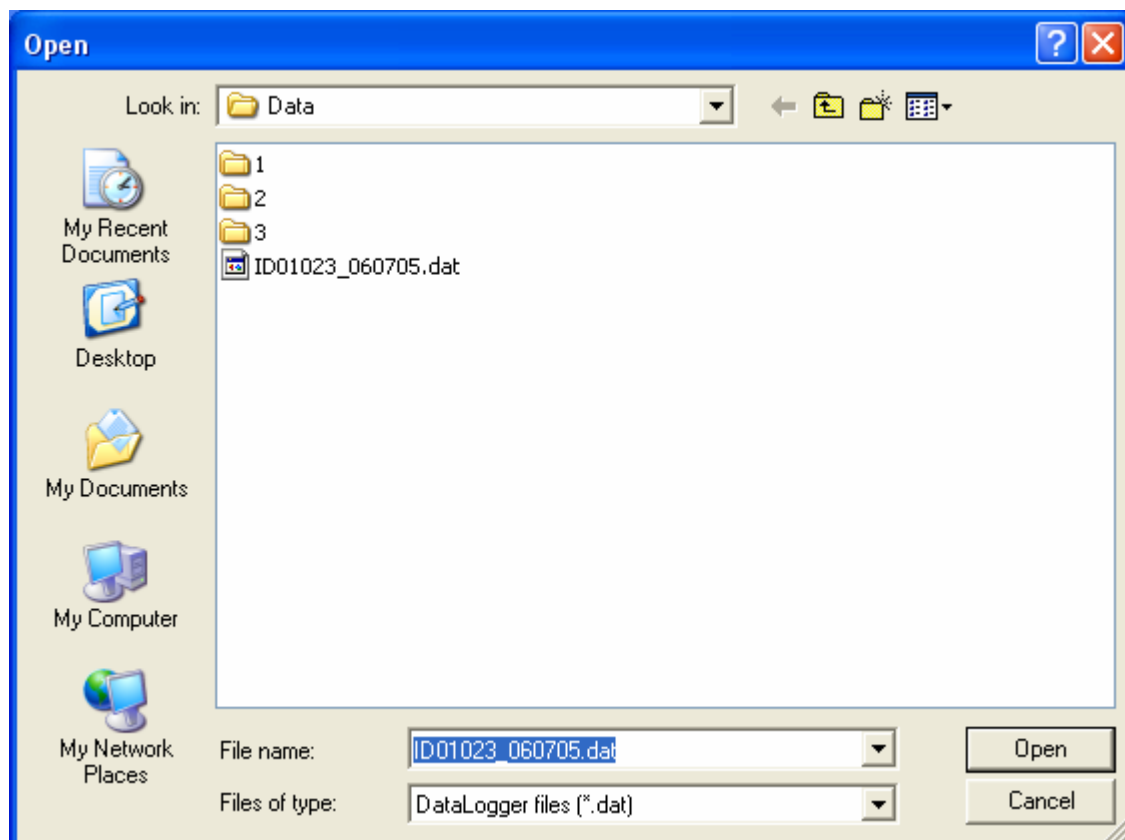
Step 5: Double click Streets & Trips icon



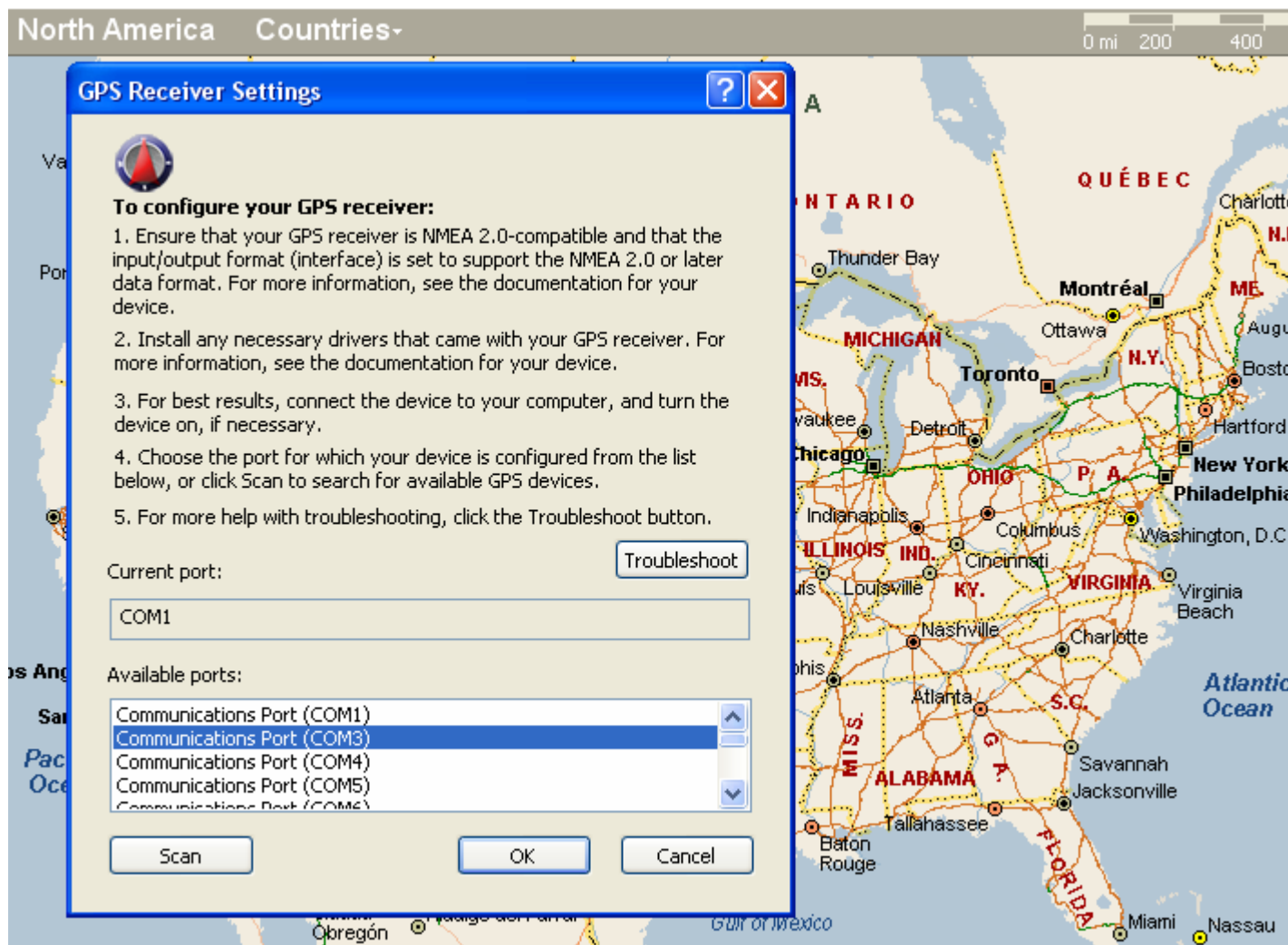
Step 6: To press “Load file” button



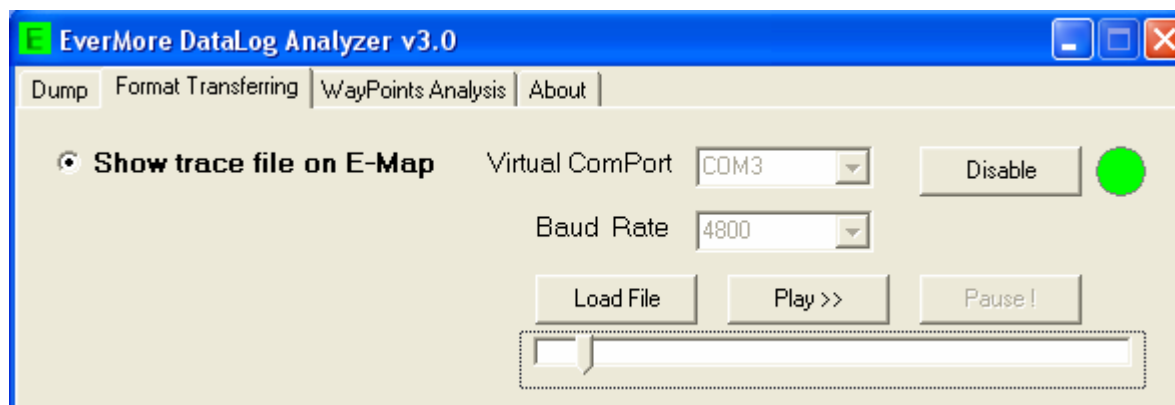
Step 7: To open a data file



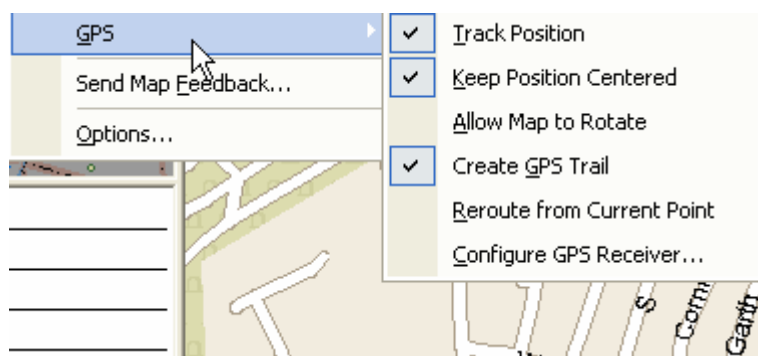
Step 8: To setup streets & trips COM port it needs same as datalog Virtual ComPort number



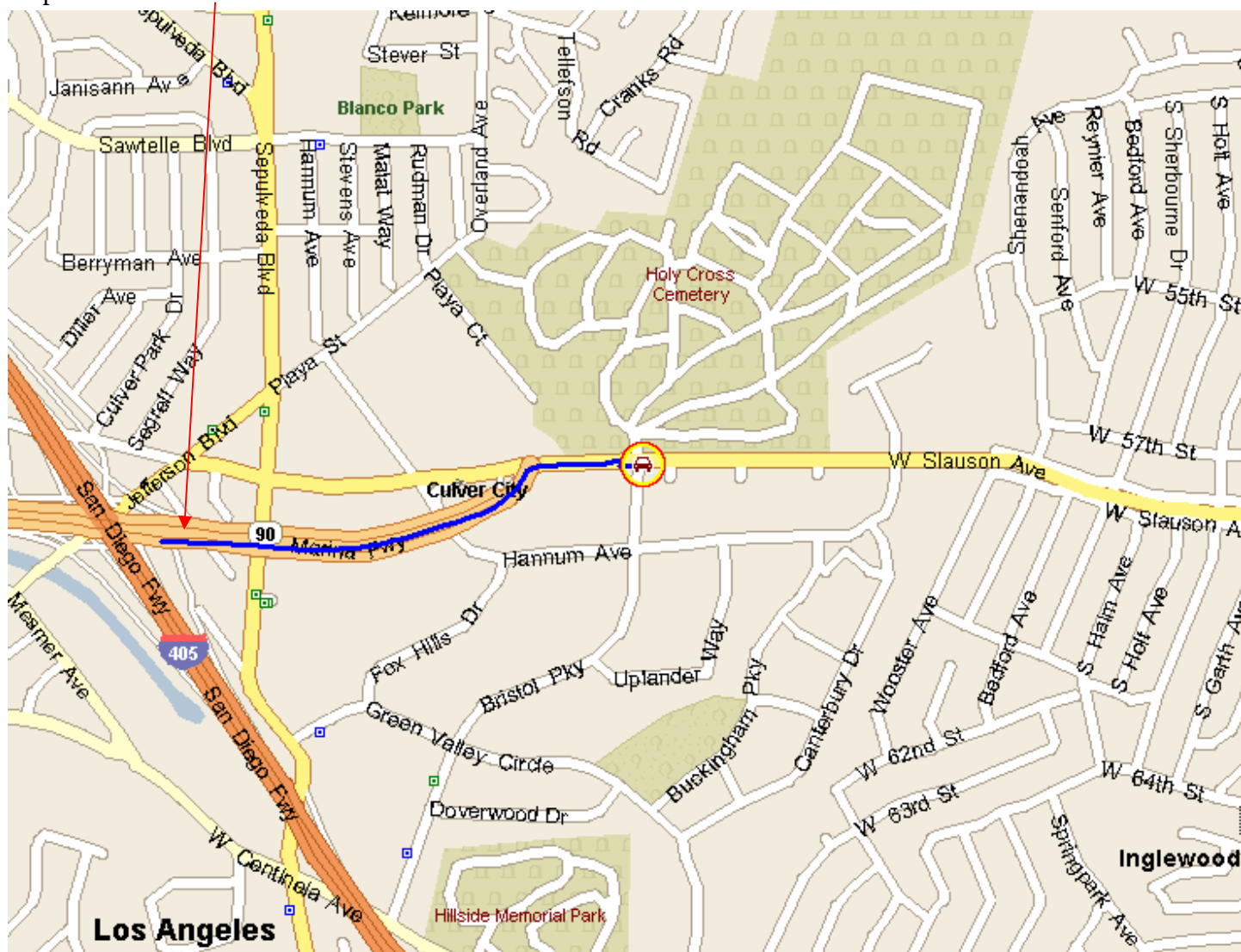
Step 9: To press “Play” button



Step 10: To select “Create GPS Trail” and “Track Position”



