DMS4

User Guide

V4.4

SMARTWITNESS
VEHICLE CCTV AND SAFETY SYSTEMS

Software & PC Requirements

MINIMUM PC REQUIREMENTS FOR DMS4 Server Software

OS: Windows XP or higher
CPU: i5 Quad Core
RAM: 4GB (0-50 Vehicles), 8GB (50-100 vehicles), 16 GB (100-250 vehicles)
HDD: 10GB per vehicle (storage will vary based on event total, live stream requests, & HD video requests).
Data usage per vehicle, per month will range between 500mb & 1GB. Please plan accordingly.
Monitor: 1280 x 800 resolution

NOTE* It is recommended that the DMS4 PC is used only for our DMS4 software and not other operations. The DMS4 PC must not go into hibernate/sleep mode as the internet connection must remain to receive the data from the vehicles.

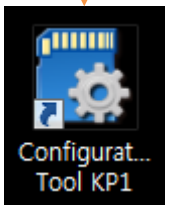
NOTE** A static/public IP address or DDNS is required so the KP1 cameras can find the server remotely. A port # must be specified and open for two-way communication between KP1 and the DMS4 server. DMS4 will not function properly with a Dynamic IP address.

The following softwares must be downloaded to your PC/Workstation/server

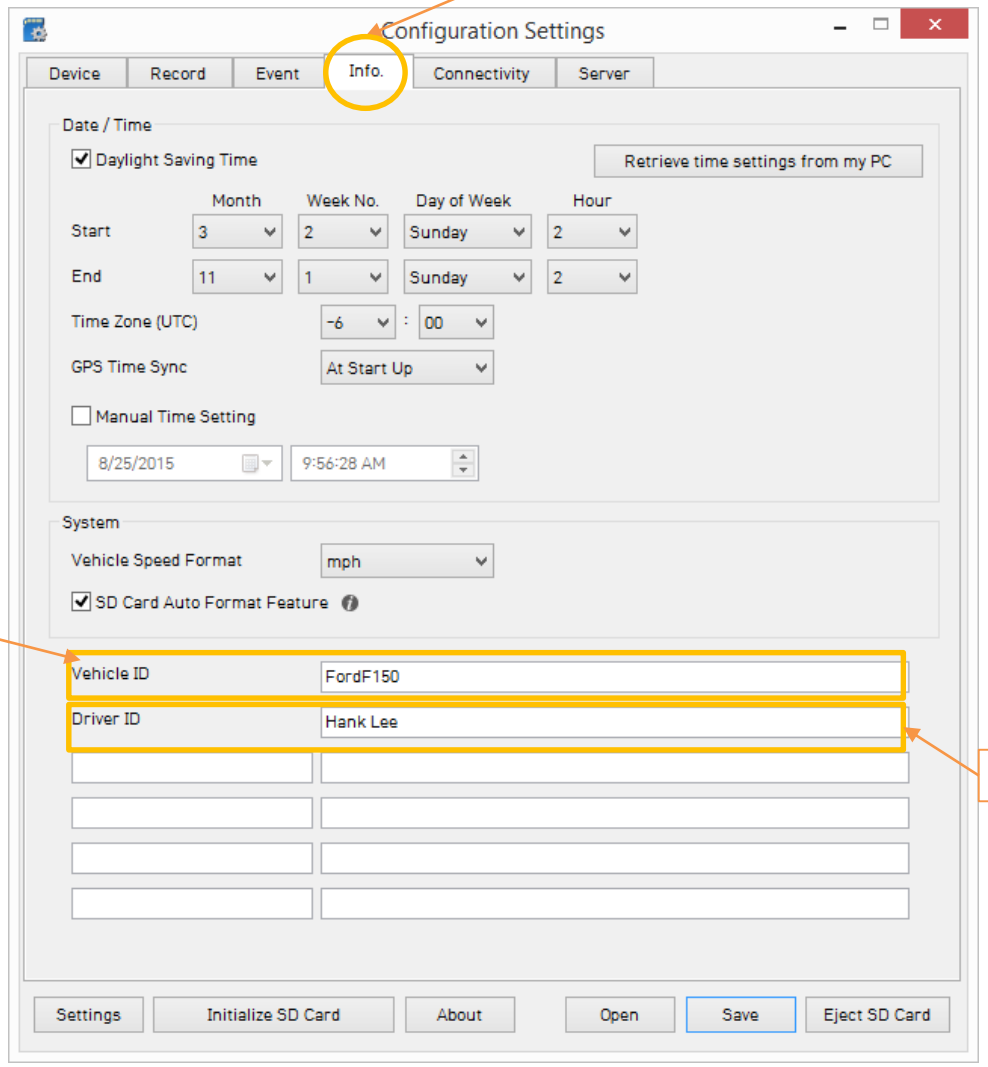
- KP1 Configuration Tool: http://smartwitness.com/usa/download-software.html
  - Used to configure the KP1 camera with server credentials and cellular/Wi-Fi network details
- KP1 PC Analysis Software: http://smartwitness.com/usa/download-software.html
  - Used to analyze HD video uploads and convert HD videos to standards
- DMS 4 Server Software: http://www.smartwitness.com/usa/software/DMS4.zip
  - DMS4 software will default to demo license. Demo license allows connection for up to 3 vehicles.
  - Please contact SmartWitness or your distributor to purchase a license for fleets larger than 3 vehicles.

KP1 setup: Configuration Tool > Info Tab

1) Open the Configuration Tool



2) Select Info Tab



3) Enter your Vehicle ID

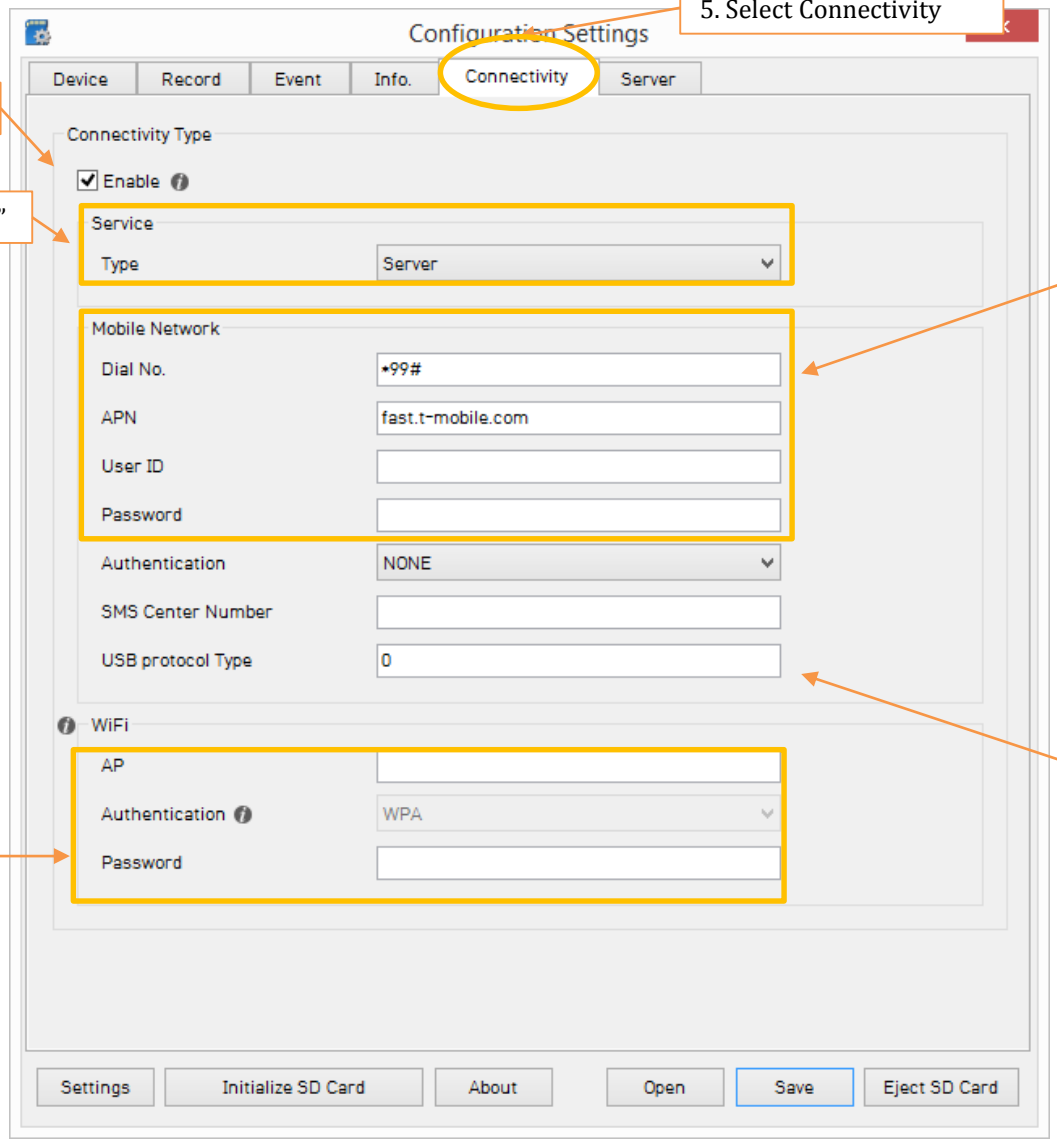
*It should be less than 10 characters; alphanumeric only.

*Do not use spaces between characters.

4) Enter Driver ID (Name)

***Vehicle ID and Driver Name can also be added/changed remotely from DMS4 server software. Adding it on the SD card of each vehicle is not mandatory.**