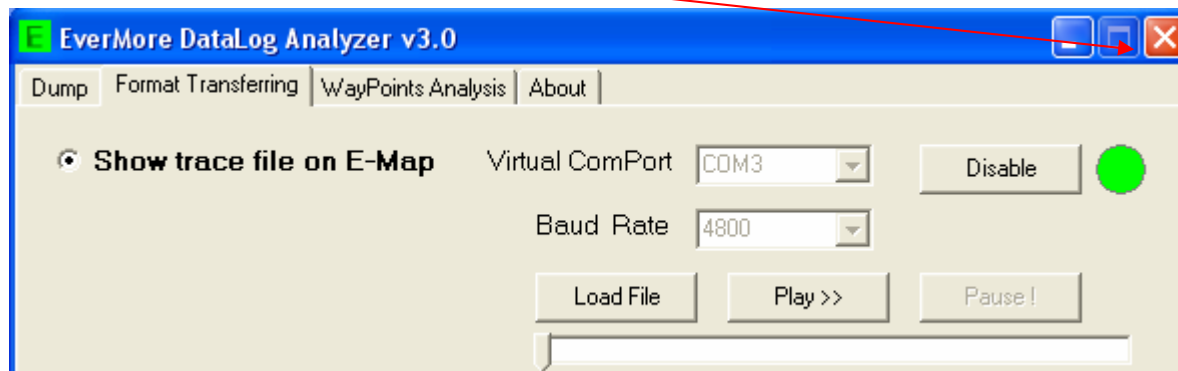
Step 11: The car trail



Step 12: To close streets & trips



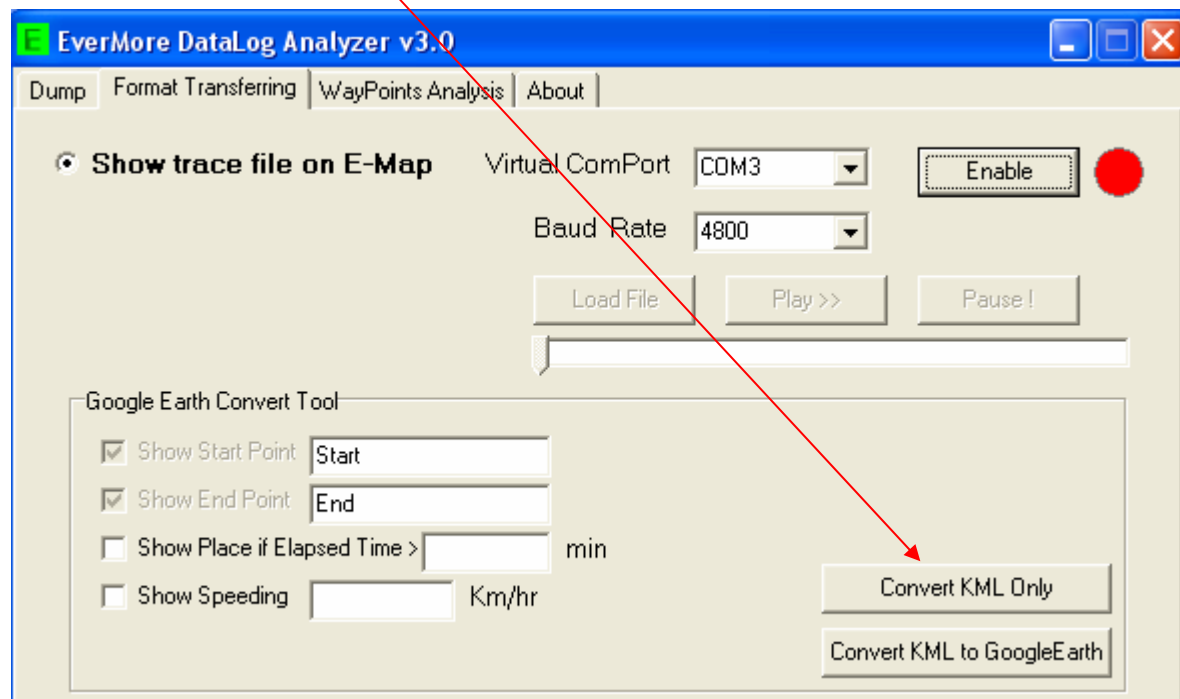
Step 13: To close datalog utility



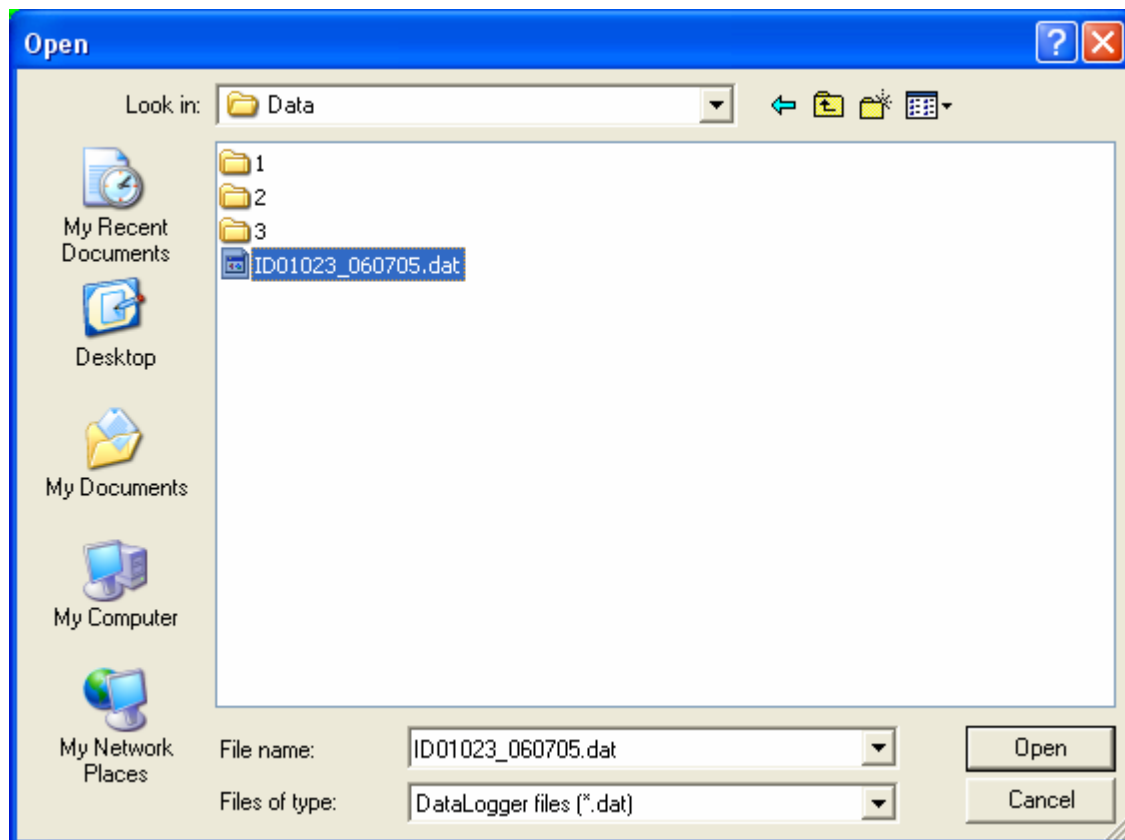
6.3.2 Google Earth Convert tool

How to setup Convert KML Only

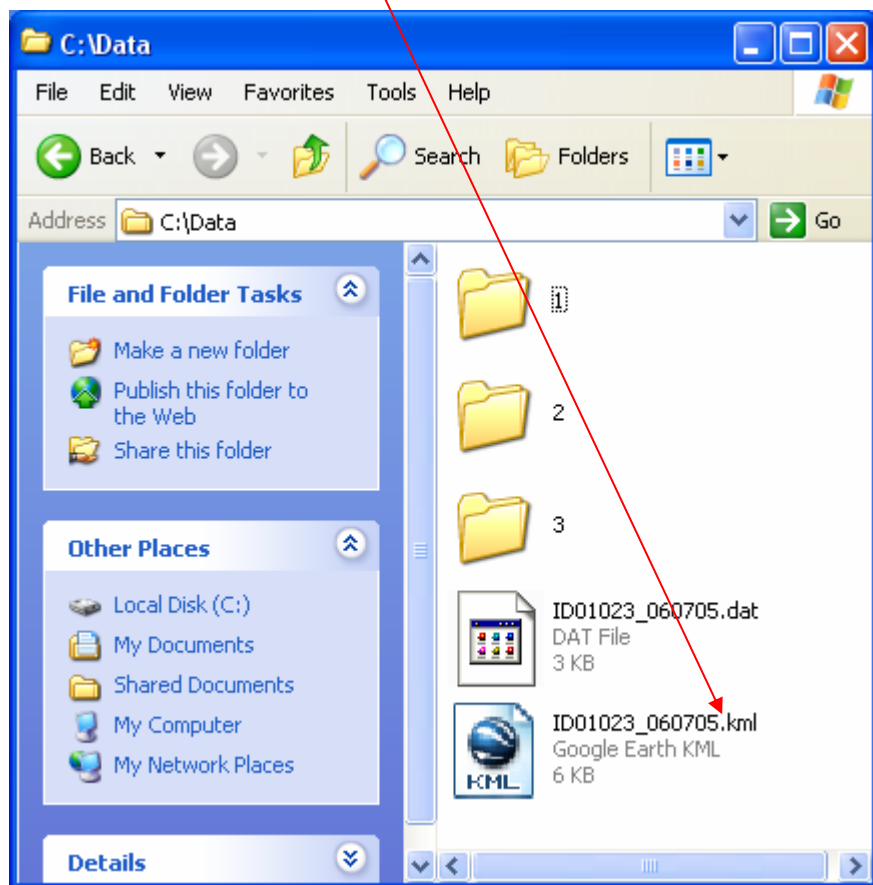
Step 1: To press “Convert KML Only” button



Step 2: To open a file

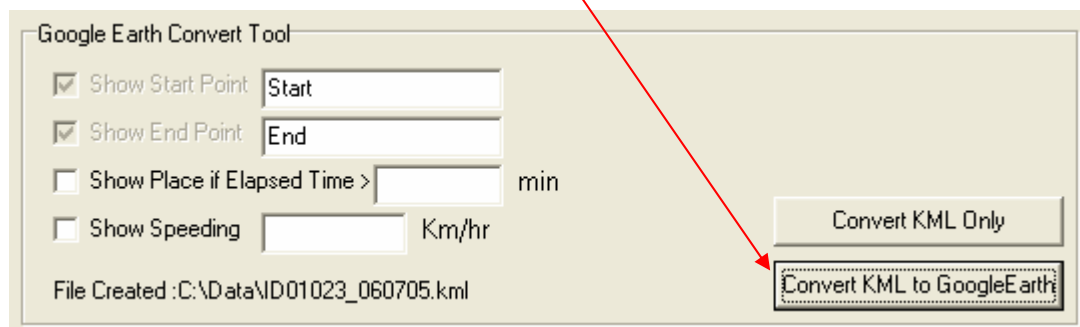


Step 3: To check a produce KML file

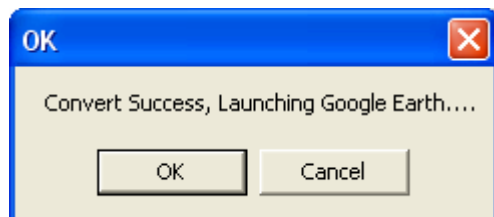


How to setup Convert KML to Google Earth

Step 1: To press “Convert KML to Google Earth” button



Step 2: To press “OK” button

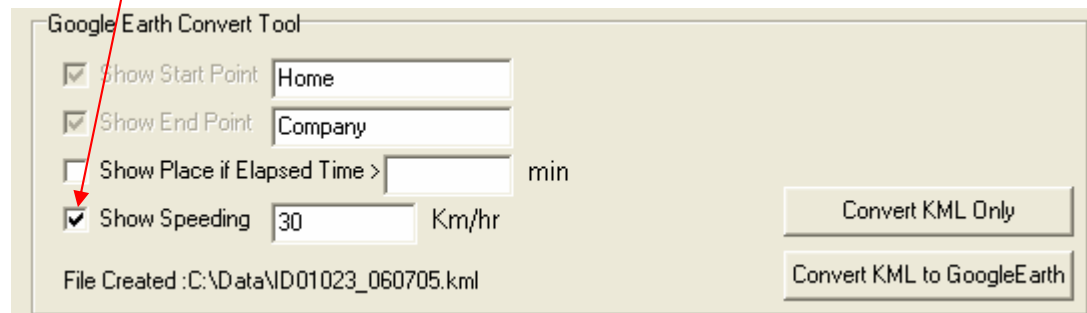


Step 3: Google Earth will pop up

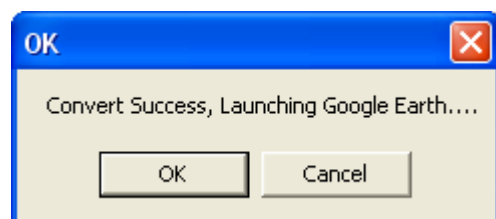


How to setup Convert KML to Google Earth and show speeding

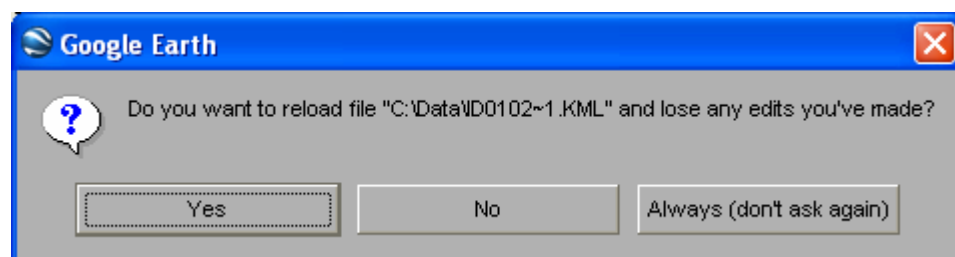
Step 1: To press “Convert KML to Google Earth” button



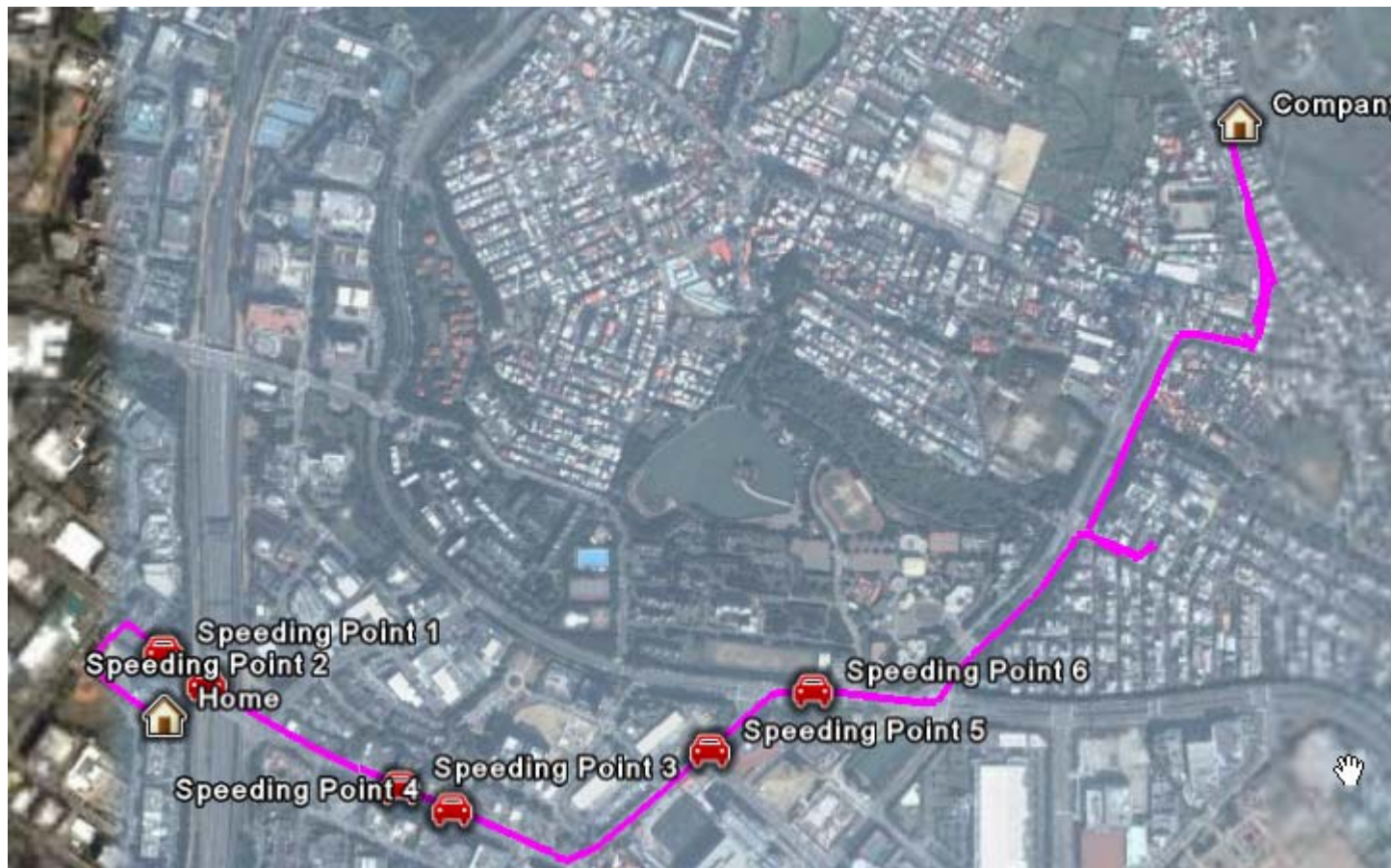
Step 2: To press “OK” button



Step 3: To press “Yes” button



Step 4: Google Earth will pop up



How to setup Convert KML to Google Earth and show stay time

Step 1: To press “Convert KML to Google Earth” button

Google Earth Convert Tool

☒ Show Start Point

Home

☒ Show End Point

Company

☒ Show Place if Elapsed Time > 1 min

☐ Show Speeding

30

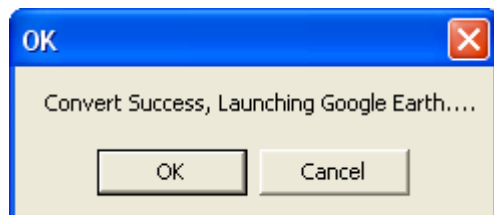
 Km/hr

Convert KML Only

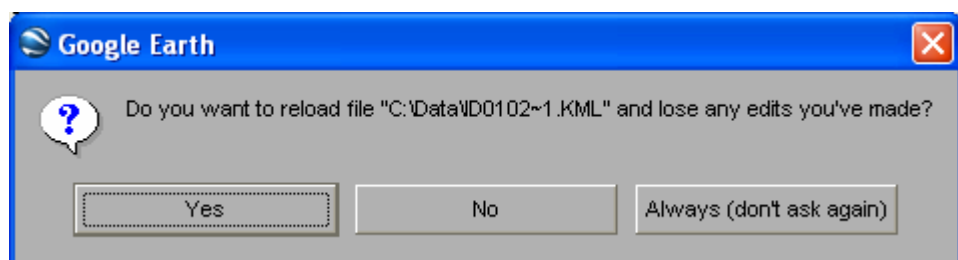
Convert KML to GoogleEarth

File Created : C:\Data\ID01023_060705.kml

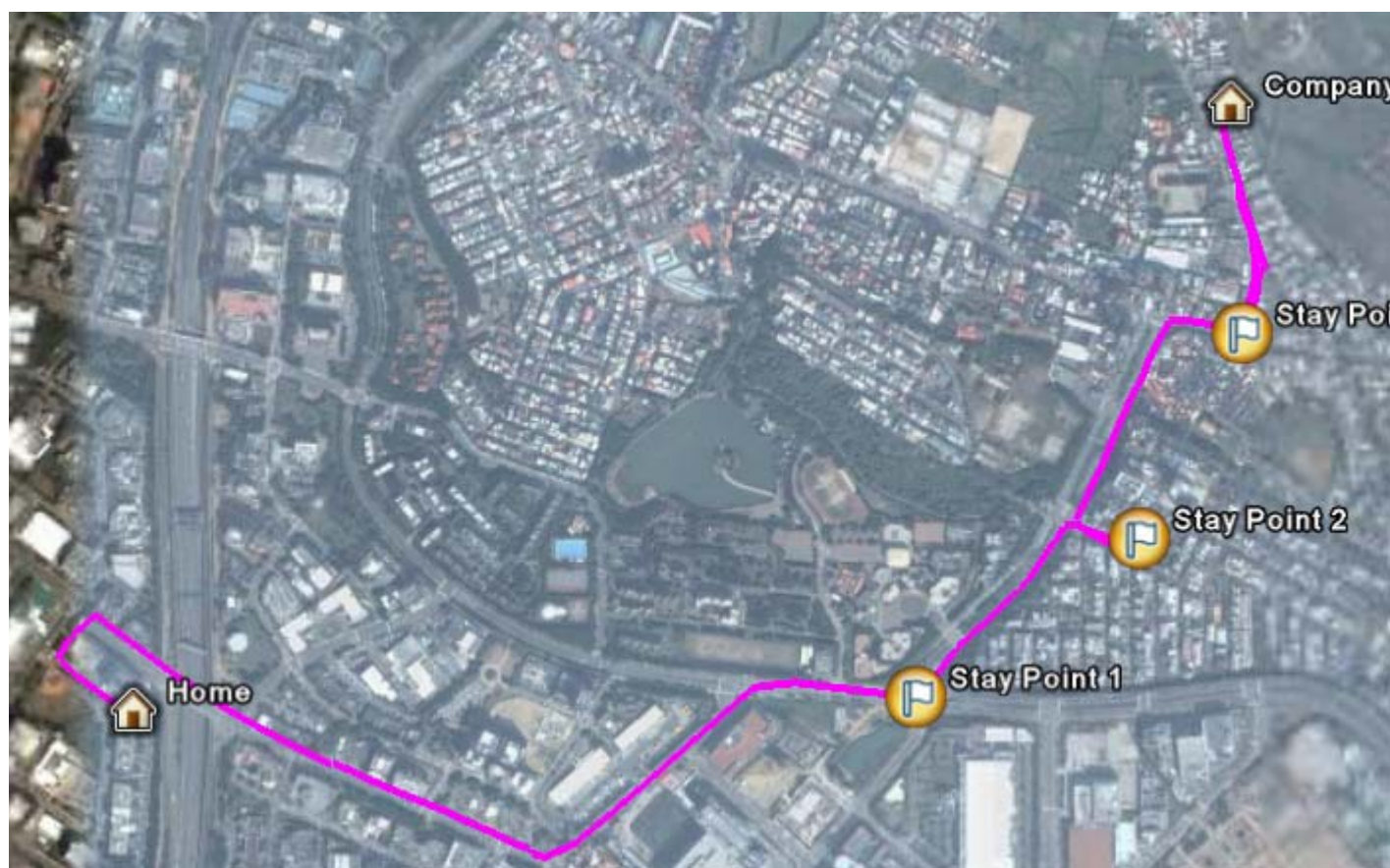
Step 2: To press “OK” button



Step 3: To press “Yes” button



Step 4: Google Earth will pop up

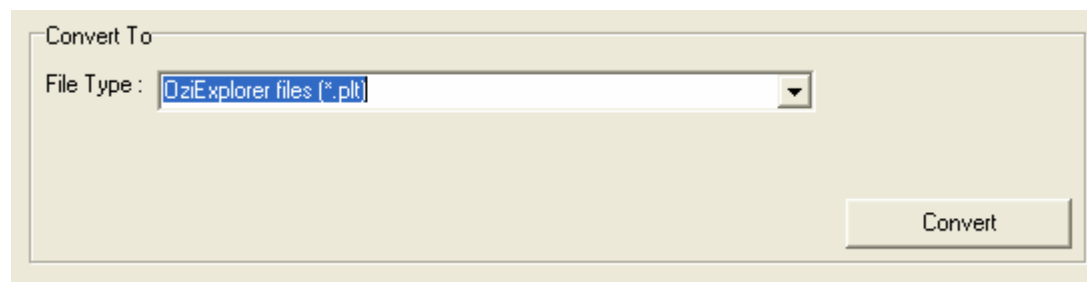


6.3.3 Converting files

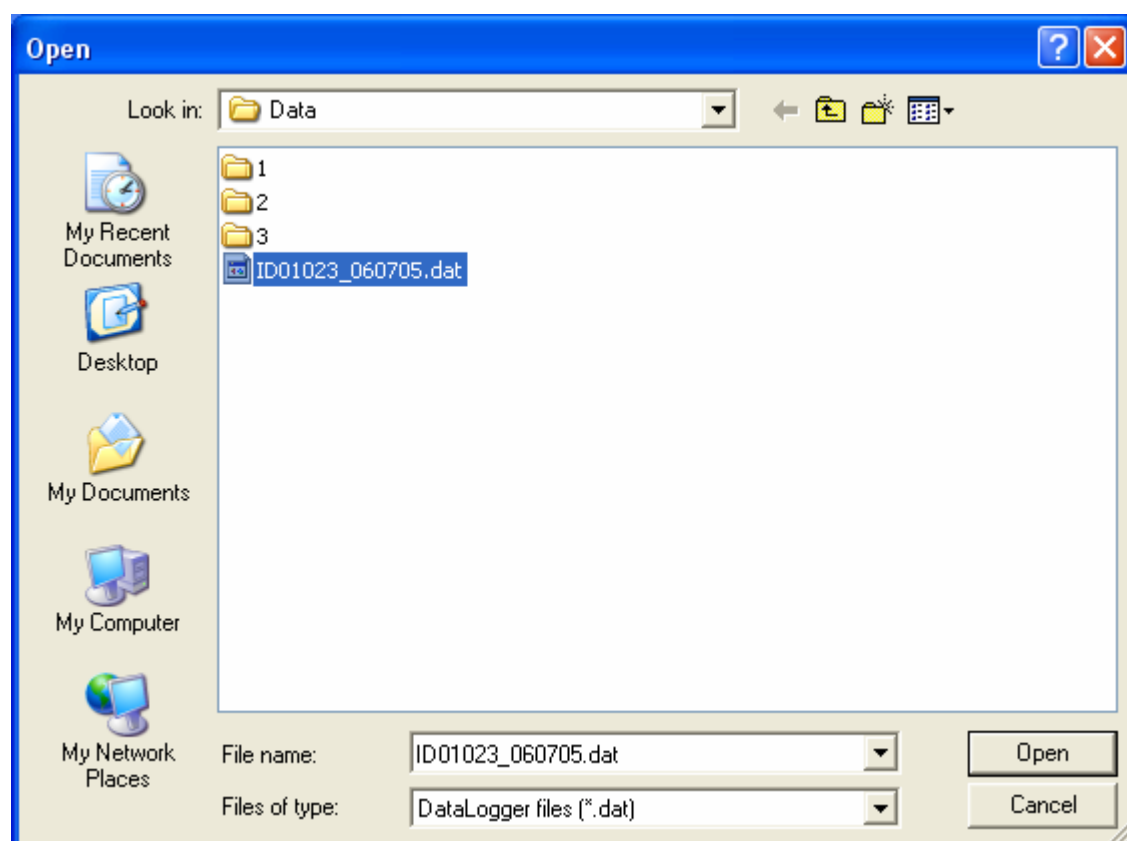
How to Convert OziExplorer files

This *.plt format can fit “OziExplorer” software

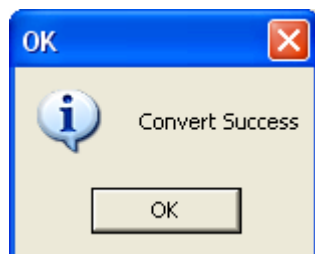
Step 1: To select *.plt and to press “Convert” button