KP1 setup: Configuration Tool > Connectivity Tab

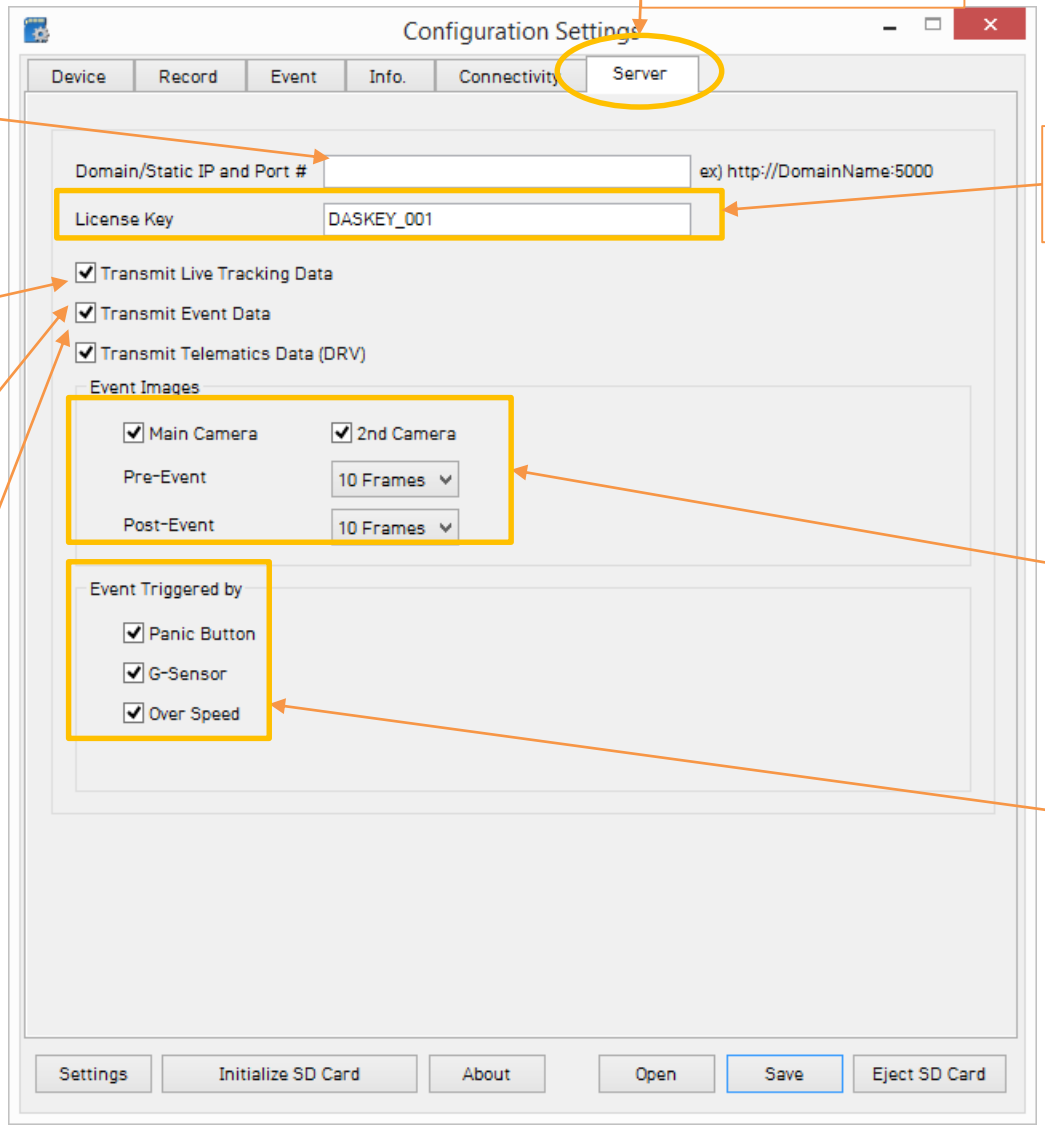


KP1 setup: Configuration Tool > Server Tab

9. Select Server Tab

10. Set your DMS4 server URL.

Examples:
http://kp1.smartwitness.com:5000
http://112.222.189.236:5000



11. Set your License Key
Default License Key is
"DASKEY_001"

12. Check here to receive live location information.

13. Check here to receive event notifications and event images

14. Check here to receive driving logs (used for daily driving routes and drive behavior reports)

15. Set event images number to send.
Example:
Pre-event 10 images
Post-event 10 images

16. Set Event type.

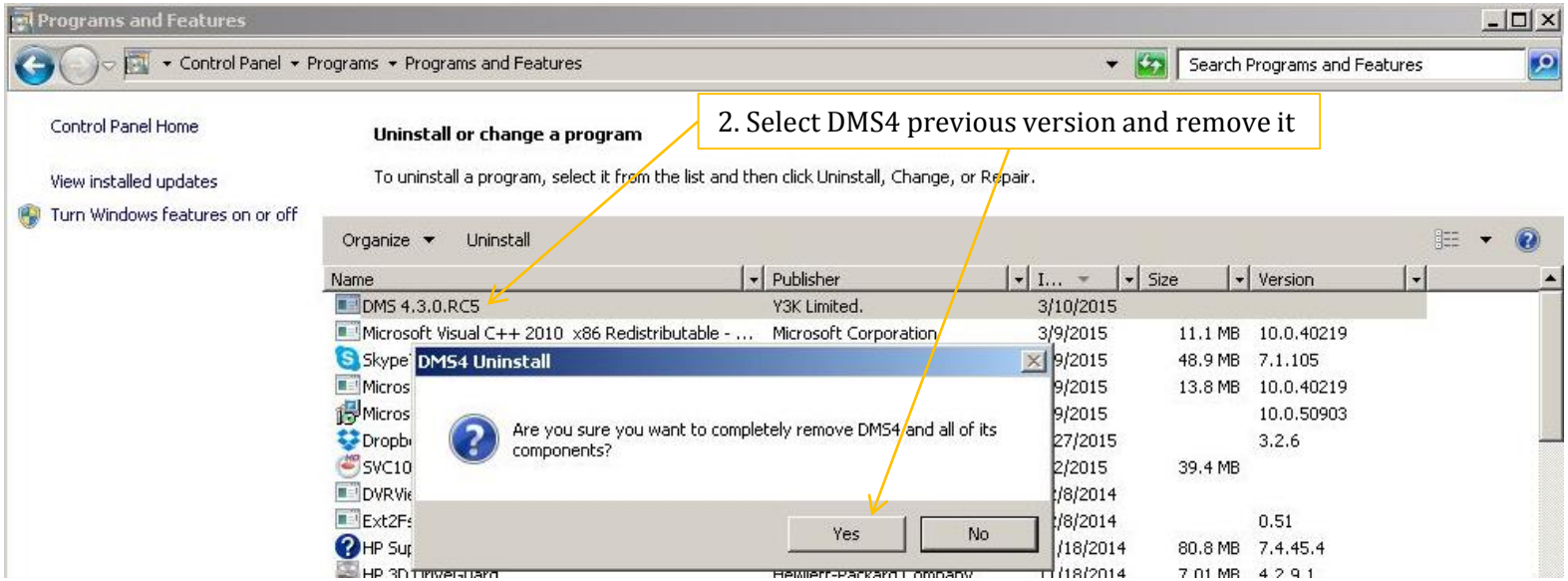
If you use KP1-INT1 or KP1-INT2 as the power, then you can select Alarm events as well.

NOTE: Your server must have a static/public IP address. KP1 must be able to locate DMS4 from a remote location. DMS4 location cannot utilize dynamic IP. Please contact your internet service provider for help regarding static/public IP address setup.

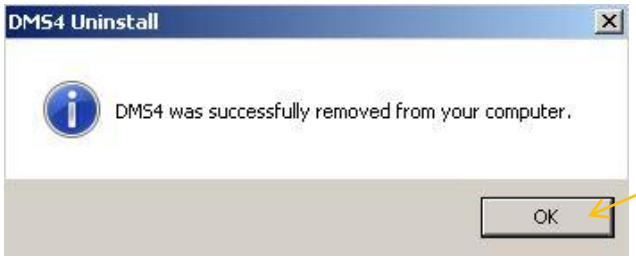
(If Applicable) Uninstall previous version of DMS4

NOTE: To prevent any unexpected issues, please remove previous version first before installing new version.

1. Control Panel => Uninstall a program

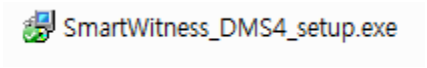


2. Select DMS4 previous version and remove it

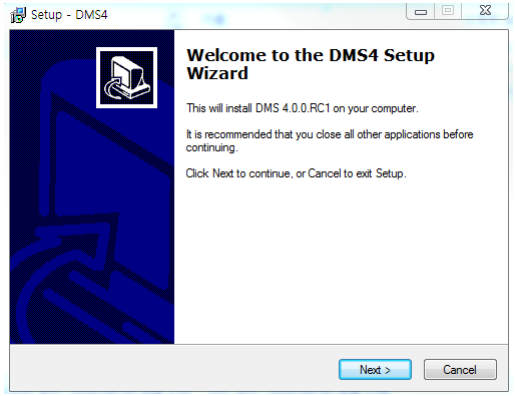


3. Check the message and click OK

DMS4 Installation on PC/Server/Workstation



Double Click and install

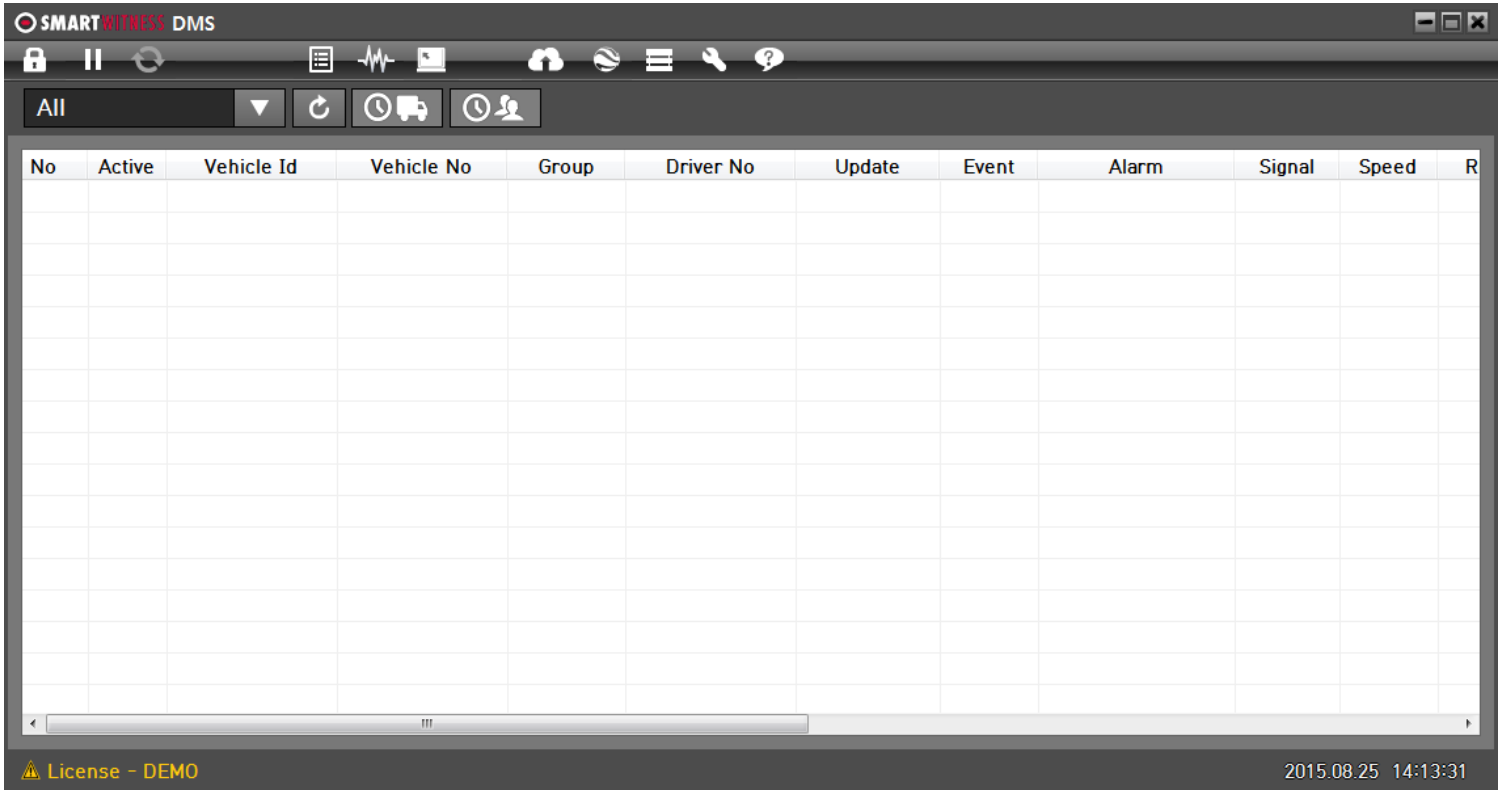


Double Click and Run DMS4

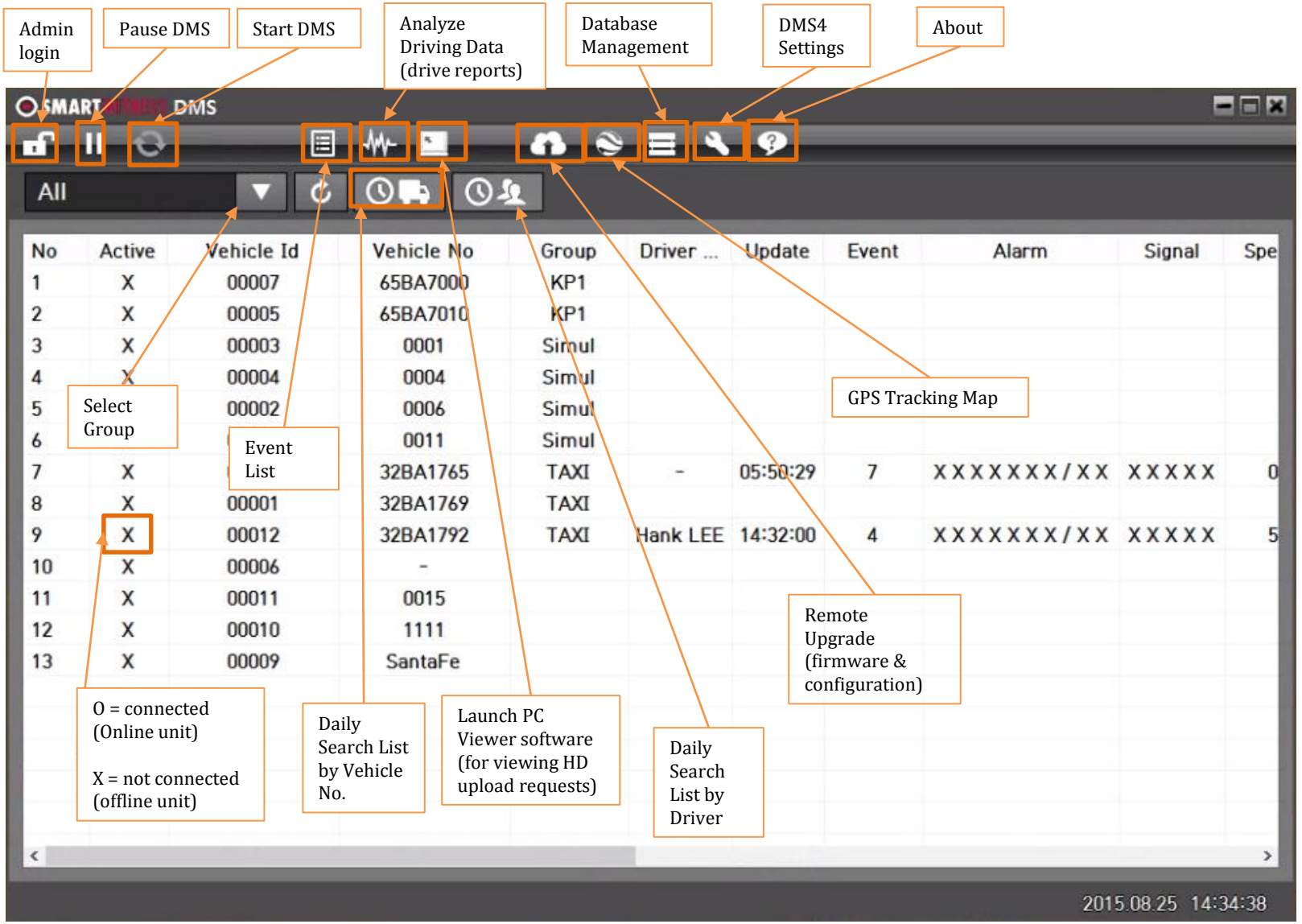
DMS4 Overview

DMS4 is the Database Management Server for KP1.