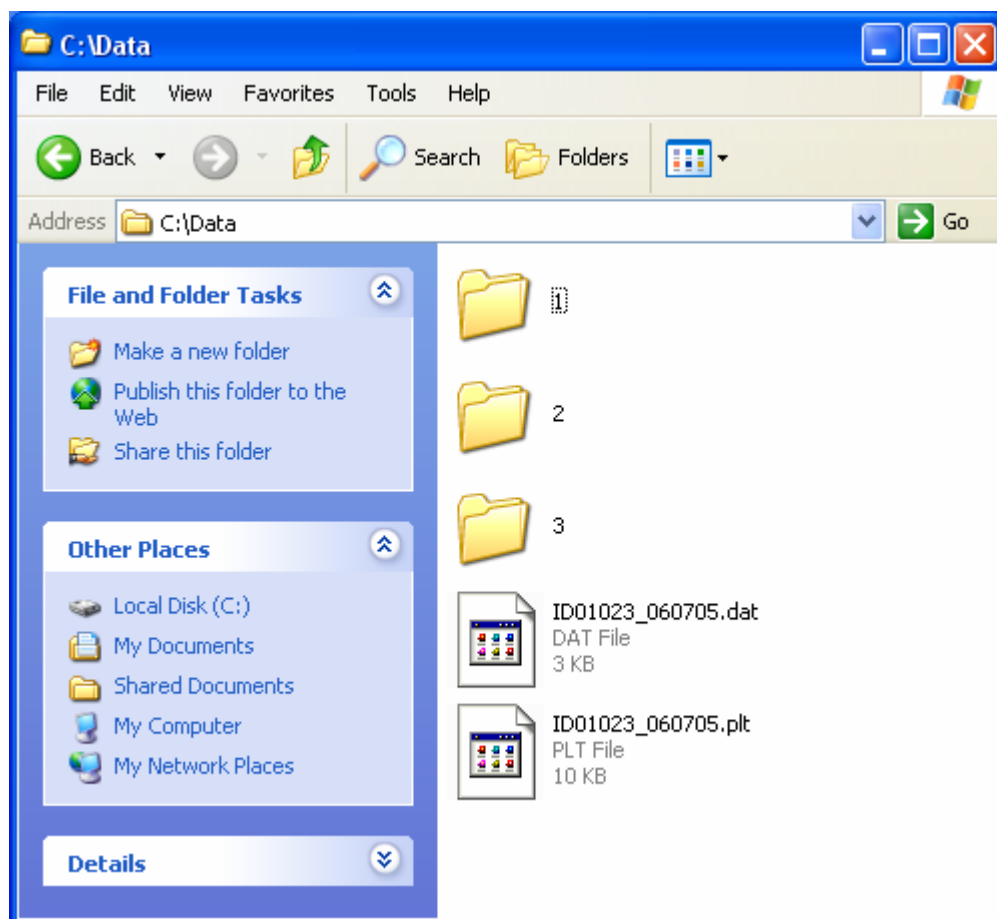
Step 2: To open a file



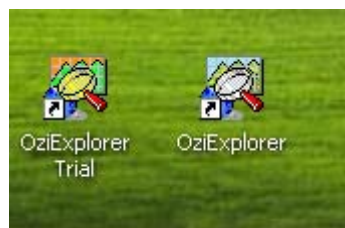
Step 3: To press “OK” button



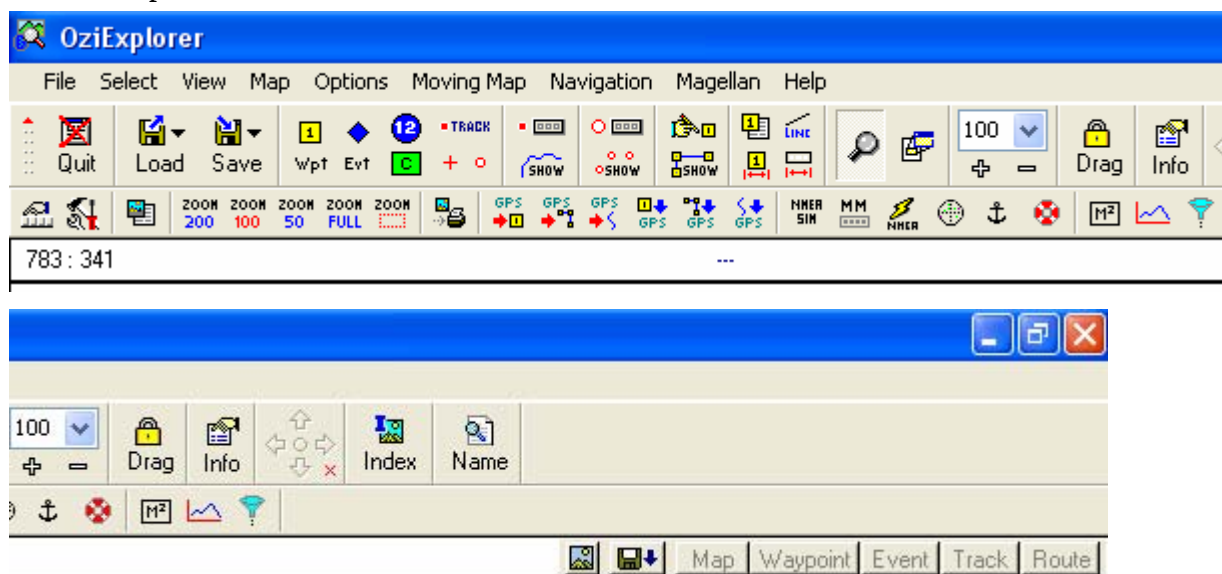
Step 4: To check *.plt file



The OziExplor icons

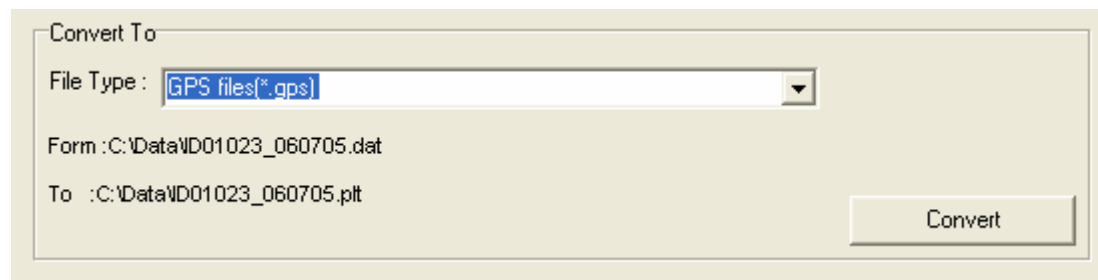


The OziExplor contents

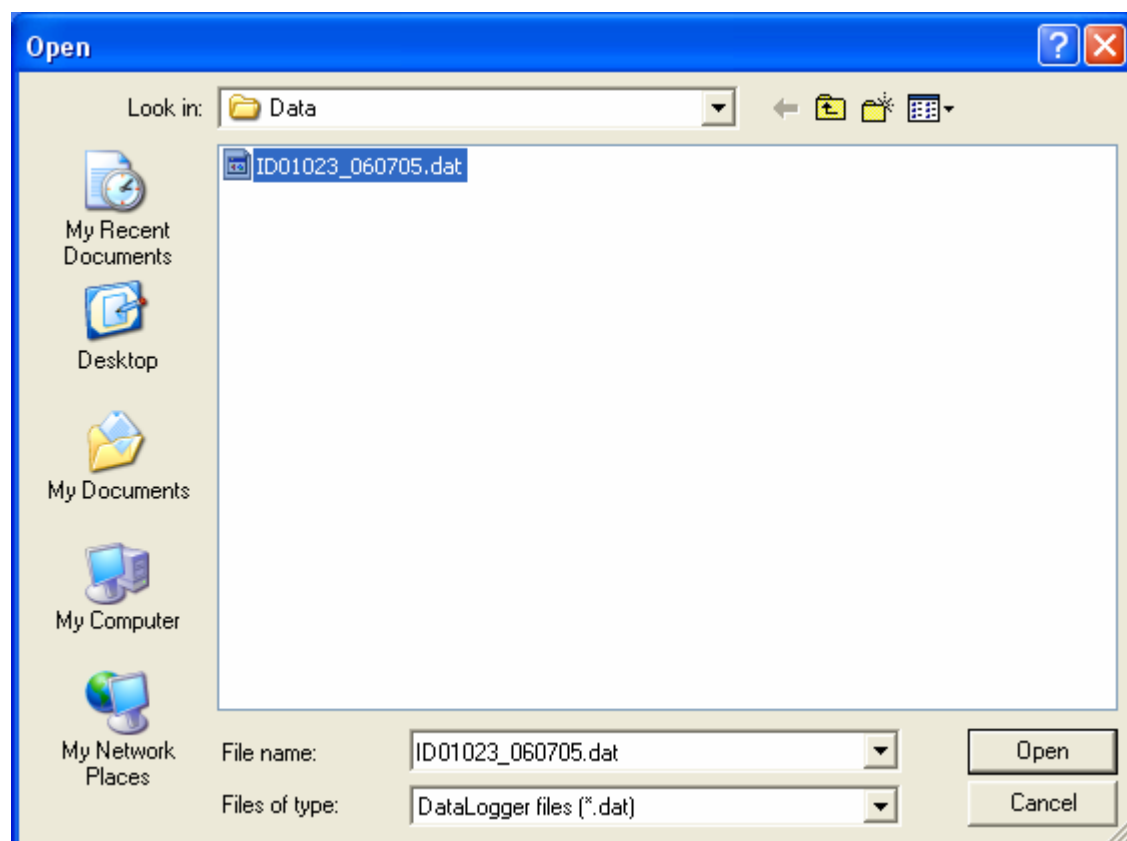


How to Convert GPS files

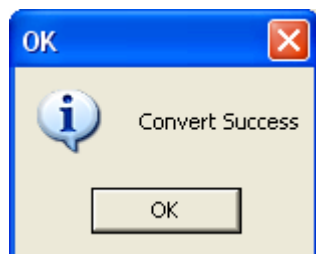
Step 1: To select *.gps and to press “Convert” button



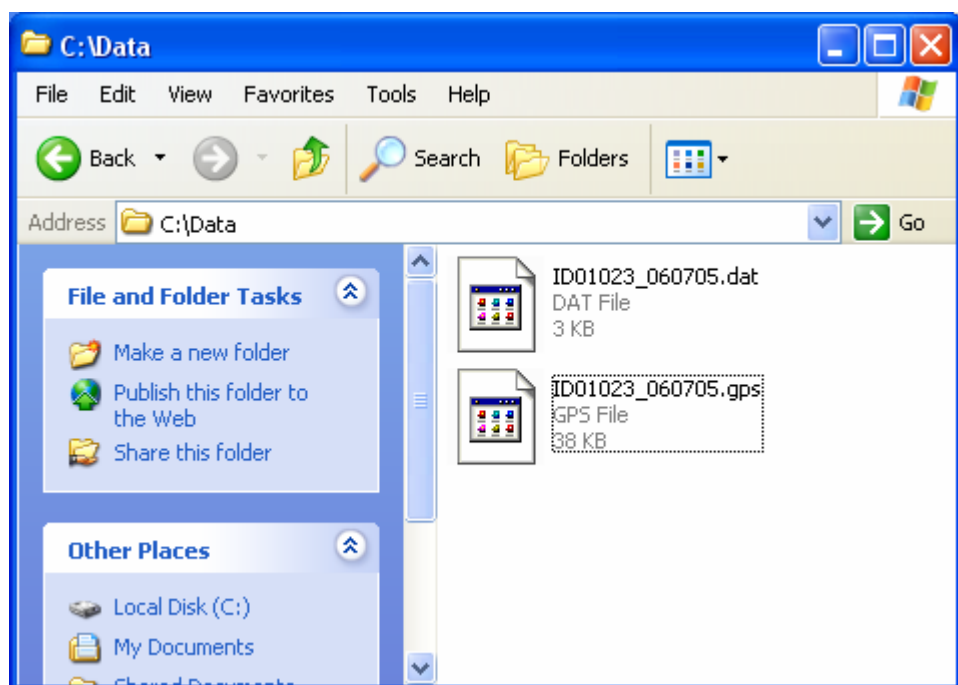
Step 2: To open a file



Step 3: To press “OK” button



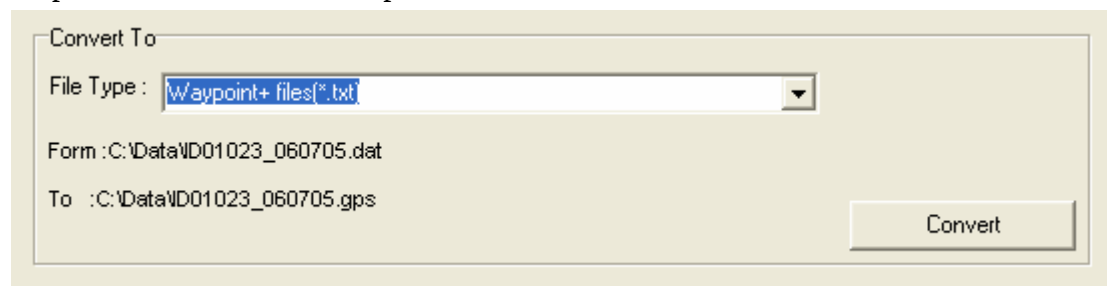
Step 4: To check *.gps file



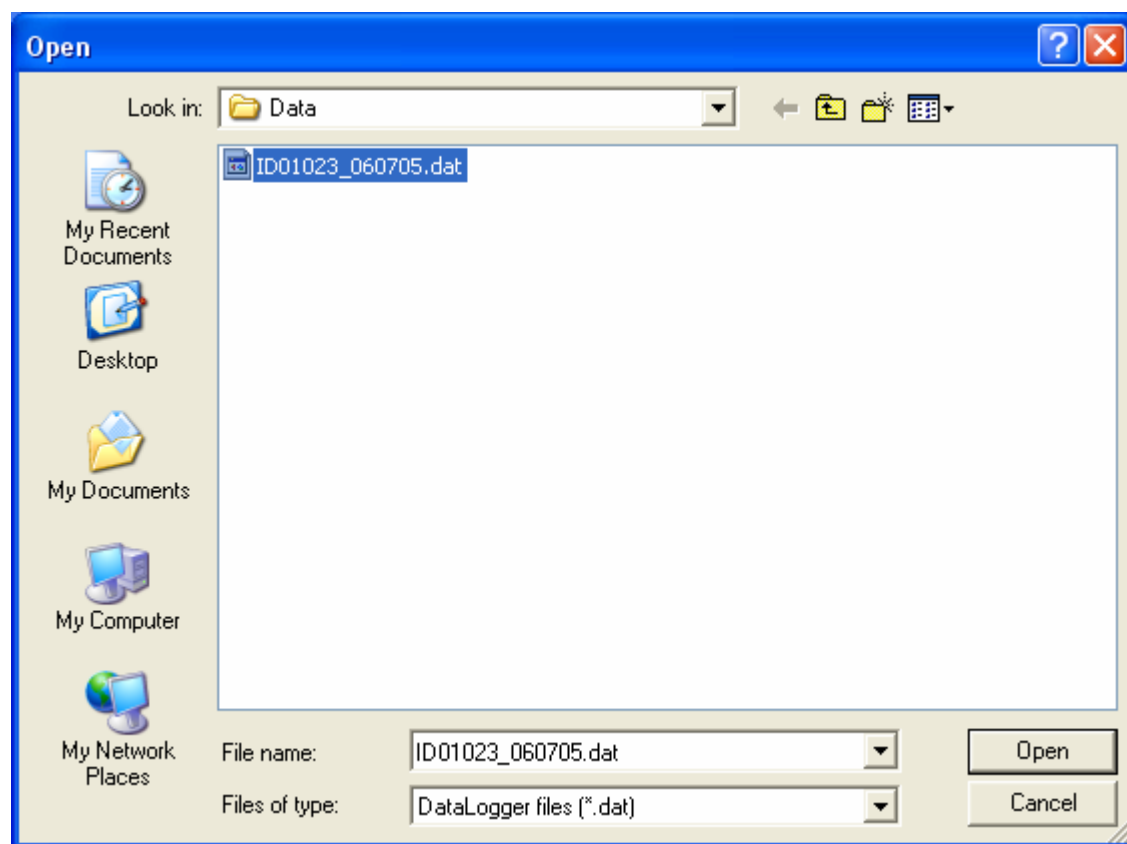
How to Convert Waypoint files

This *.txt format can fit “Pa Pa Go” e-map

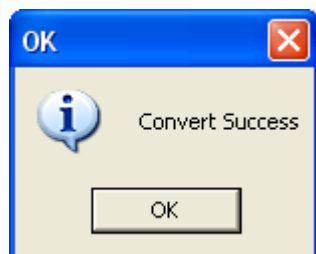
Step 1: To select *.txt and to press “Convert” button



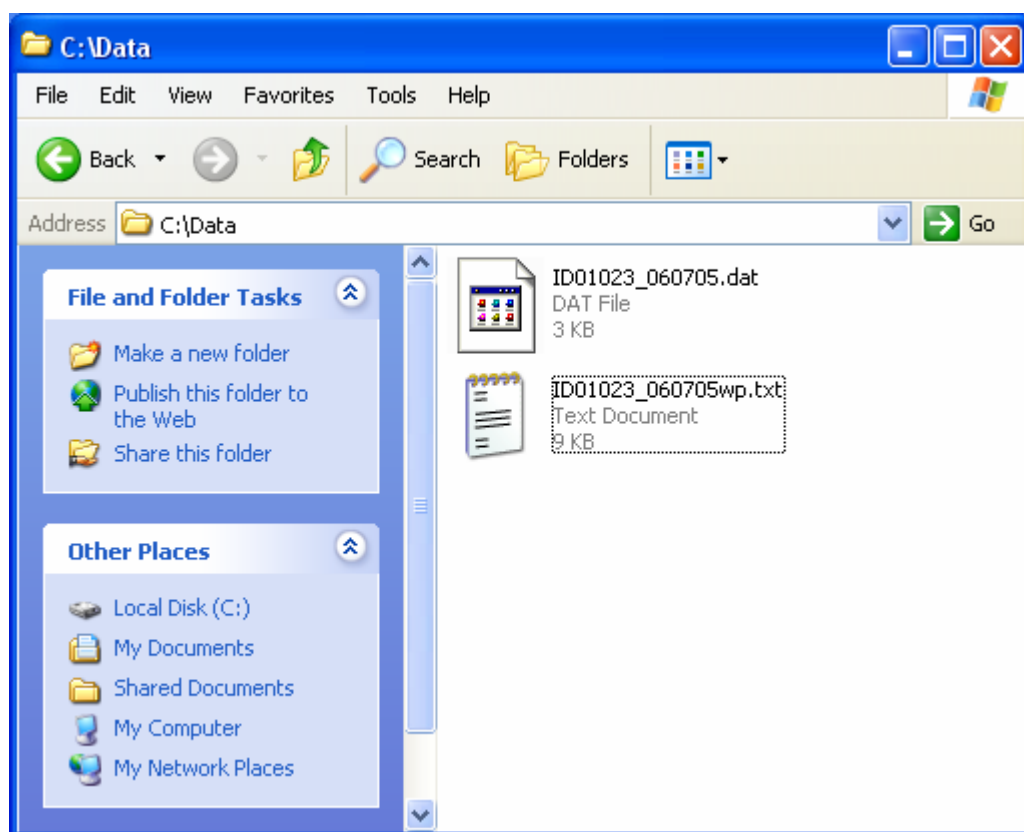
Step 2: To open a file



Step 3: To press “OK” button



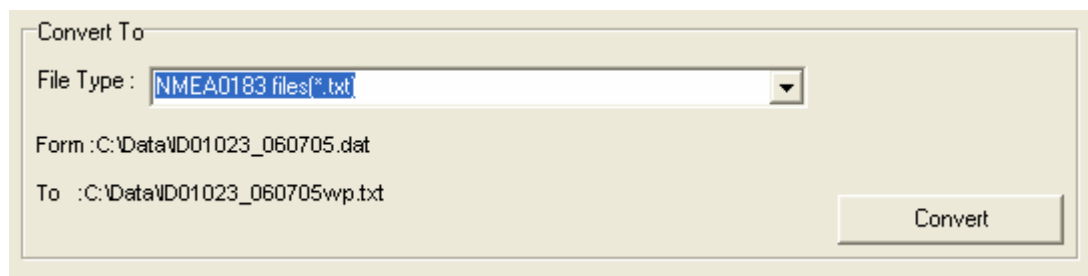
Step 4: To check *.txt file



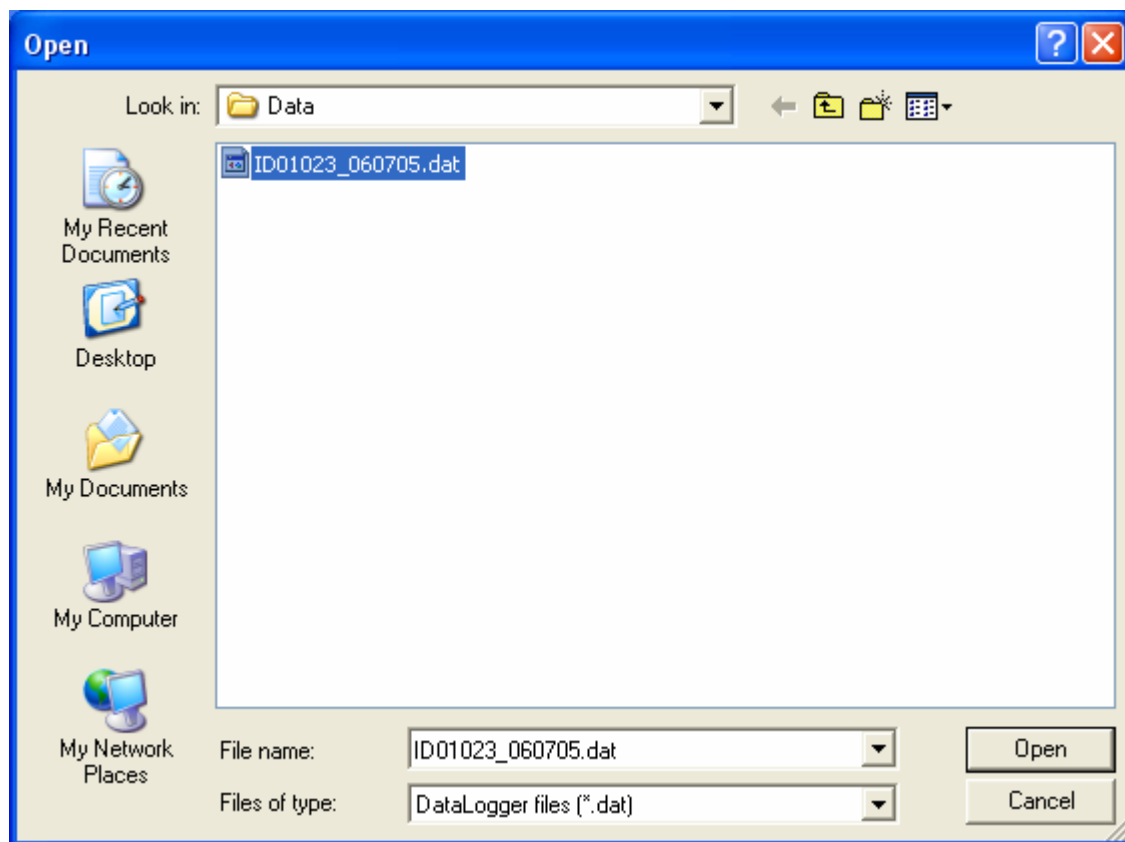
How to Convert NMEA0183 files

This *.txt format can fit “GPSView” test tool.