- Receives tracking & image data from KP1
- Send commands to KP1 (HD video request, live stream, configuration upload, etc)
- Analyzes the DRV log files sent from KP1 to create driving behavior reports
- Send email reports from DMS4

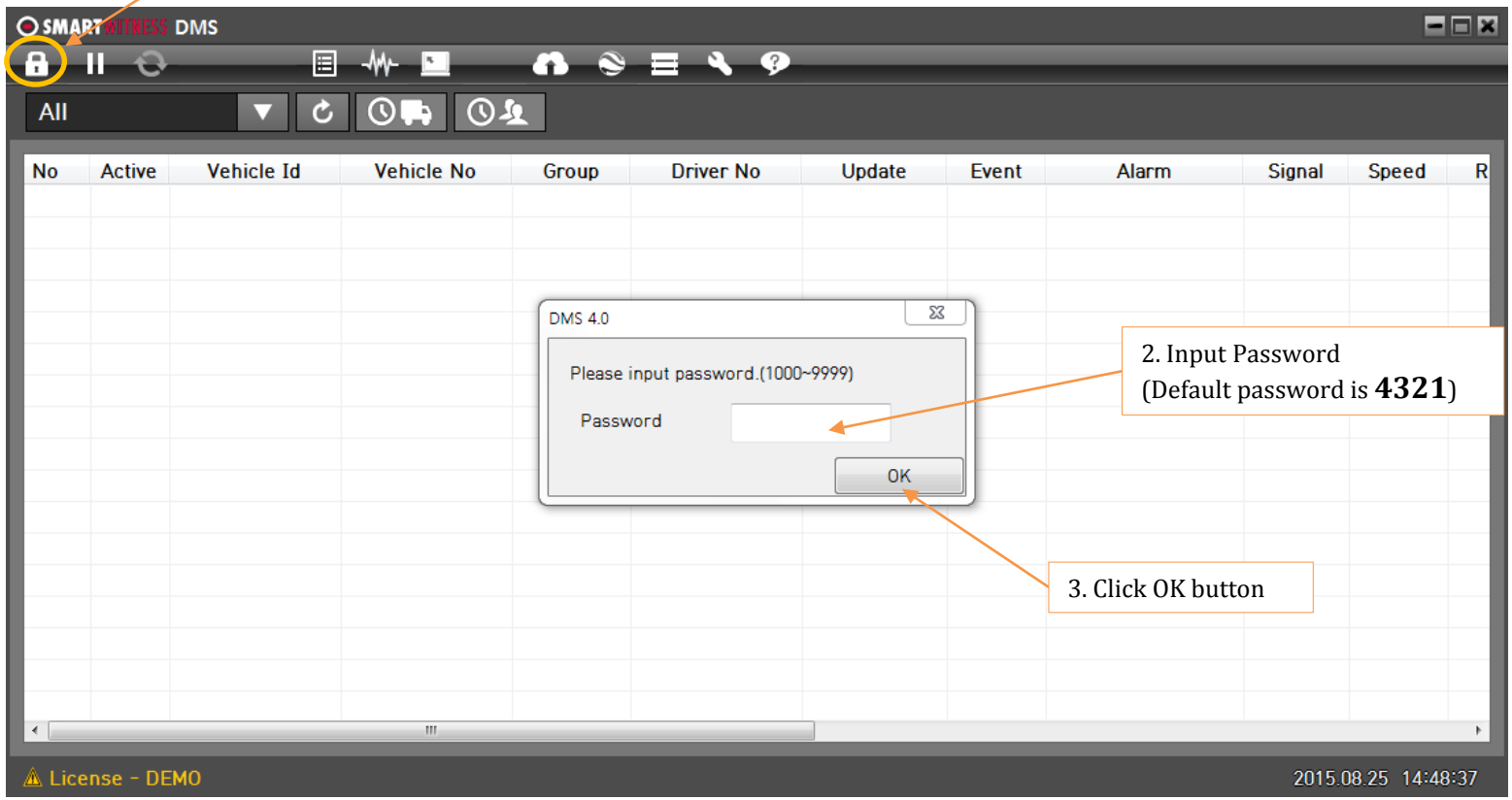


DMS Software Icons



Admin Log in/Log out

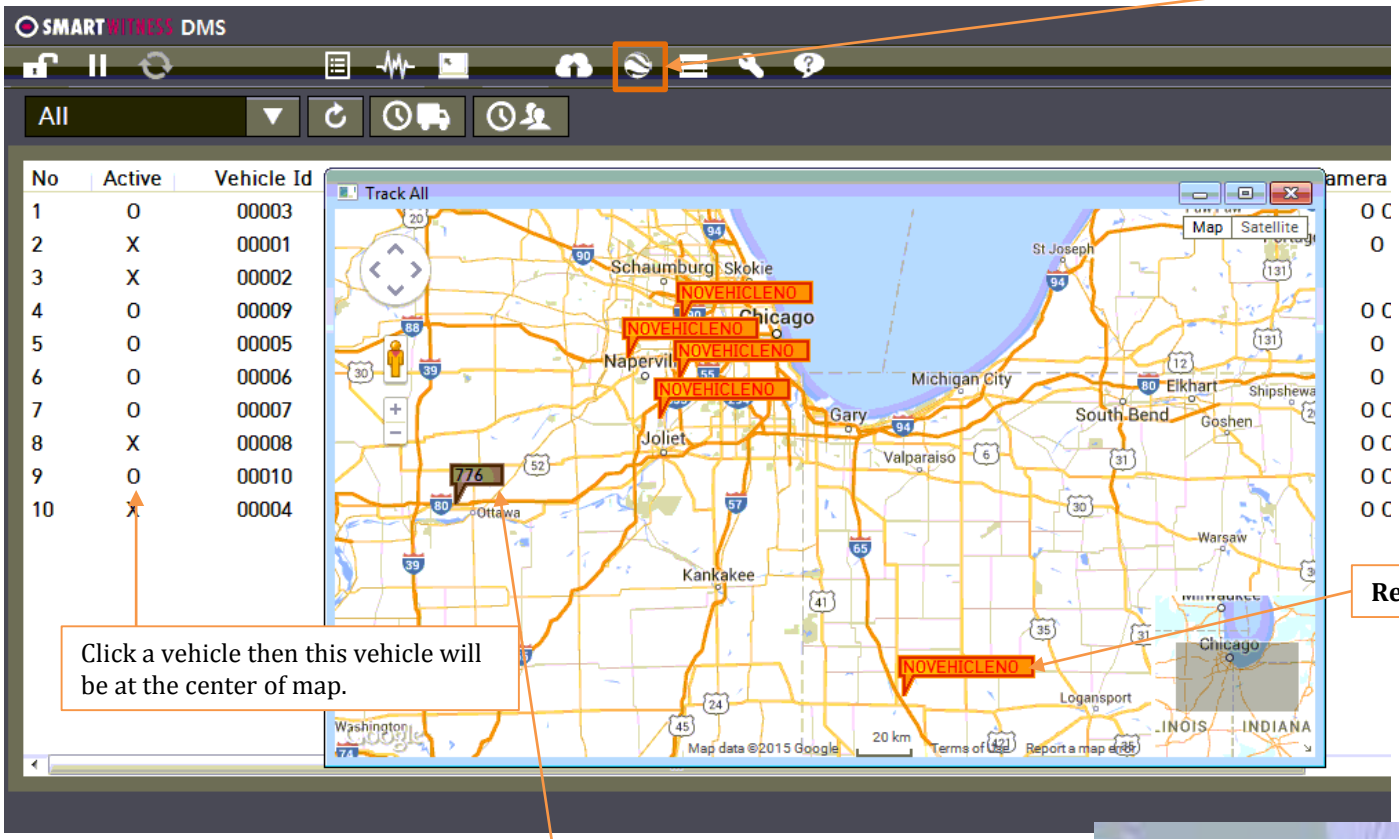
1. Click Admin log in “Lock” Icon



4. Admin logged in successfully (Unlocked)

Live Tracking Map

Click GPS Tracking map



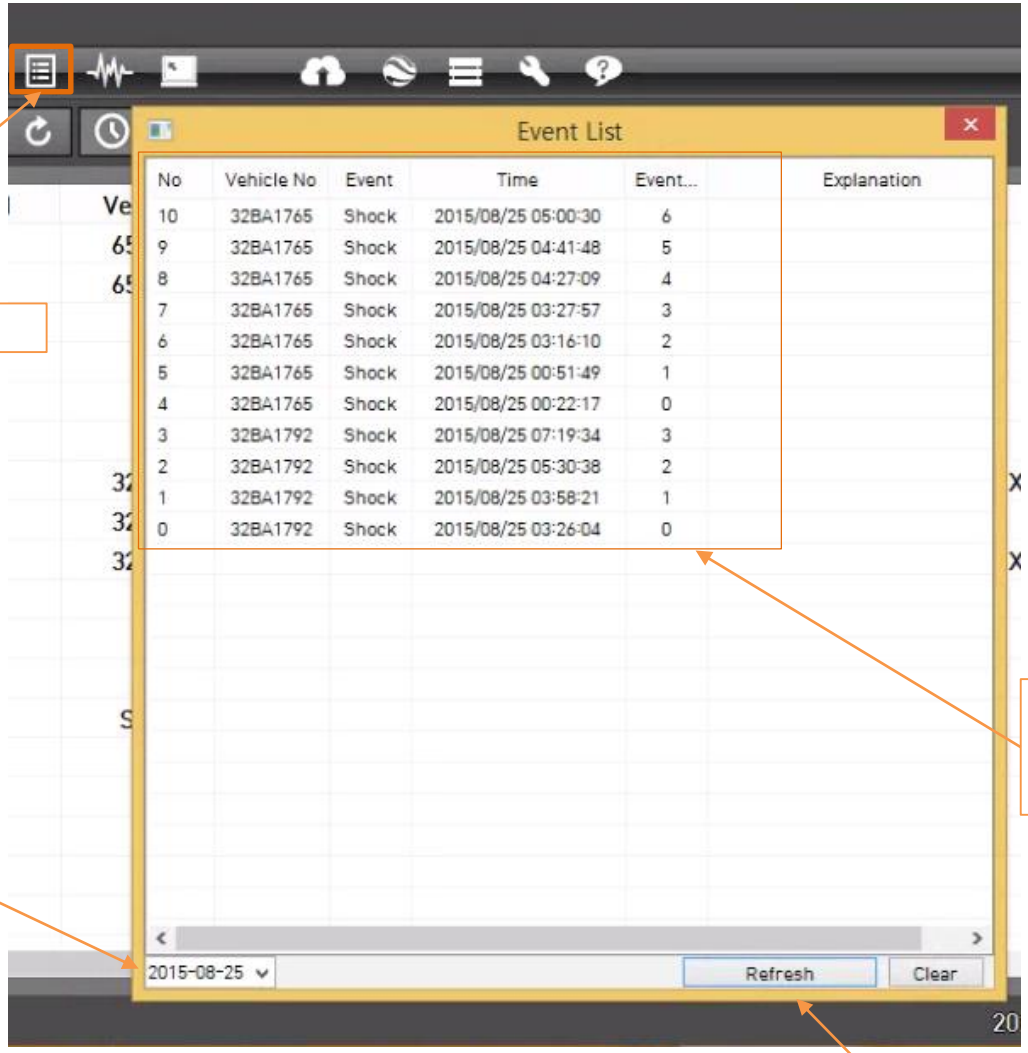
Click a vehicle then this vehicle will be at the center of map.

Red/Orange: online vehicle

Gray: offline vehicle

Vehicle # is in the box. If Vehicle # is not set, the "NOVEHICLEID" will be displayed. **You can add vehicle ID remotely from DMS4, see page 25**

Event List



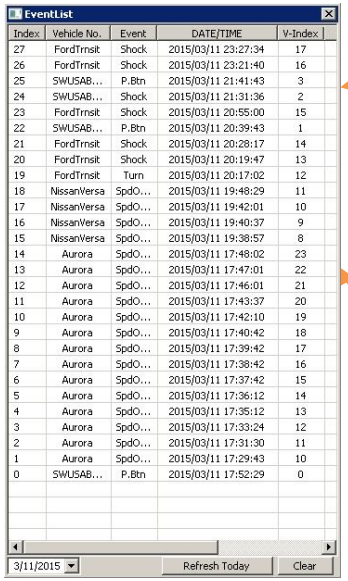
Click Event List

The Event List shows all of the current day's events from all vehicles which have connected via 3G or Wi-Fi.

Click here to change the date and see the events from previous days.

Click Refresh button after change the date.