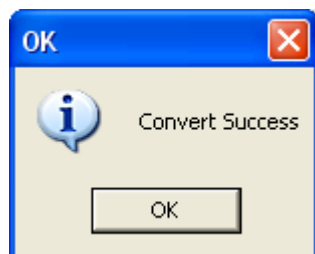
Step 1: To select *.txt and to press “Convert” button



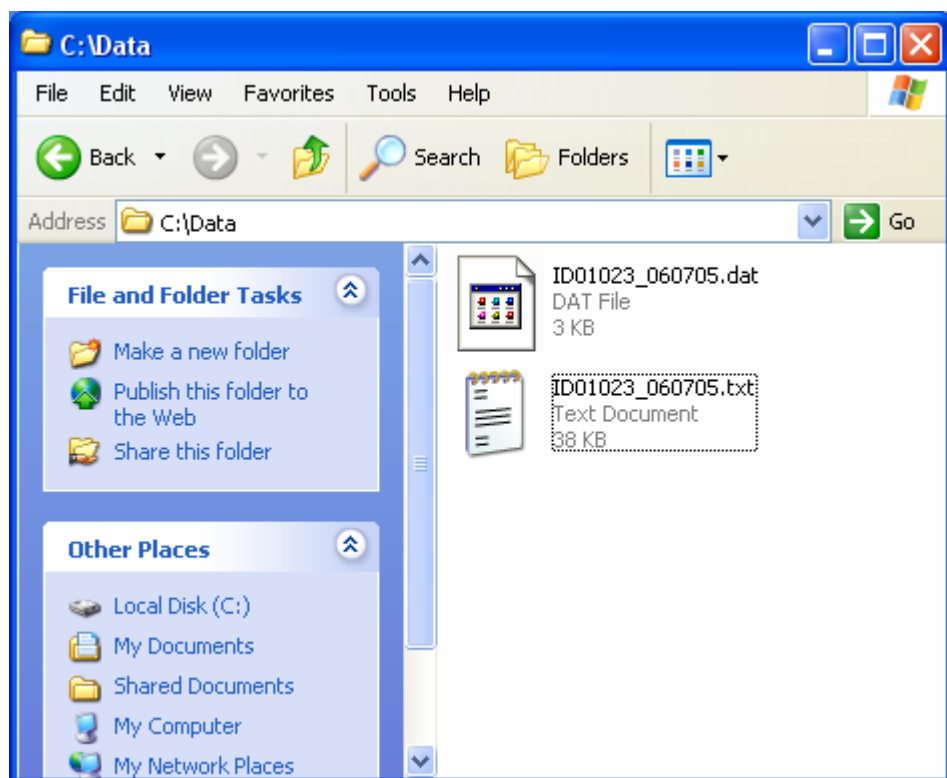
Step 2: To open a file



Step 3: To press “OK” button



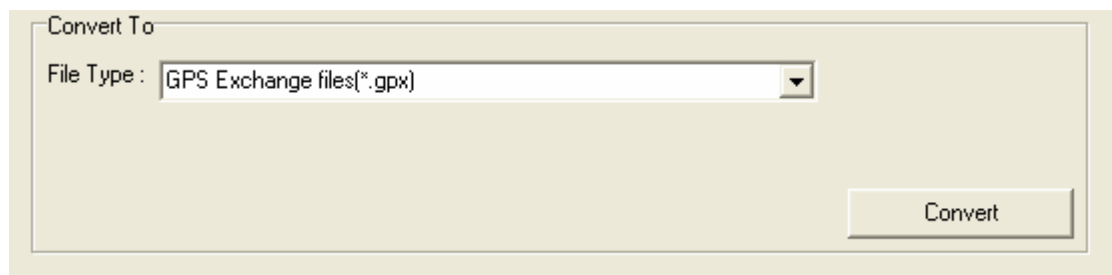
Step 4: To check *.txt file



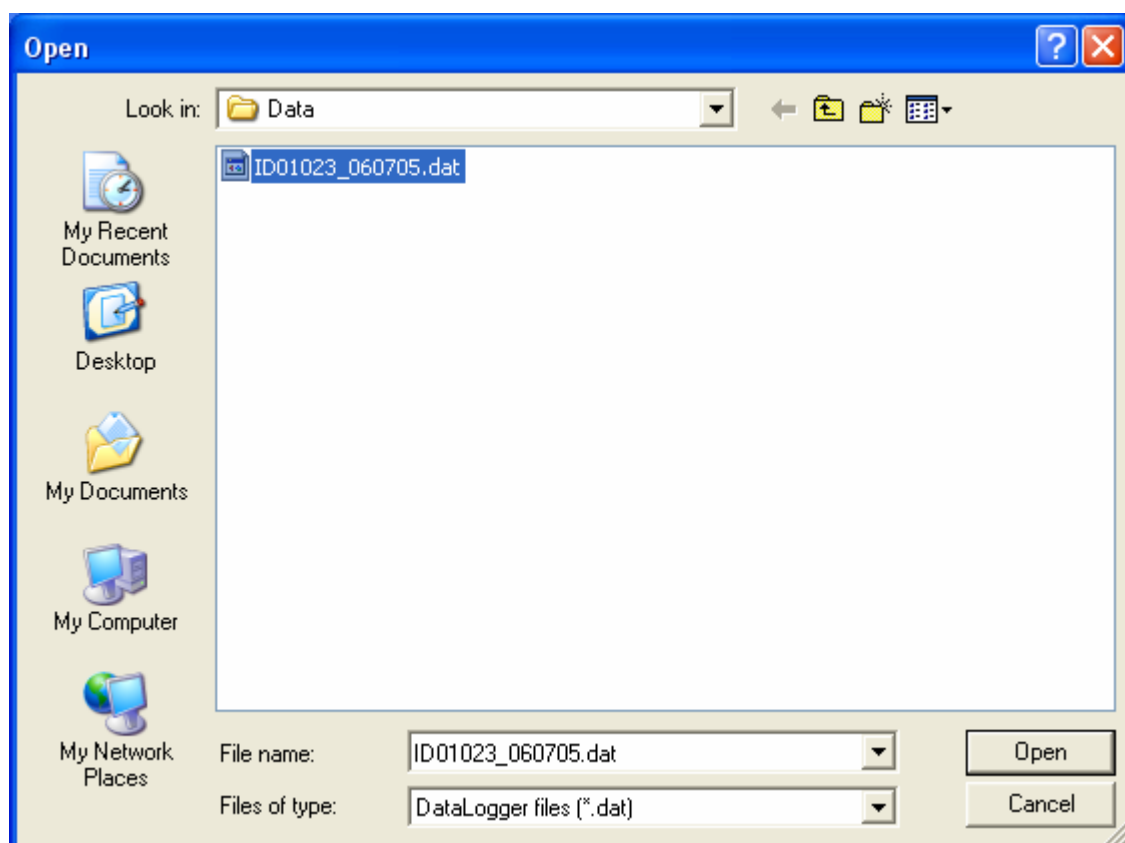
How to Convert GPS Exchanges files

This *.gpx format can fit “Microsoft Streets & Trips” e-map

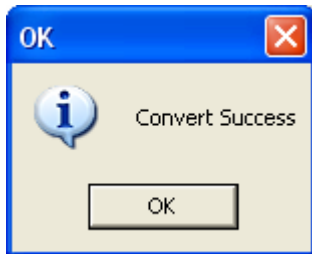
Step 1: To select *.gpx and to press “Convert” button