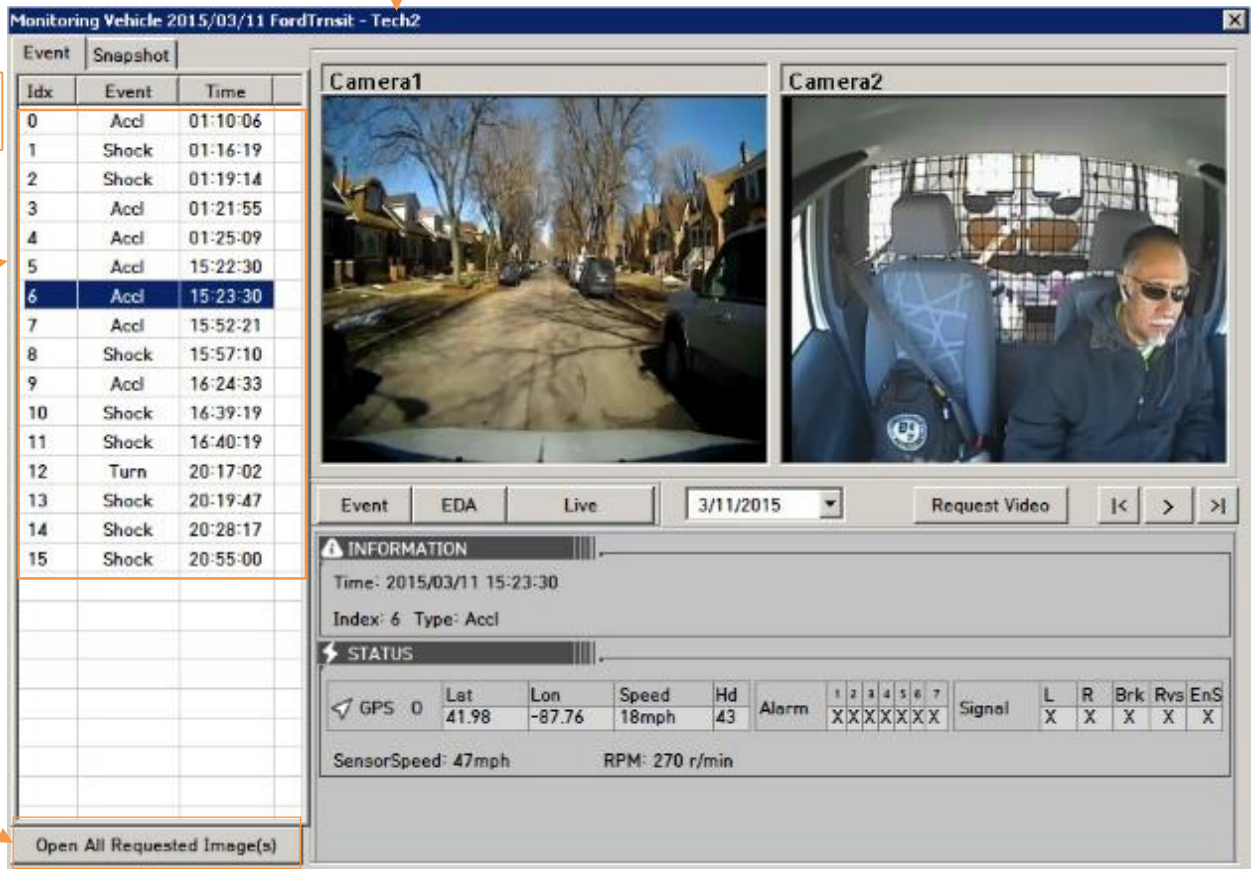
Click Event List



1. Click an Event from the list

2. Check event images

Event list from all vehicles.

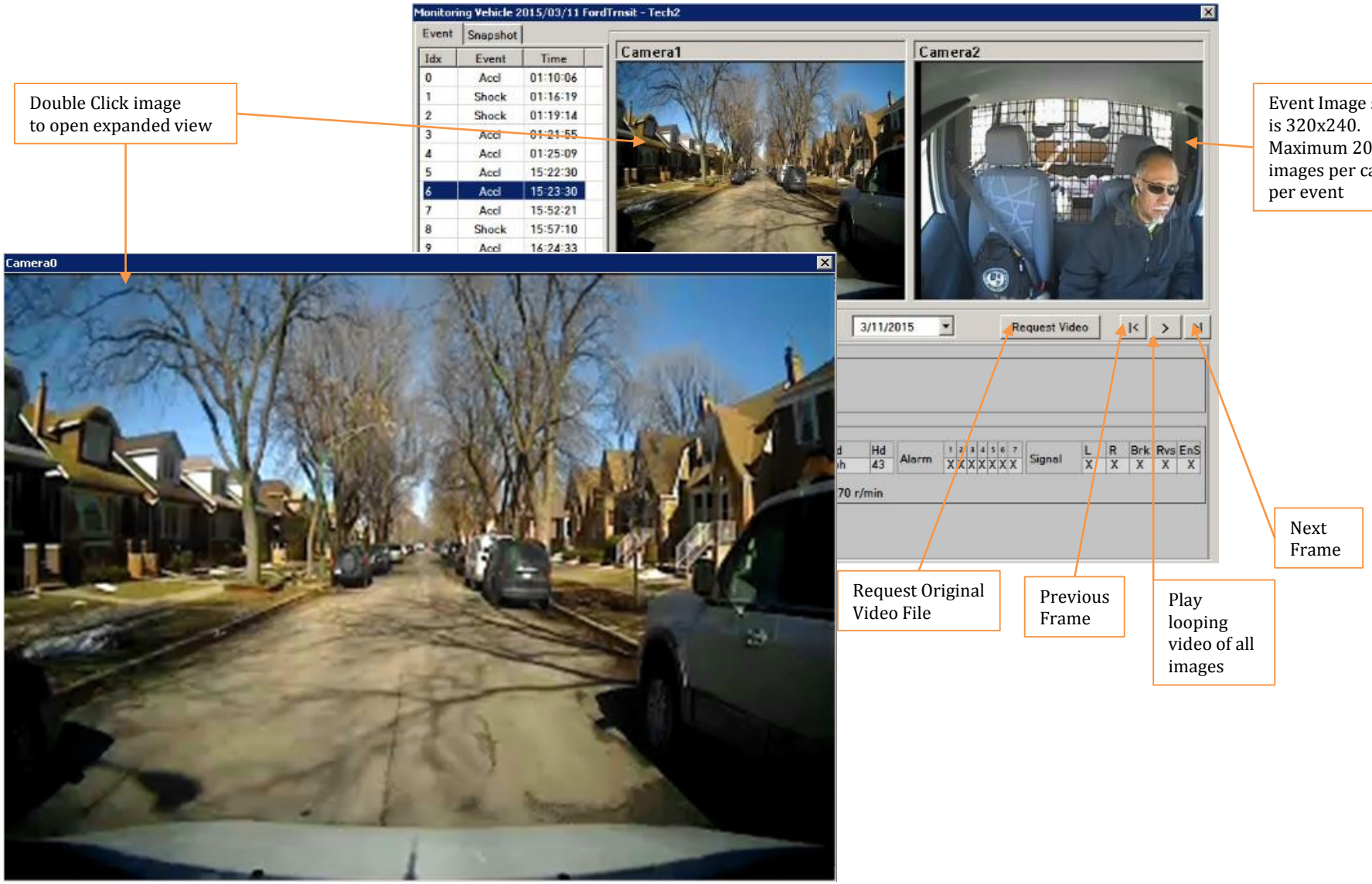


Event list from a single vehicle

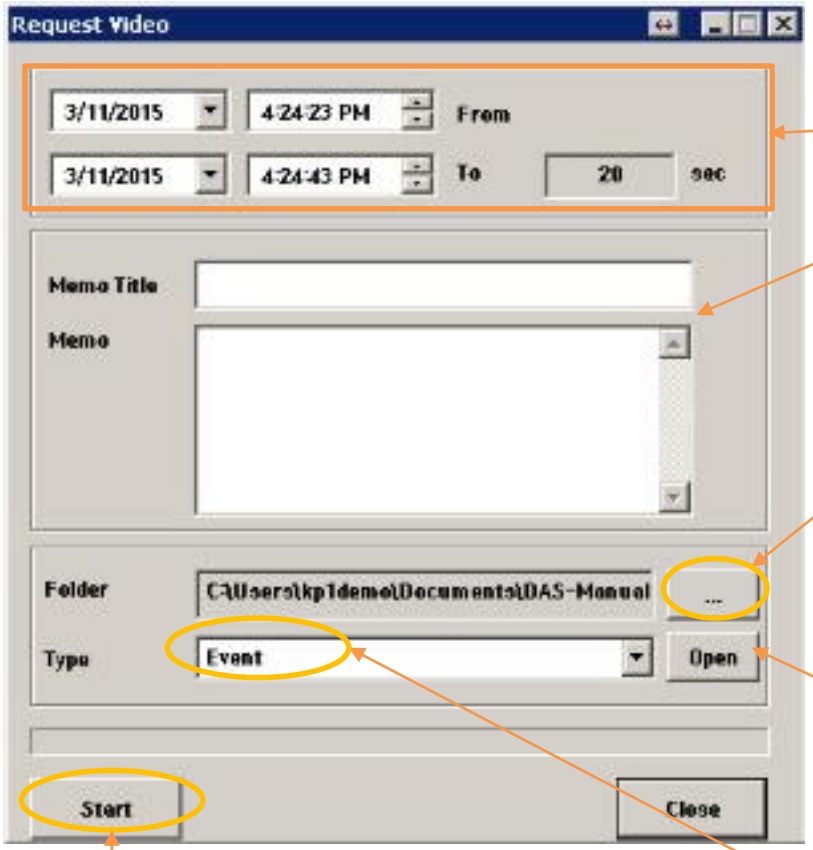
You can also reach this screen by double clicking the vehicle from the DAS main screen or by clicking a vehicle icon from the live GPS tracking map

This button opens all the images that have been requested from DMS4 "Live Command" (see page 19)

Event Playback Control Buttons



Request Original Video from KP1 (MDT file)



1) Select the date and time.
You can download up to 20sec original video at one time.
If you highlight an event from the Event List and then click "Request Video", it will default to the Event time.

Optional: you can add a title and a memo note describing the event for easy identification when using the PC Analysis software to view the uploaded video.

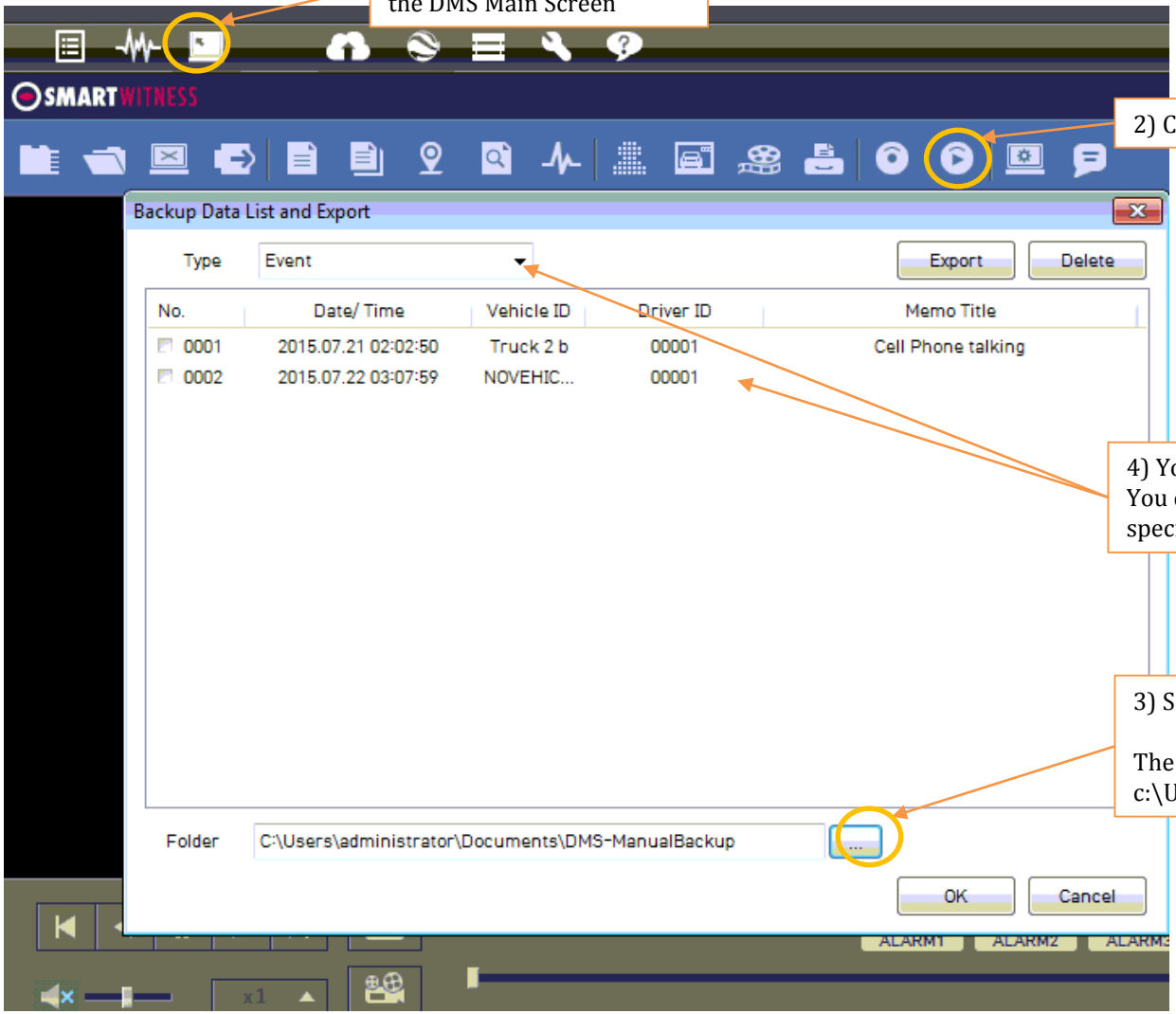
2) Select backup folder location

Open downloaded Video folder using Windows Explorer. MDT files will open with the PC Analysis software

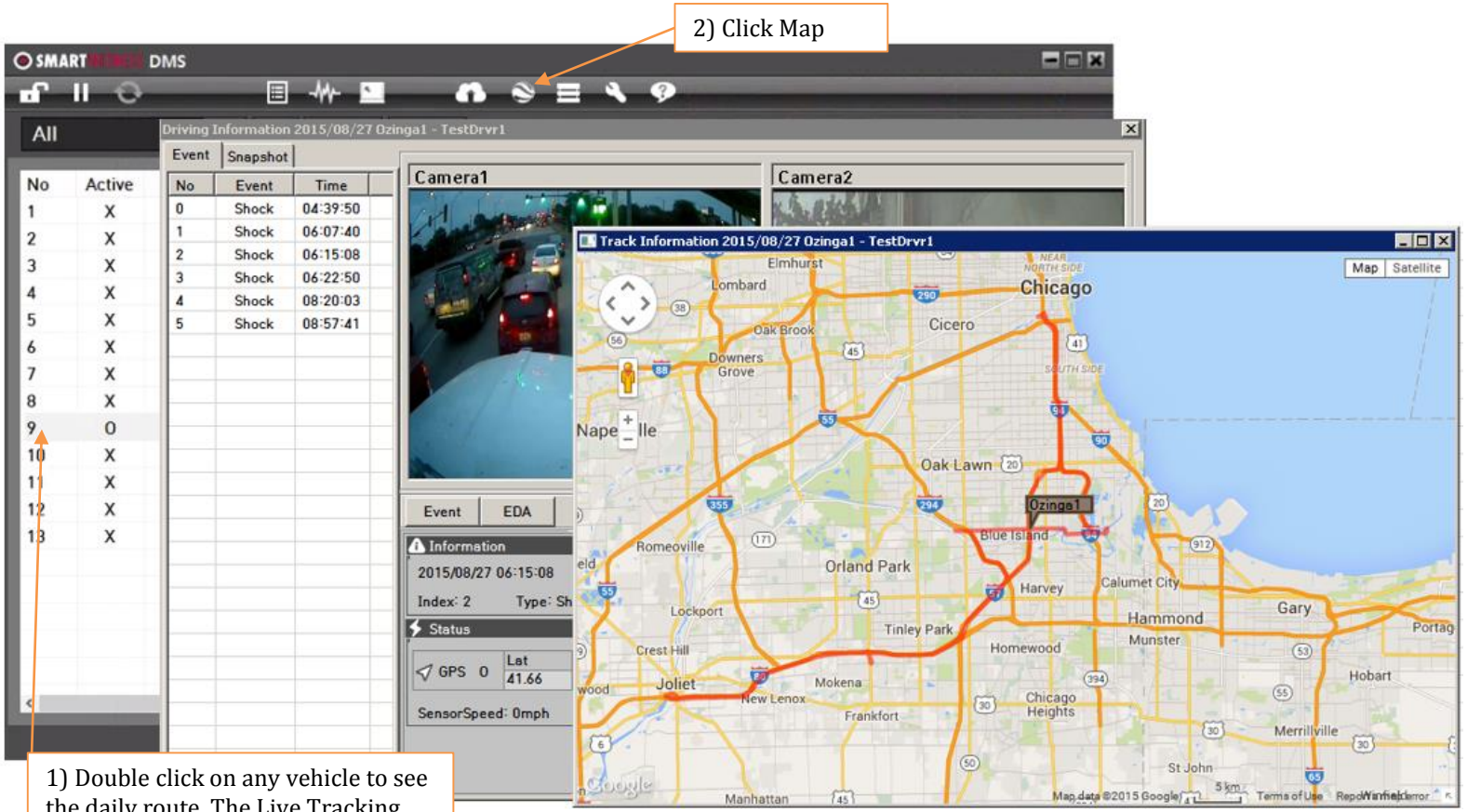
3) Select video type. This helps keep your requested videos organized for easier retrieval.

4) Click Start to begin the download from KP1. **KP1 must be online to request a video**

Playback of Video Requested from KP1



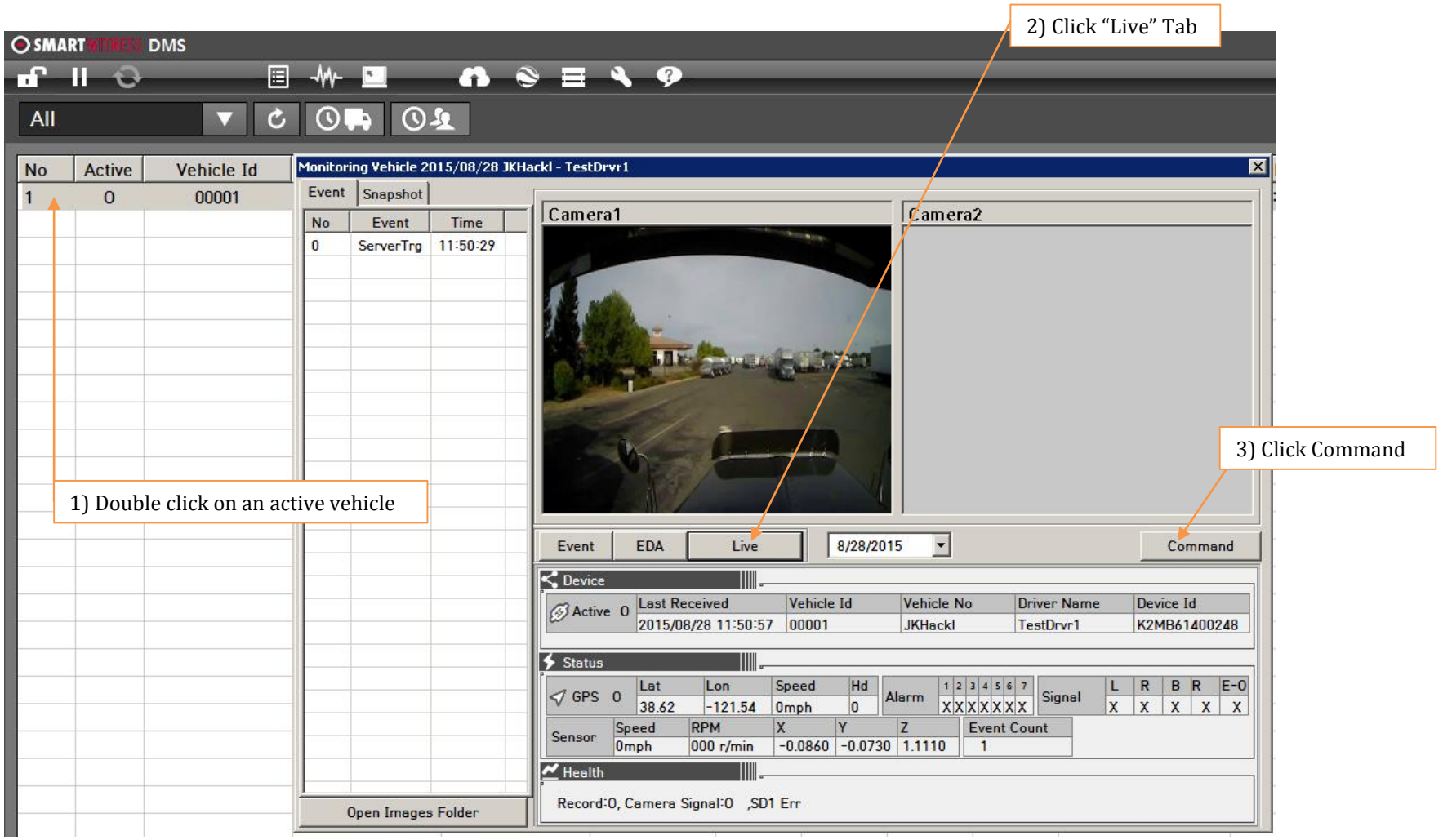
Daily Route Vehicle Tracking Information



1) Double click on any vehicle to see the daily route. The Live Tracking Map will change from live tracking, to daily route history automatically

*You can change the date on the Event Window to see other day's routes

Live Communication with active KP1 device



Live Commands

1) Click and set Snapshot number.

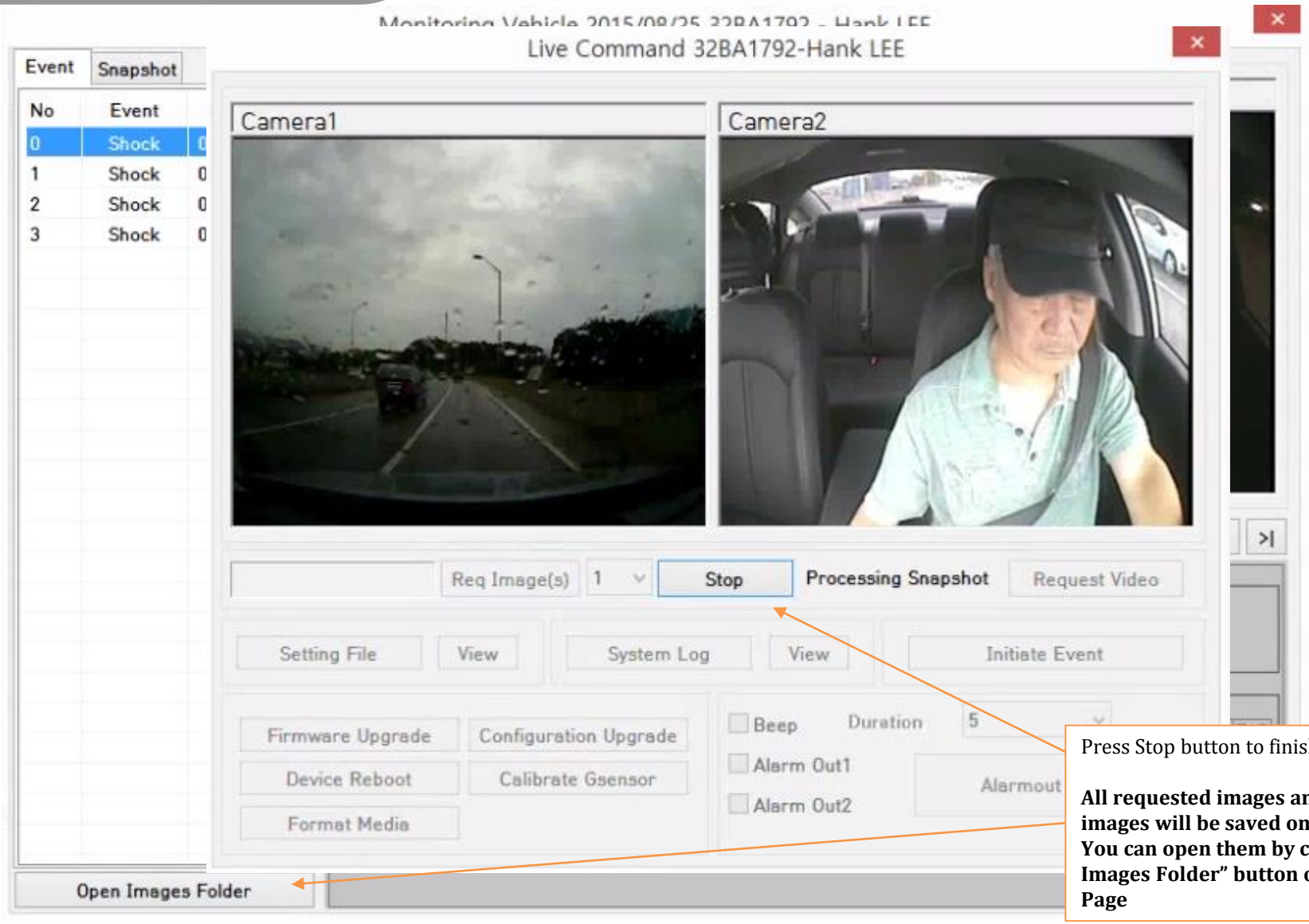
1= Send 1 picture from each camera

5= Send 5 pictures from each camera

2) Click Request Image(s)

3) Click "Live Stream" to send continuous images until you click "stop". KP1 will send approximately 1 frame every 2 seconds on 3G network speeds.