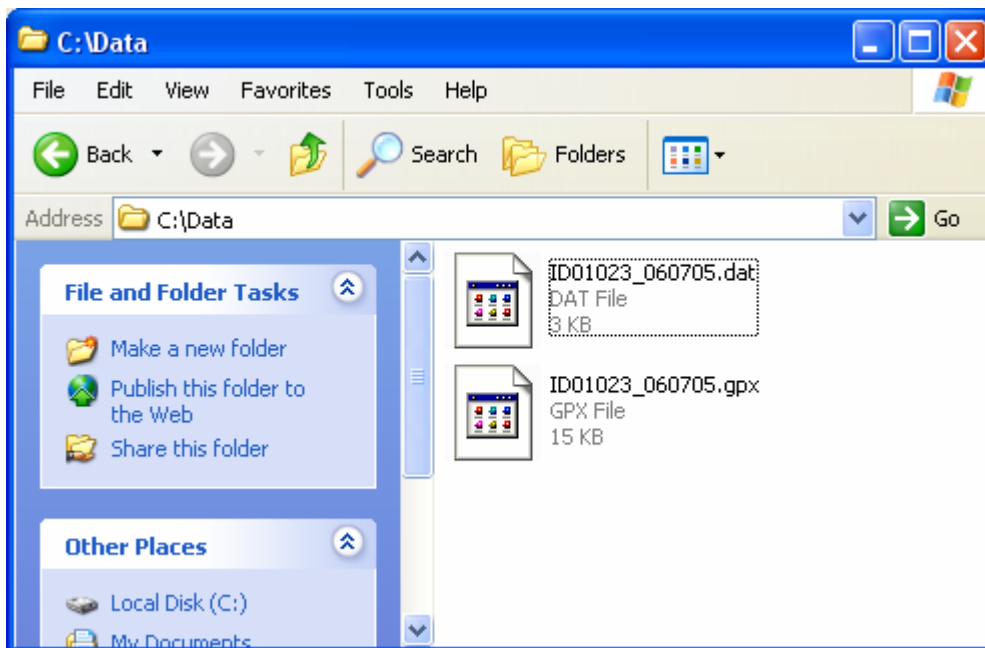
Step 2: To open a file



Step 3: To press “OK” button

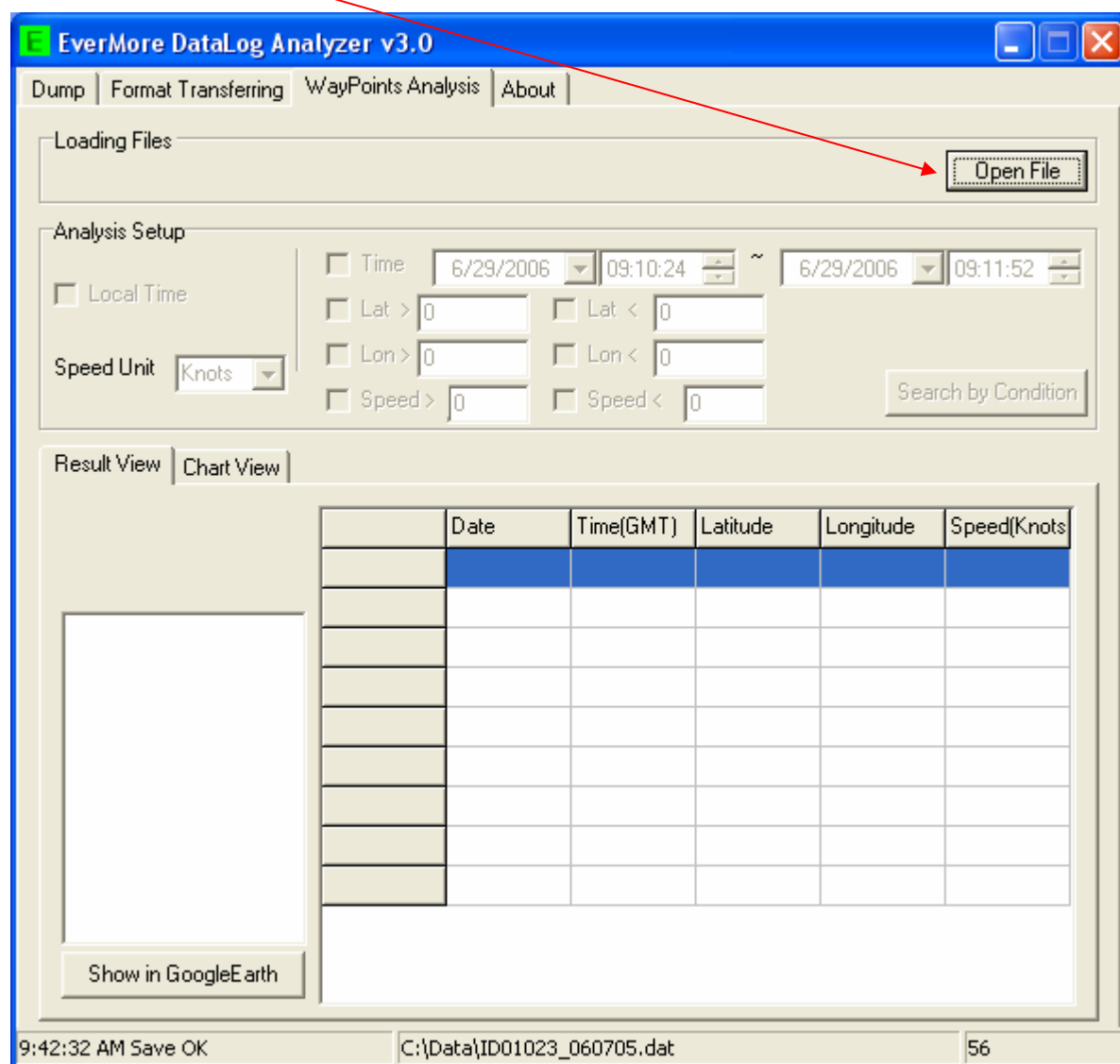


Step 4: To check *.gpx file

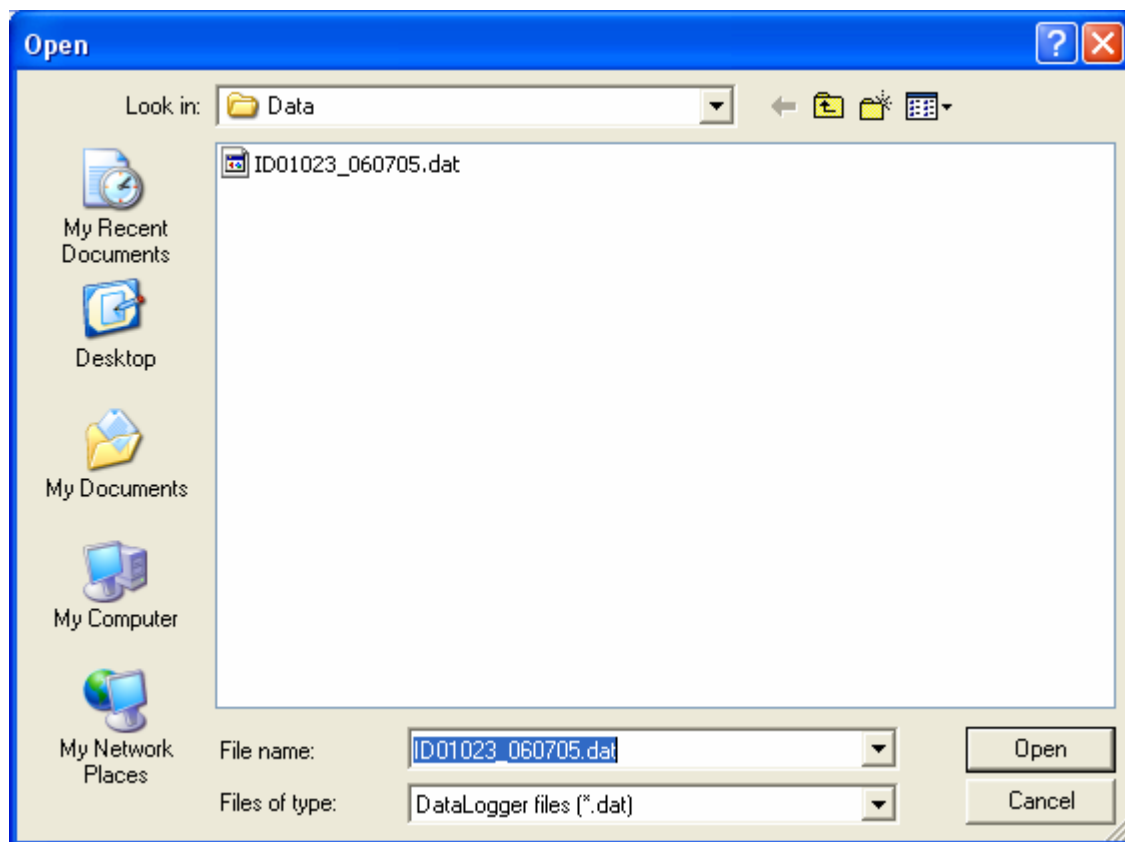


6.4 WayPoints Analysis

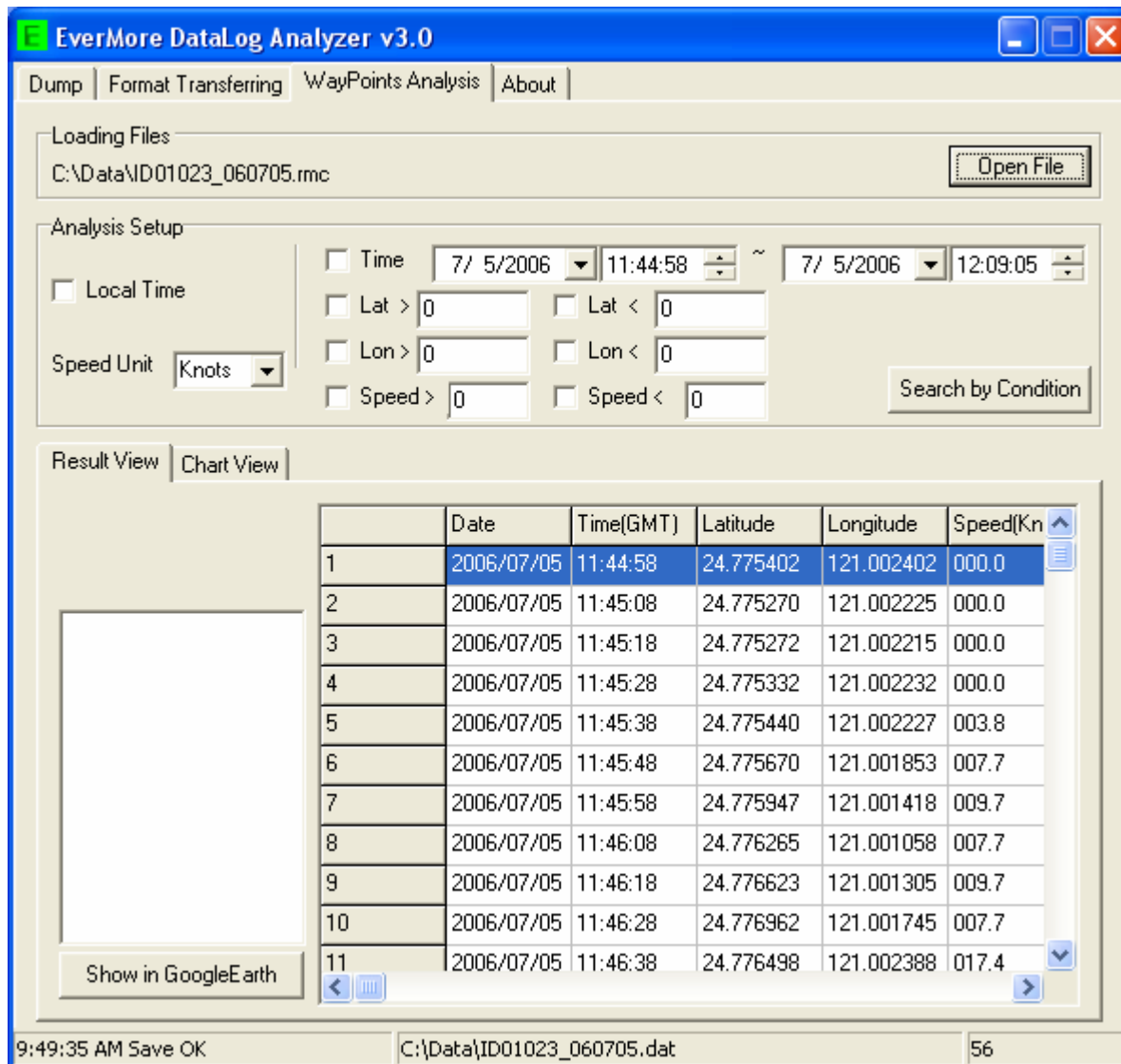
Step 1: To press “Open File” button



Step 2: To open a file



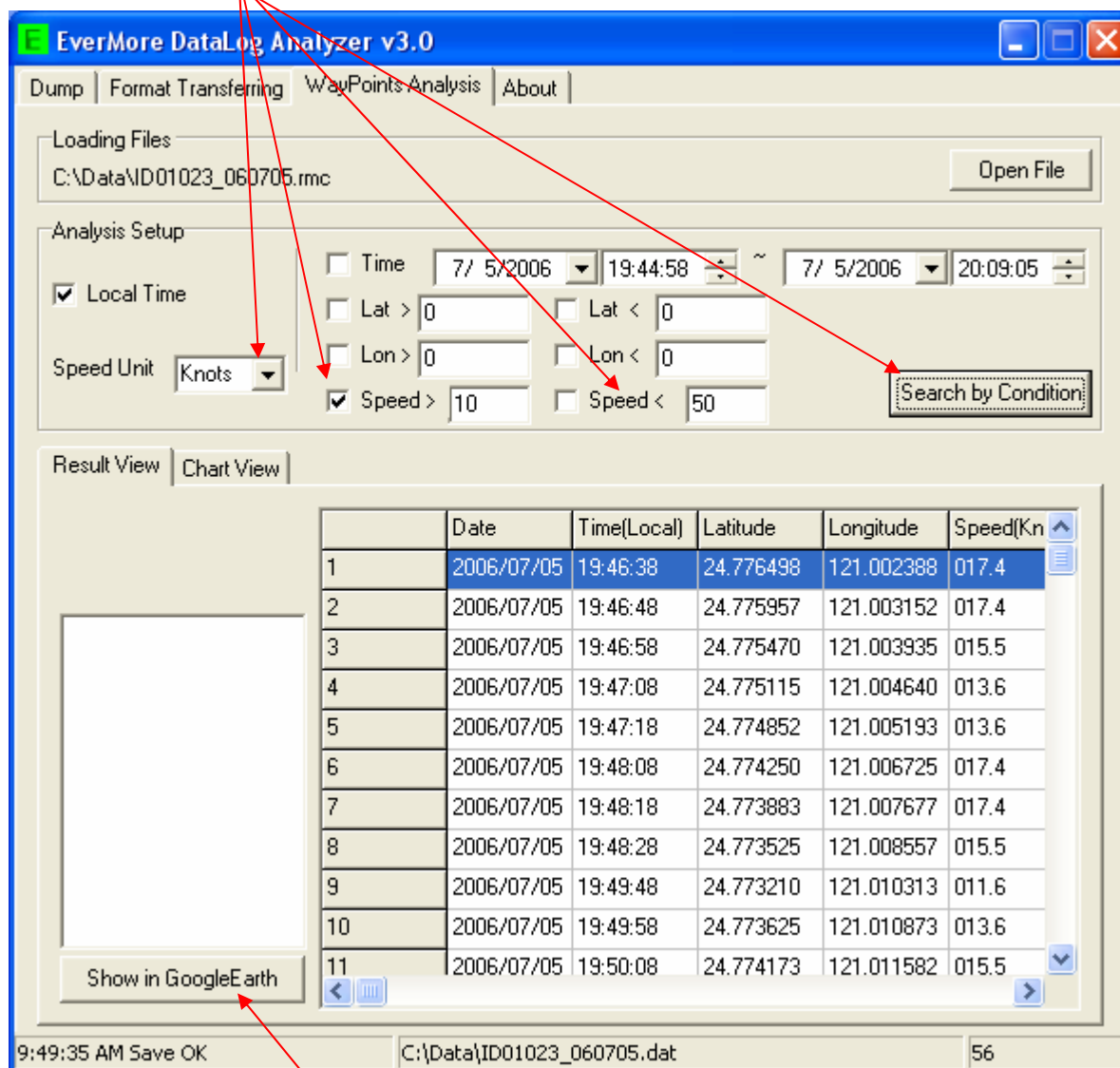
Step 3: To load data into table



The screenshot shows the 'EverMore DataLog Analyzer v3.0' window. The 'Loading Files' section has a text box containing 'C:\Data\ID01023_060705.rmc' and an 'Open File' button. The 'Analysis Setup' section includes a 'Local Time' checkbox, a 'Speed Unit' dropdown set to 'Knots', and several search criteria checkboxes: 'Time', 'Lat >', 'Lat <', 'Lon >', 'Lon <', 'Speed >', and 'Speed <'. The 'Time' criteria are set to '7/ 5/2006' and '11:44:58' to '12:09:05'. A 'Search by Condition' button is also present. The 'Result View' tab is active, displaying a table with 11 rows of data. A 'Show in GoogleEarth' button is located below the table. The status bar at the bottom shows '9:49:35 AM Save OK', the file path 'C:\Data\ID01023_060705.dat', and the page number '56'.