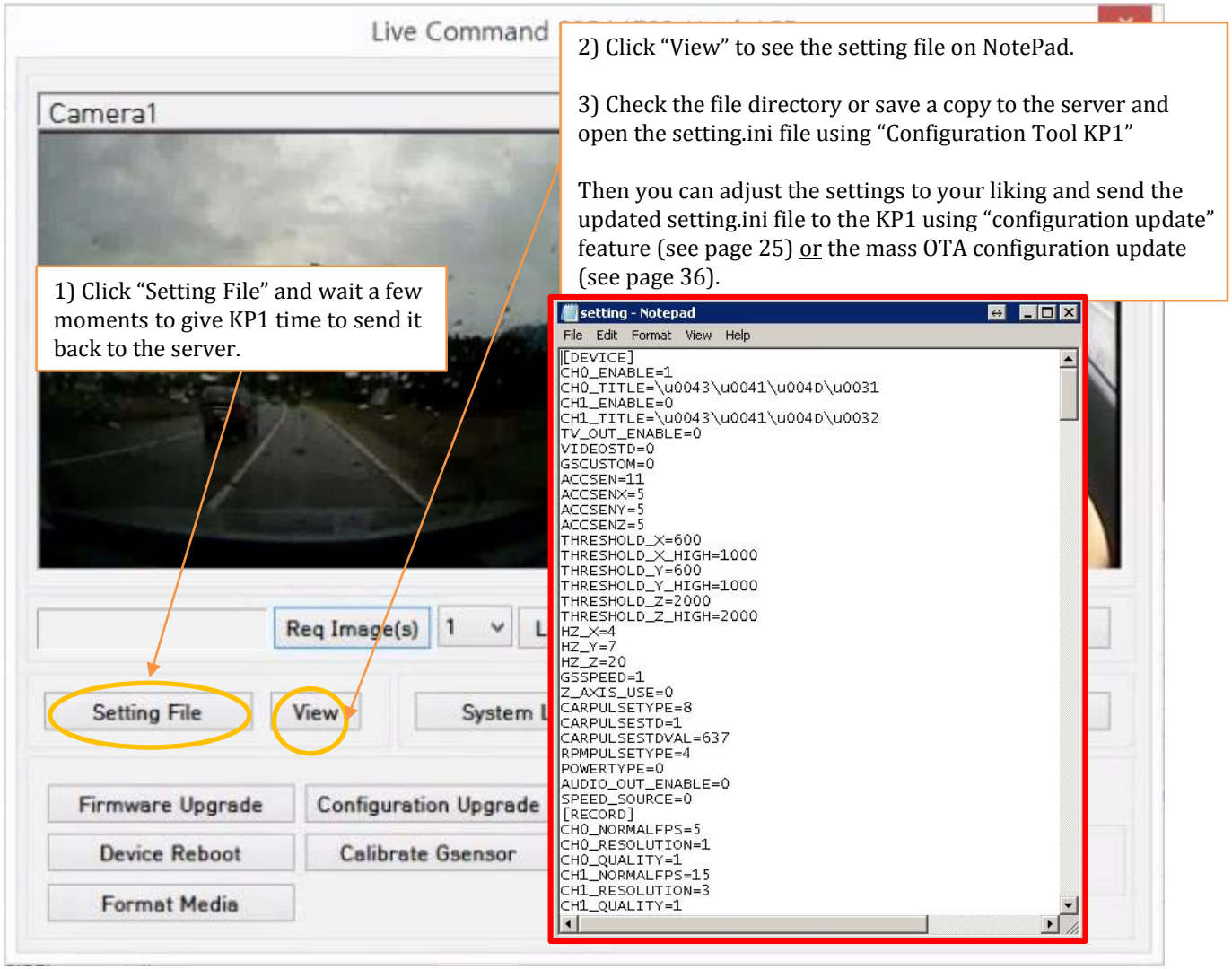
Live Streaming Images



Press Stop button to finish Live Stream

All requested images and live stream images will be saved on the server. You can open them by clicking "Open Images Folder" button on the Event Page

View the Existing Settings on KP1



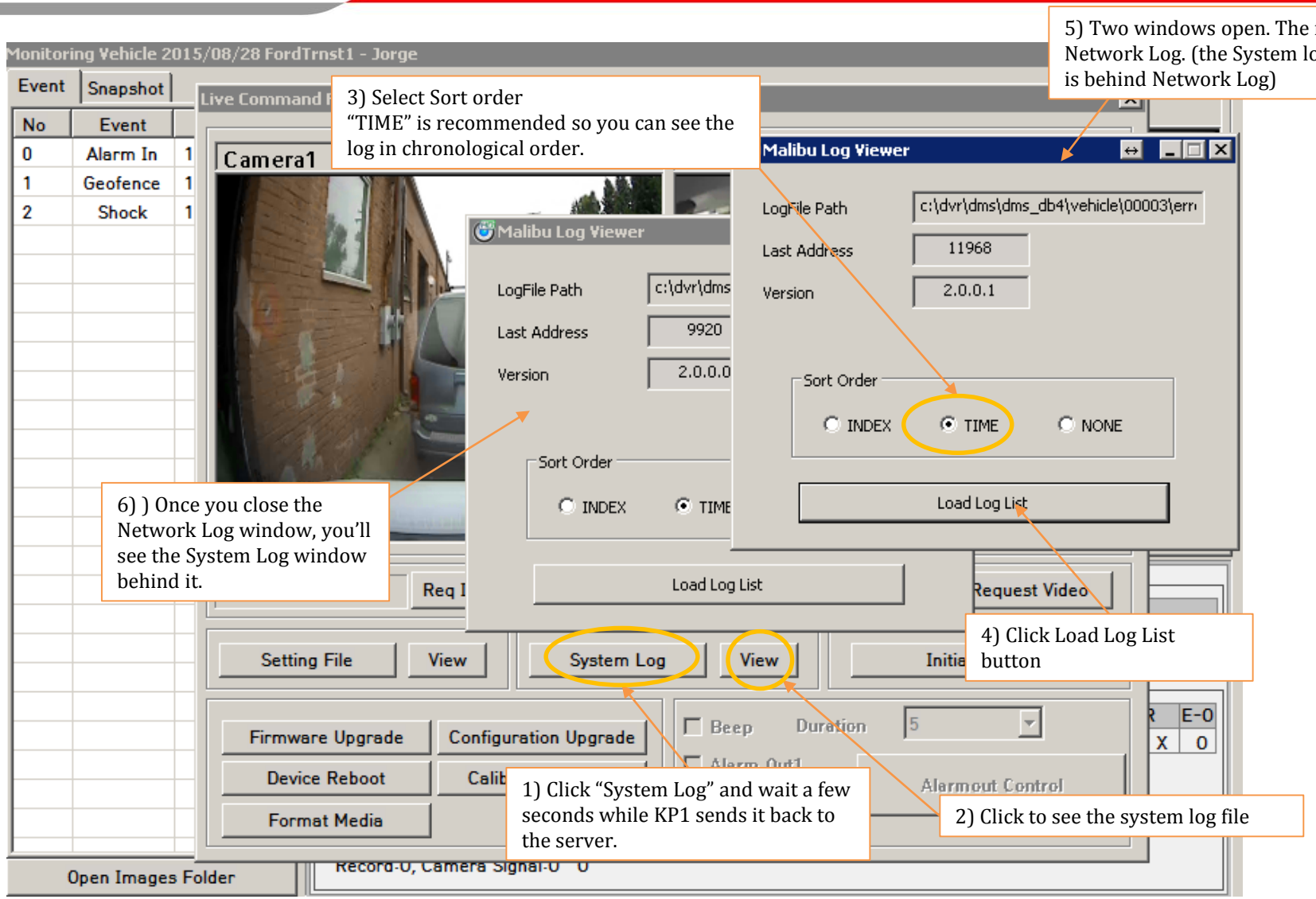
1) Click “Setting File” and wait a few moments to give KP1 time to send it back to the server.

2) Click “View” to see the setting file on NotePad.

3) Check the file directory or save a copy to the server and open the setting.ini file using “Configuration Tool KP1”

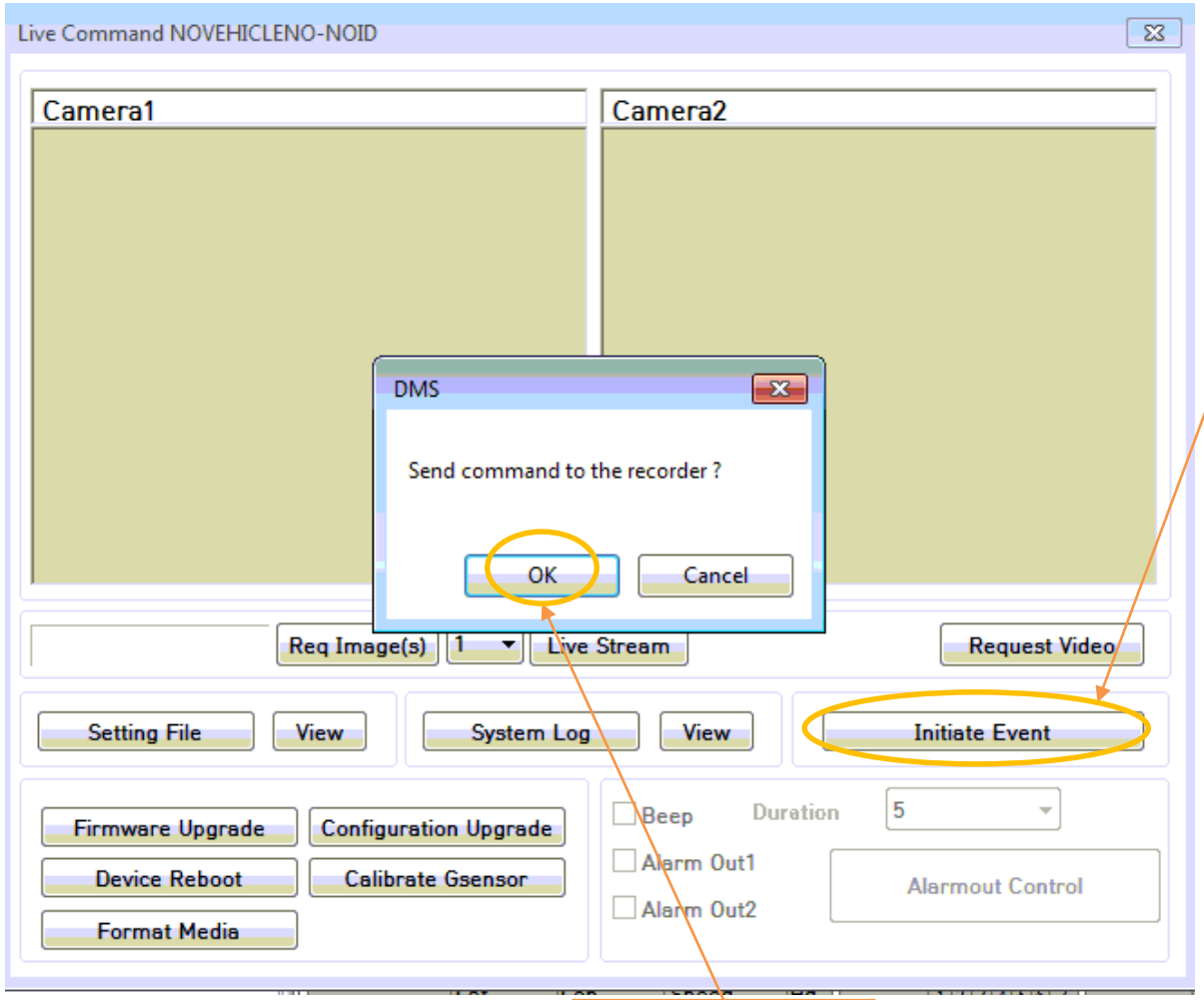
Then you can adjust the settings to your liking and send the updated setting.ini file to the KP1 using “configuration update” feature (see page 25) or the mass OTA configuration update (see page 36).

View the Detailed System Log Files on KP1

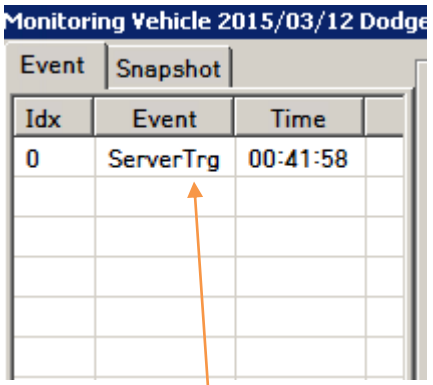


NOTE: KP1 will send two log files (1st log is related with Network, and 2nd log is related with System)

Initiate an Event Recording from DMS4 Server



1) You can make an event recording from DMS4 server by pressing the "Initiate Event" button.

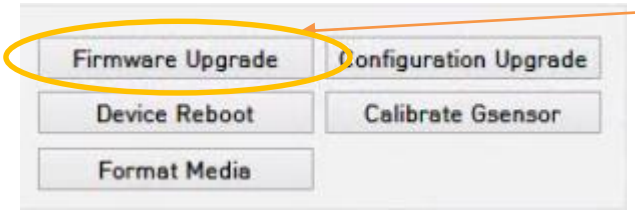


2) Click OK to send the "initiate event" command to KP1.

Then KP1 will send event images to server. This will display in the Event list along with the other events. NOTE: the original recording file on the KP1 will be at 1 FPS recording.

OTA (Over The Air) Firmware Update

*For mass OTA firmware update to multiple vehicles at the same time OR if a vehicle is offline and you cannot access live FW update, see page 36

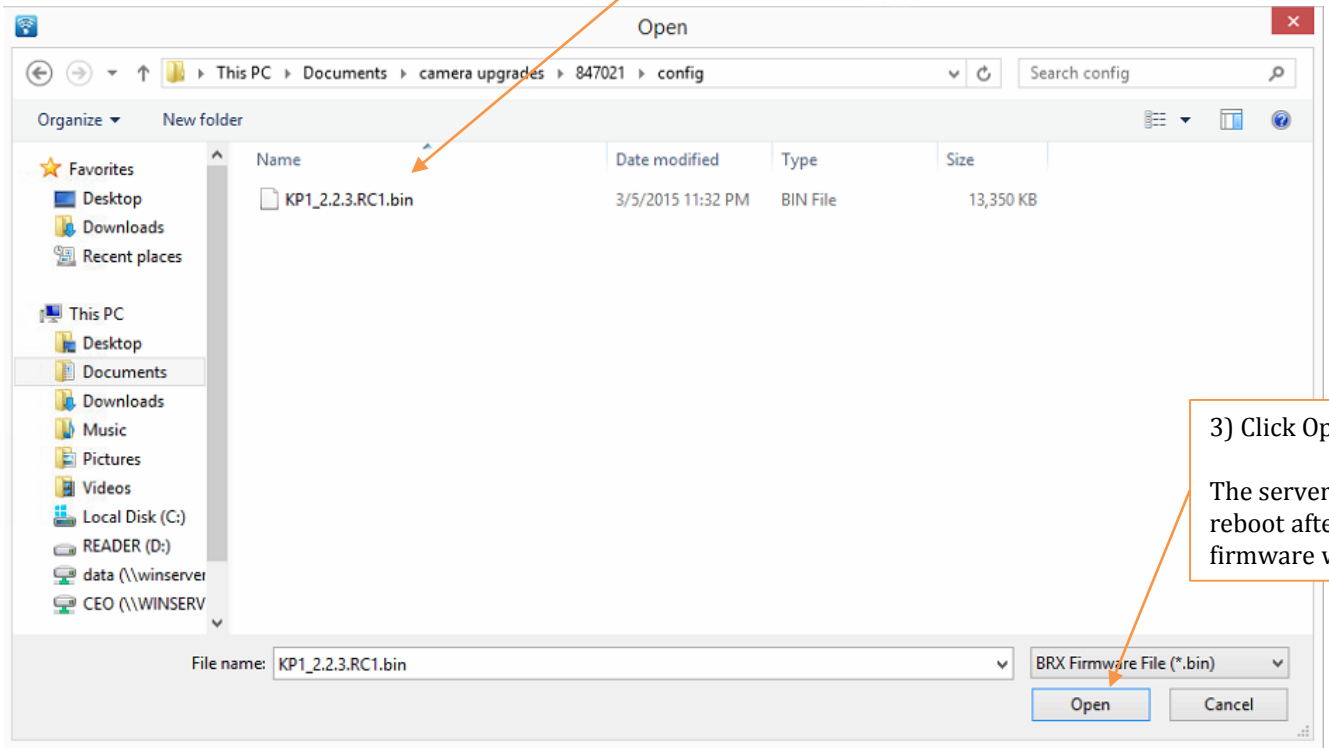


Upgrading the KP1 firmware remotely.

1) Press Firmware upgrade

2) Select new firmware

Most updated KP1 firmware can be found online:
http://smartwitness.com/usa/download-software.html

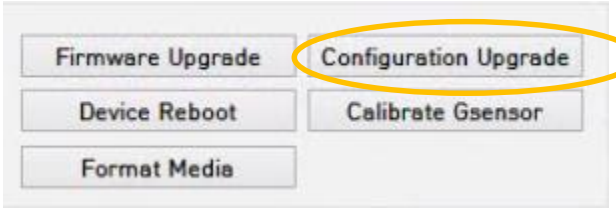


3) Click Open

The server sends the new firmware. Then KP1 will reboot after receiving the new firmware. The new firmware will apply during the boot-up sequence

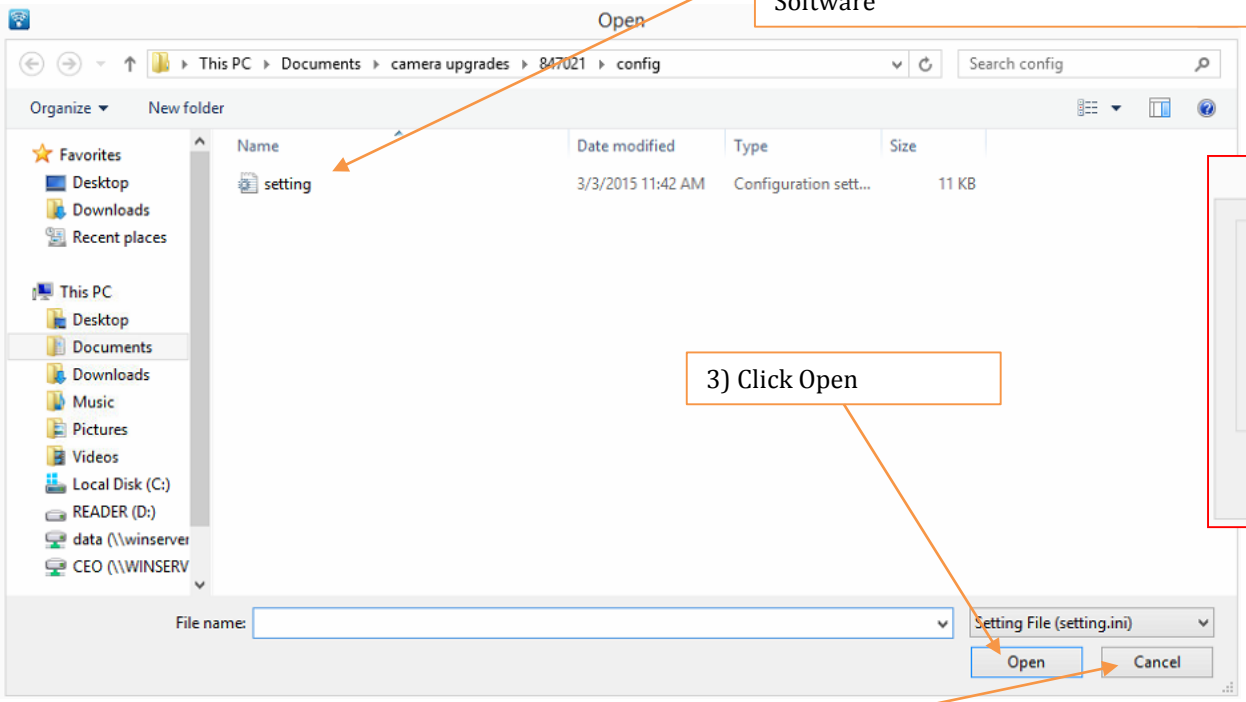
Remote Setting Configuration, Changing Vehicle No., & Changing Driver Name

*For mass OTA settings update to multiple vehicles at the same time OR if a vehicle is offline and you cannot access live setting update, see page 36



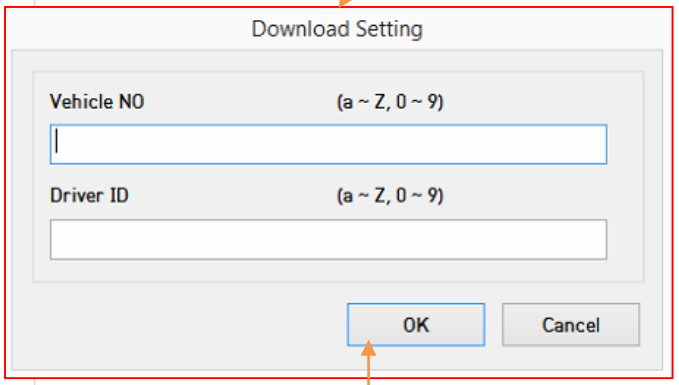
Changing the KP1 settings remotely.
1) Click Configuration upgrade button

2) Select new setting.ini file which you saved using the Configuration Tool Software



3) Click Open

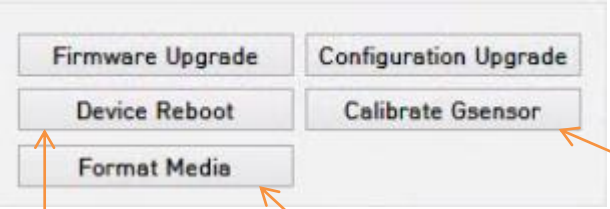
4) You will see below window.
If you hope to change Vehicle No. and Driver Name then input here. If you don't want to change Vehicle No. and Driver ID then leave these fields blank and click "OK".



5) Click OK. The server then sends the new settings to KP1. KP1 will will reboot after the settings have been fully received from server.

NOTE: If you want to ONLY change Vehicle NO and Driver ID, press "Cancel" and then input Vehicle NO and Driver ID. <u>You don't need to select new setting.ini file to simply change the Vehicle NO and Driver ID</u>

Reboot and Remote G-sensor Calibration and Remote Format



Press Device Reboot.
Then KP1 will restart.

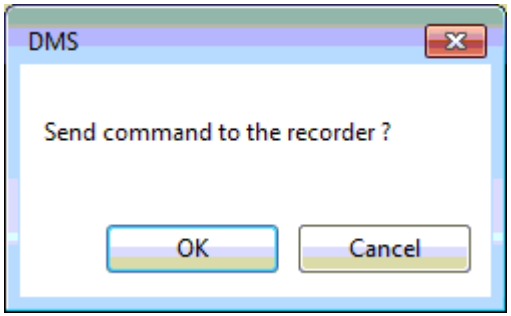
You need to calibrate the G-Sensor after installing the KP1. This can also be accomplished by pressing the small red button ABOVE the panic button on the back of the KP1

Please check the vehicle using Live Stream.

When car is not moving (and the vehicle is on a flat surface)
Press Calibrate G-Sensor button

This G-Sensor calibration is only needed the first time KP1 is used.

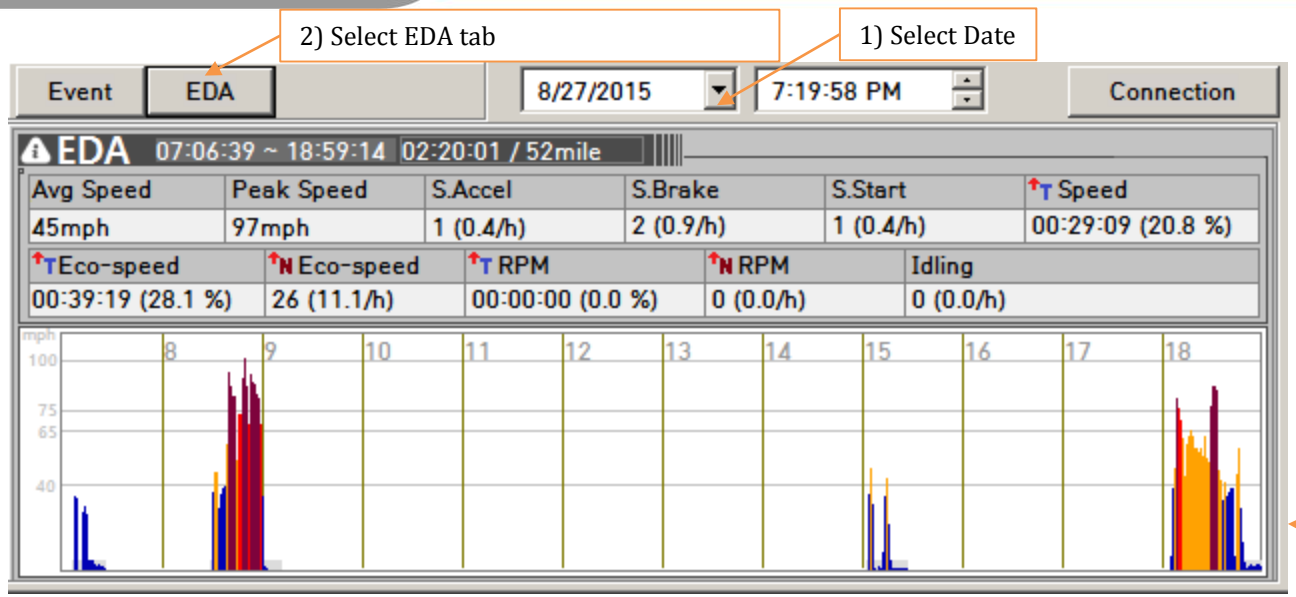
Press Format Media to format the SD card.
Then you will see below window. If you hope to format the SD card then press OK button.



Once you press OK button.
Then KP1 will reboot and format the SD card. It will takes 3~10minutes.