	Date	Time(GMT)	Latitude	Longitude	Speed(Kn)
1	2006/07/05	11:44:58	24.775402	121.002402	000.0
2	2006/07/05	11:45:08	24.775270	121.002225	000.0
3	2006/07/05	11:45:18	24.775272	121.002215	000.0
4	2006/07/05	11:45:28	24.775332	121.002232	000.0
5	2006/07/05	11:45:38	24.775440	121.002227	003.8
6	2006/07/05	11:45:48	24.775670	121.001853	007.7
7	2006/07/05	11:45:58	24.775947	121.001418	009.7
8	2006/07/05	11:46:08	24.776265	121.001058	007.7
9	2006/07/05	11:46:18	24.776623	121.001305	009.7
10	2006/07/05	11:46:28	24.776962	121.001745	007.7
11	2006/07/05	11:46:38	24.776498	121.002388	017.4

Step 4: To set condition

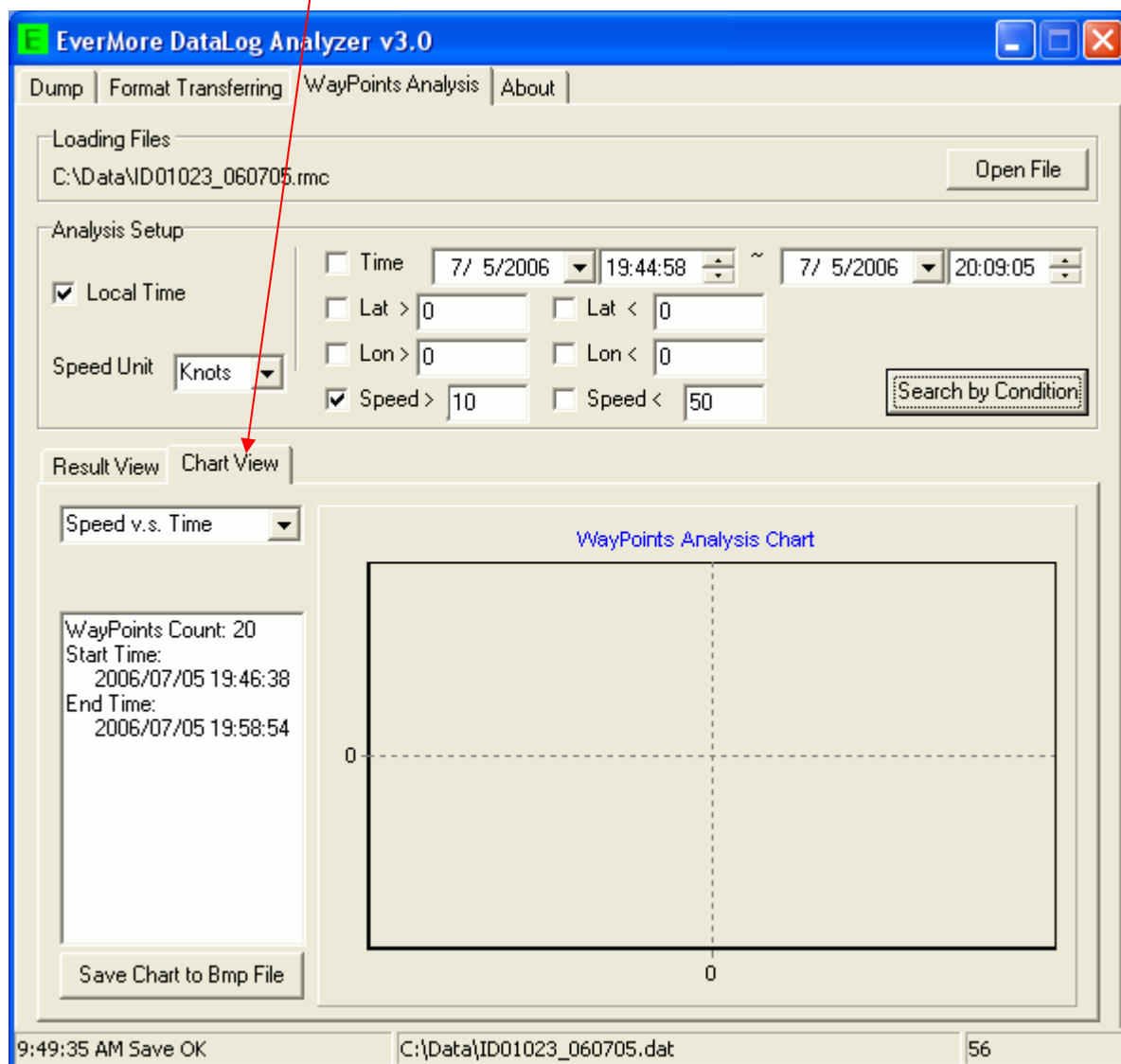


Step 5: To press “Show in Google Earth” button

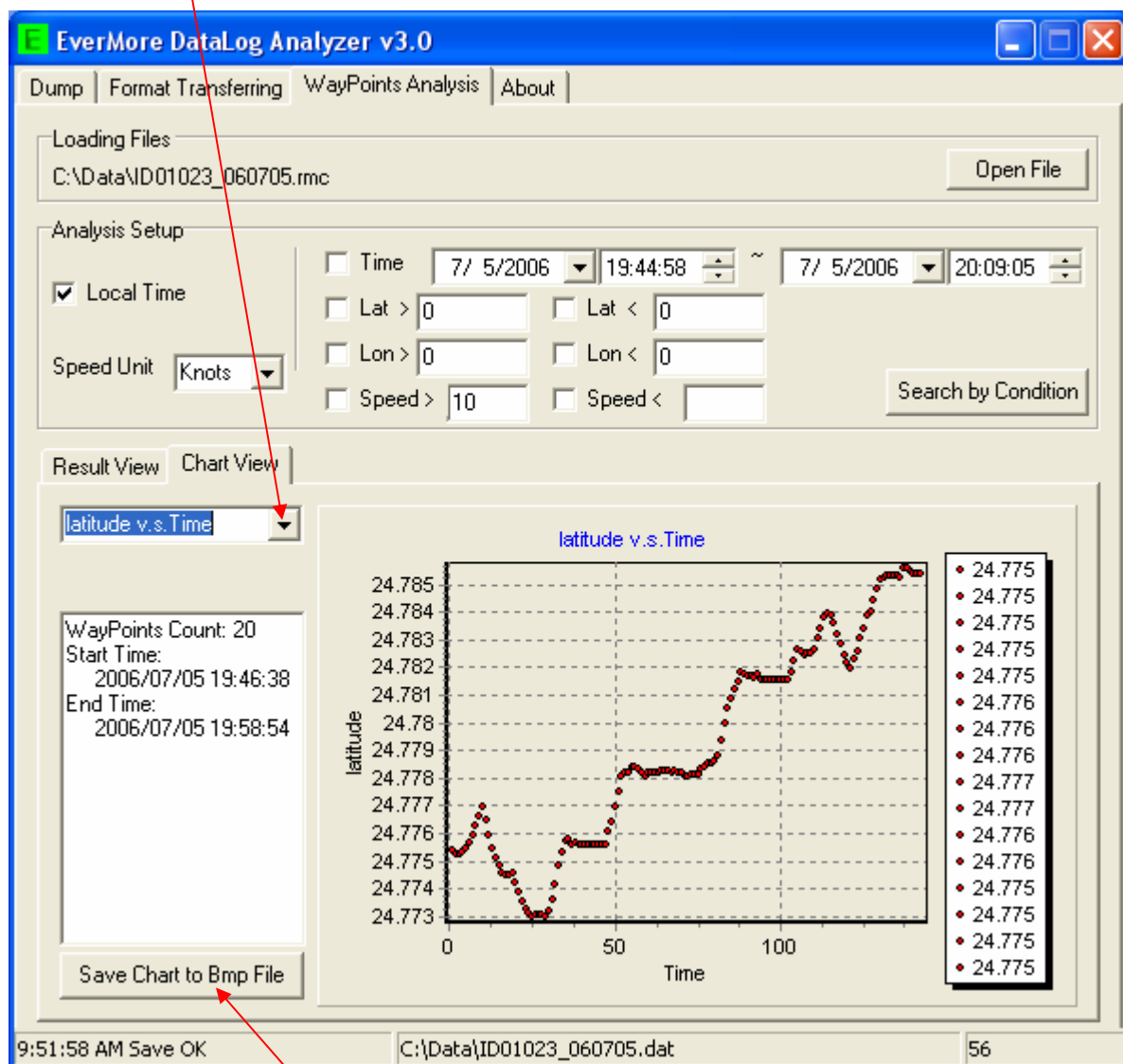
Step 6: The Google Earth will pop up



Step 7: To select "Chart View"

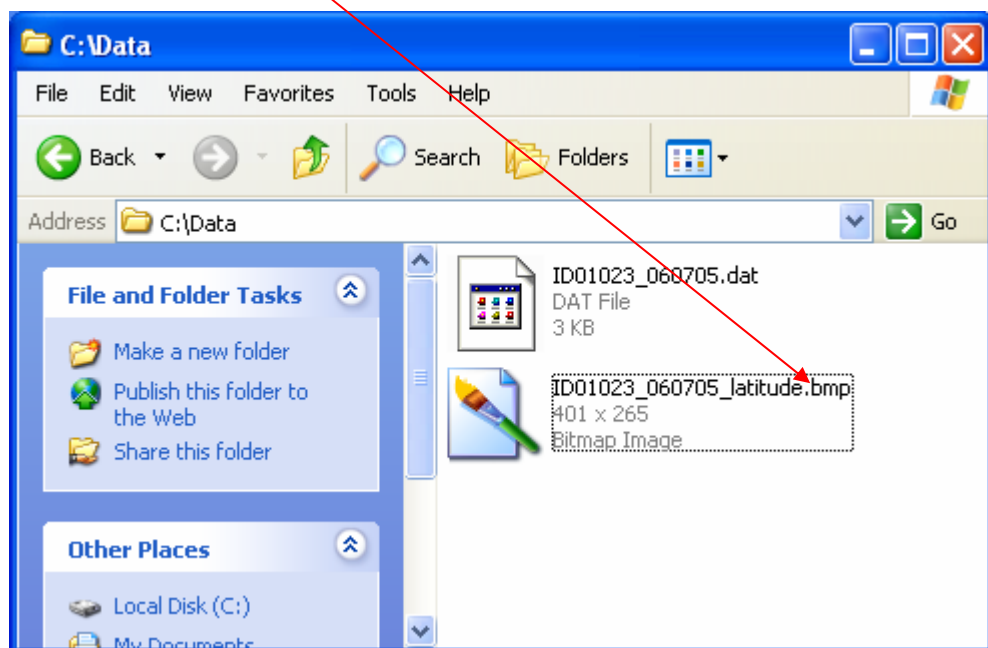


Step 8: To select X, Y parameters



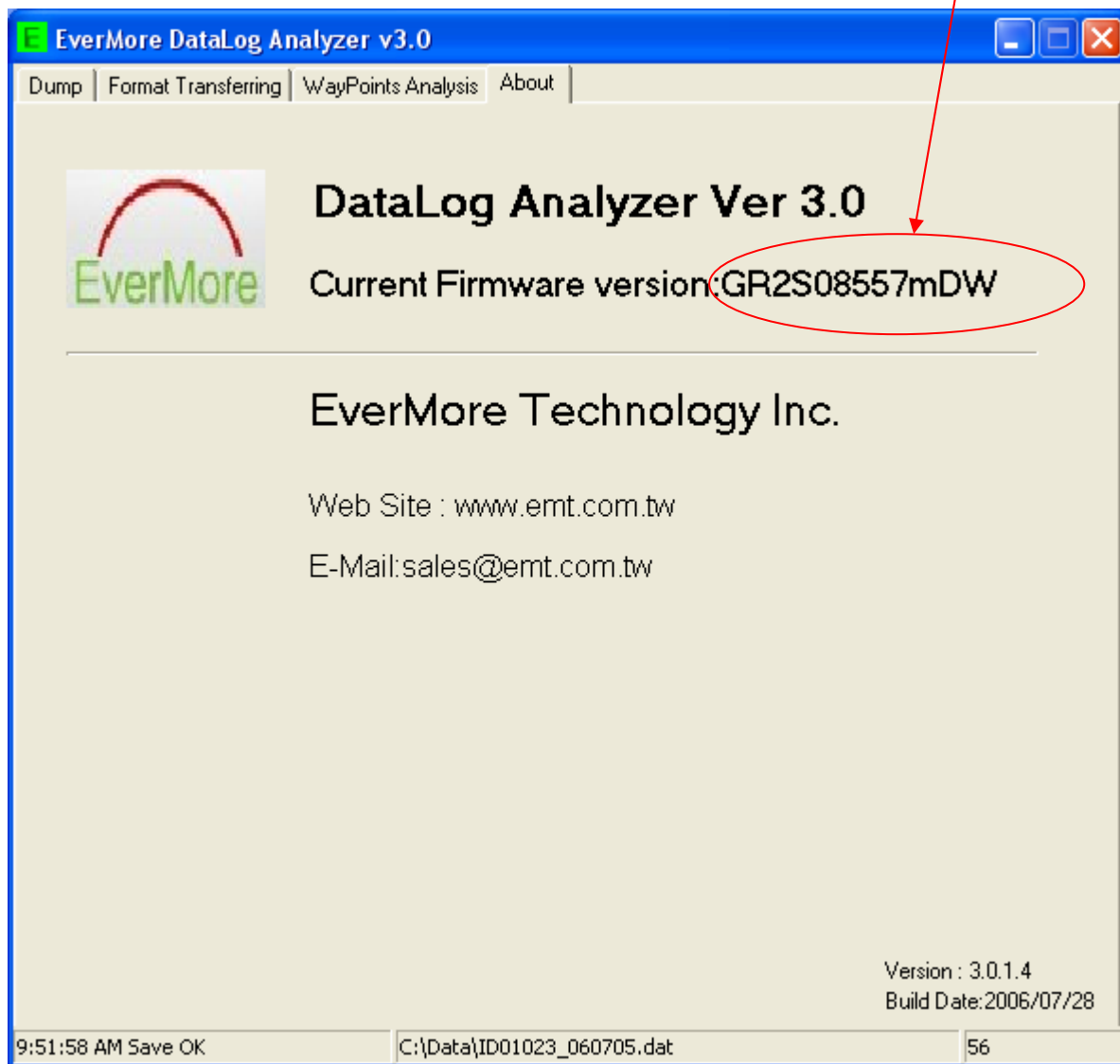
Step 9: To press “Save Chart Bmp File” button

Step 10: To check a BMP file



6.5 About

It shows out firmware version



7. Limited Warranty

The DL-200 is warranted to be free from defects in material and functions for one year from the date of purchase. Any failure of this product within this period under normal conditions will be replaced at no charge to the customers

8. Appendix

EverMore Website

Welcome to EverMore website at <http://www.emt.com.tw> or <http://www.globalsources.com/gpsevermore.co> for updated product information and drivers download.

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