Existing configuration settings will be backed up on the KP1 during the Format Media process

EDA (Quick view of Event Data Analysis data)



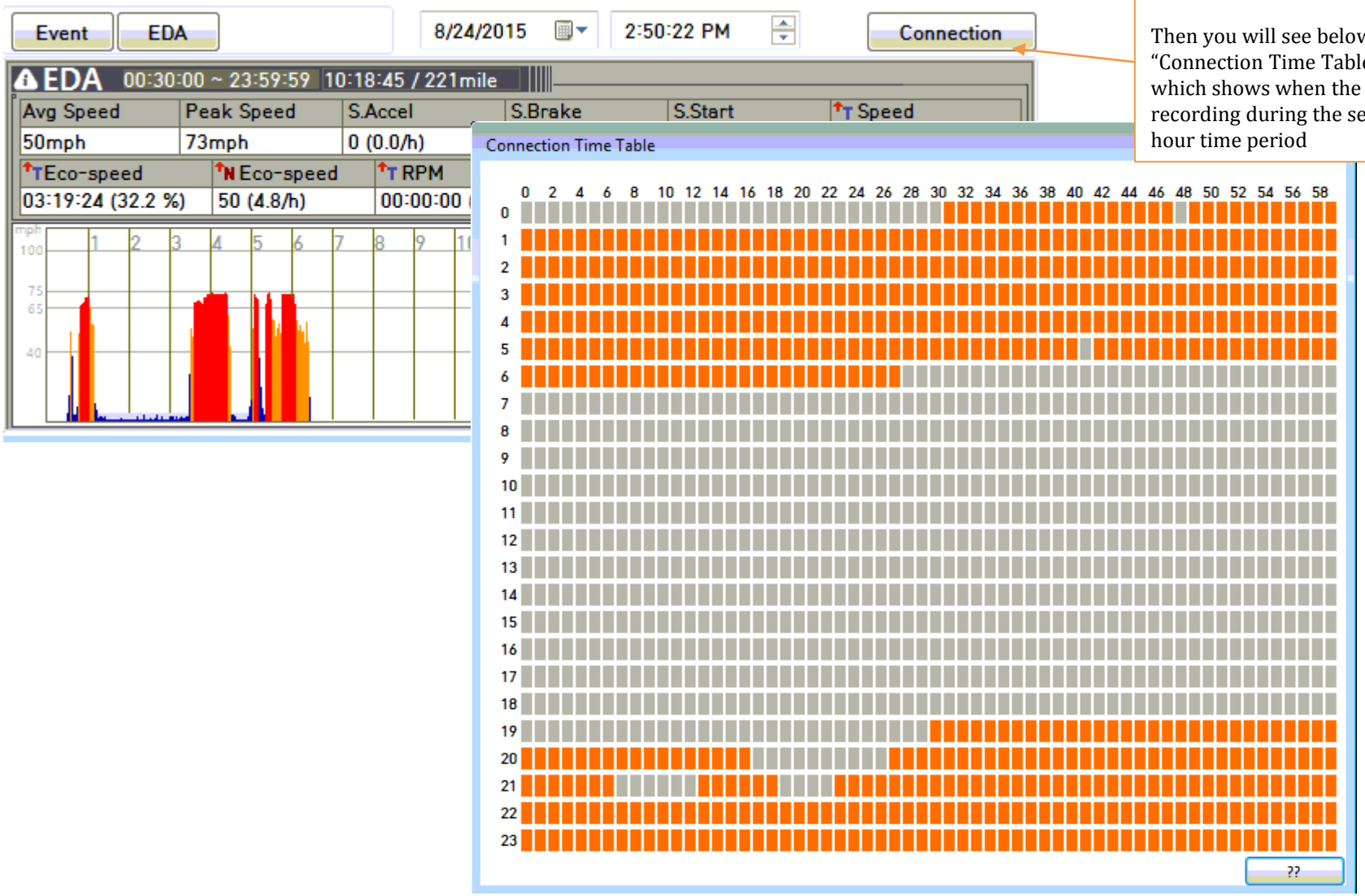
Blue: up to 40mph
Orange: 41-65mph
Red: 65 to 75mph
Maroon: 75mph+

This data is for 1 day (00:00:00~23:59:59)
Total driving time: 2hours 20min 01sec.
Total driving distance: 52 miles.

Average Speed: 45mph,
Top Speed: 97mph
Quick Acceleration: 1times (0.4 times per hour)
Sudden Brake: 2times (0.9 times per hour)
Sudden Start: 1 times (0.4 times per hour)
Over Speed duration: 29min 9sec.
Over Eco-Speed driving duration: 39min 19sec.
Over Eco-Speed counts: 26 (11.1 times per hour)
Over RPM driving hour: There is no RPM data.
Over RPM: There is no RPM data.
Idling: There is no RPM data.

NOTE: You have to use KP1-INT2 Junction Box power accessory to connect RPM cable to receive RPM data. Then you can check RPM and Idling time.

KP1 Connection Time Table



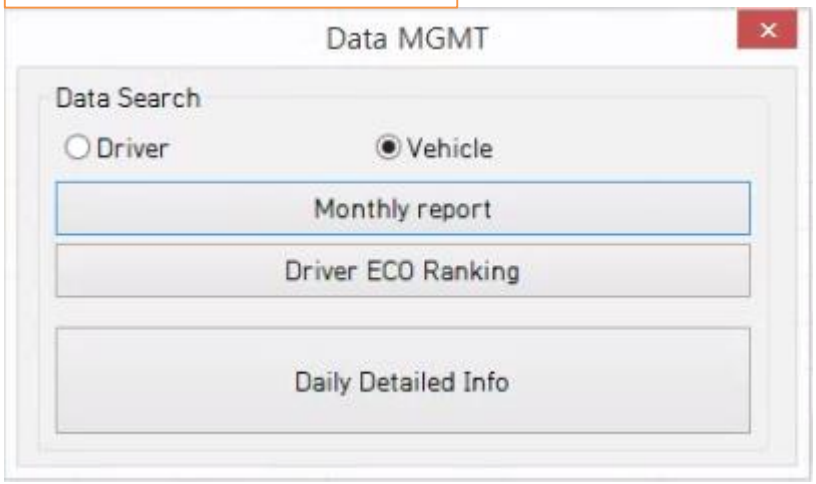
Click Connection button.

Then you will see below "Connection Time Table" window which shows when the KP1 was recording during the select 24 hour time period

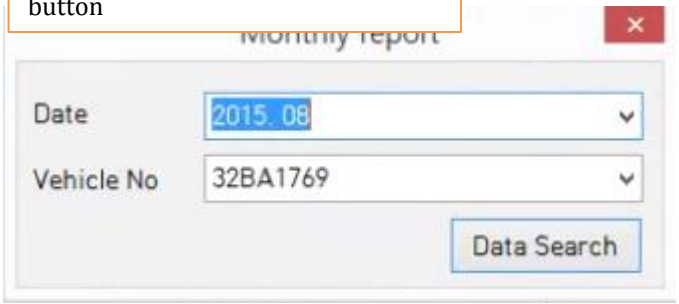
Analyze Driving Data - Monthly report

1) Click Analyze Driving data Icon

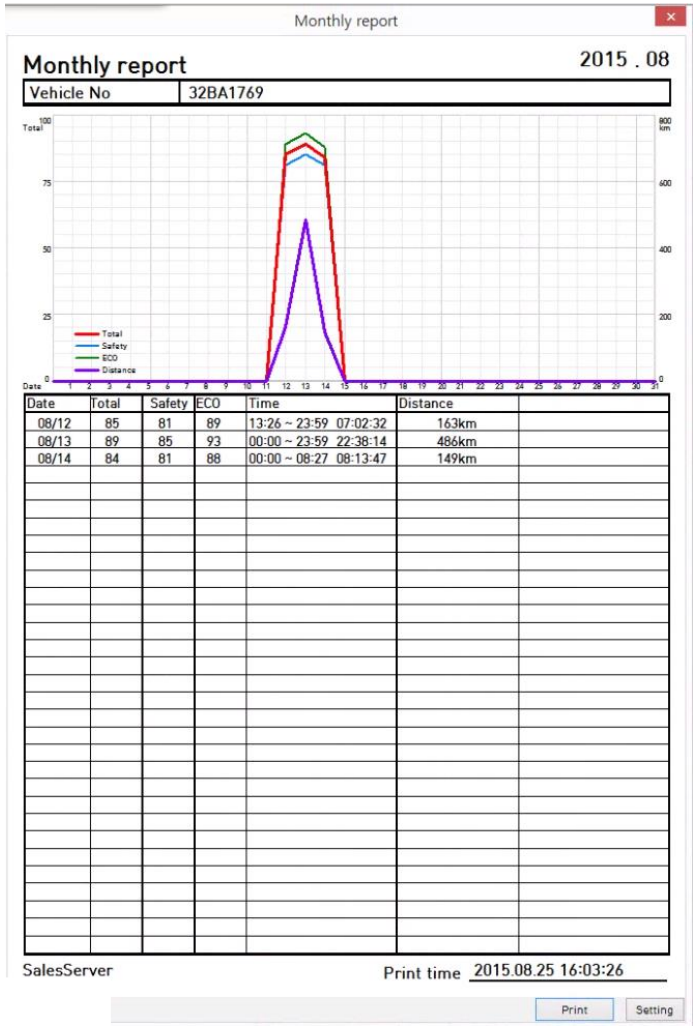
2) Select Driver or Vehicle and then Click Monthly report



3) Select Date (moth & year) and Vehicle No and press Data Search button

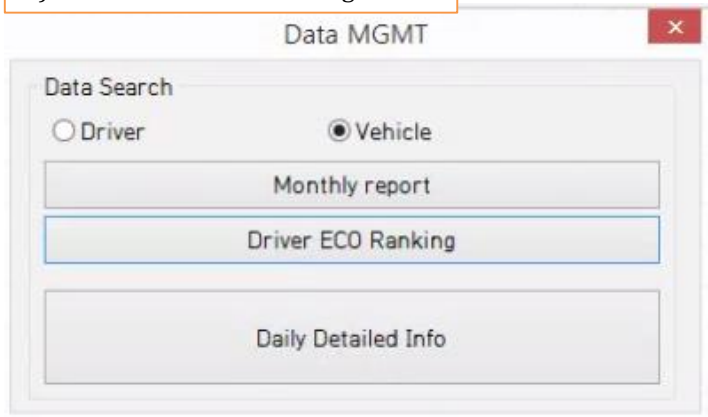


4) Then you will see below Monthly report and if you want you can print this report



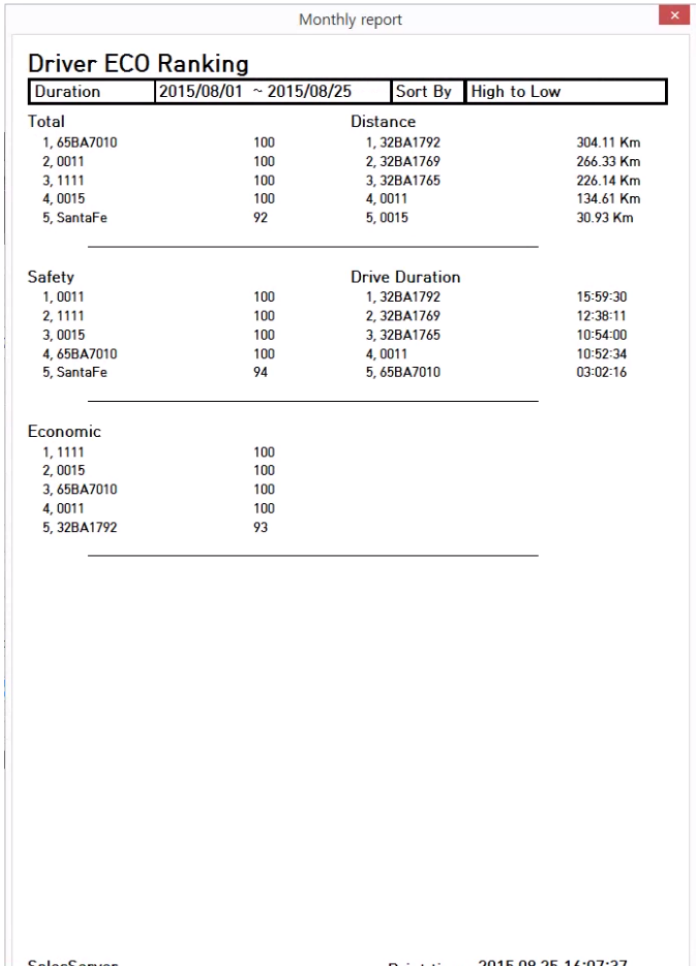
Driver ECO Ranking Report

1) Select Driver ECO Ranking



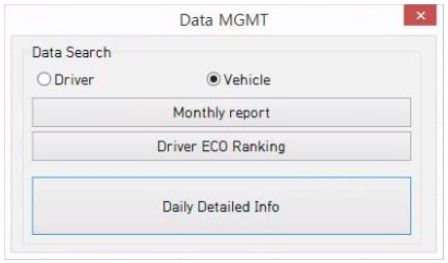
2) Select Date and then click Data Search button.

3) Then you will see below Driver ECO Ranking report and if you want you can print this report

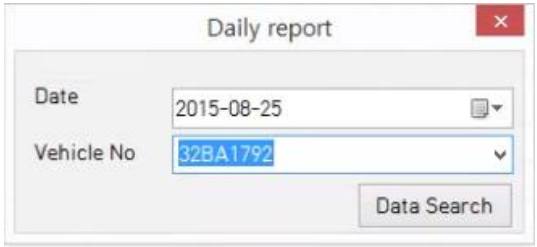


Daily Report

1) Select Daily Detailed Info

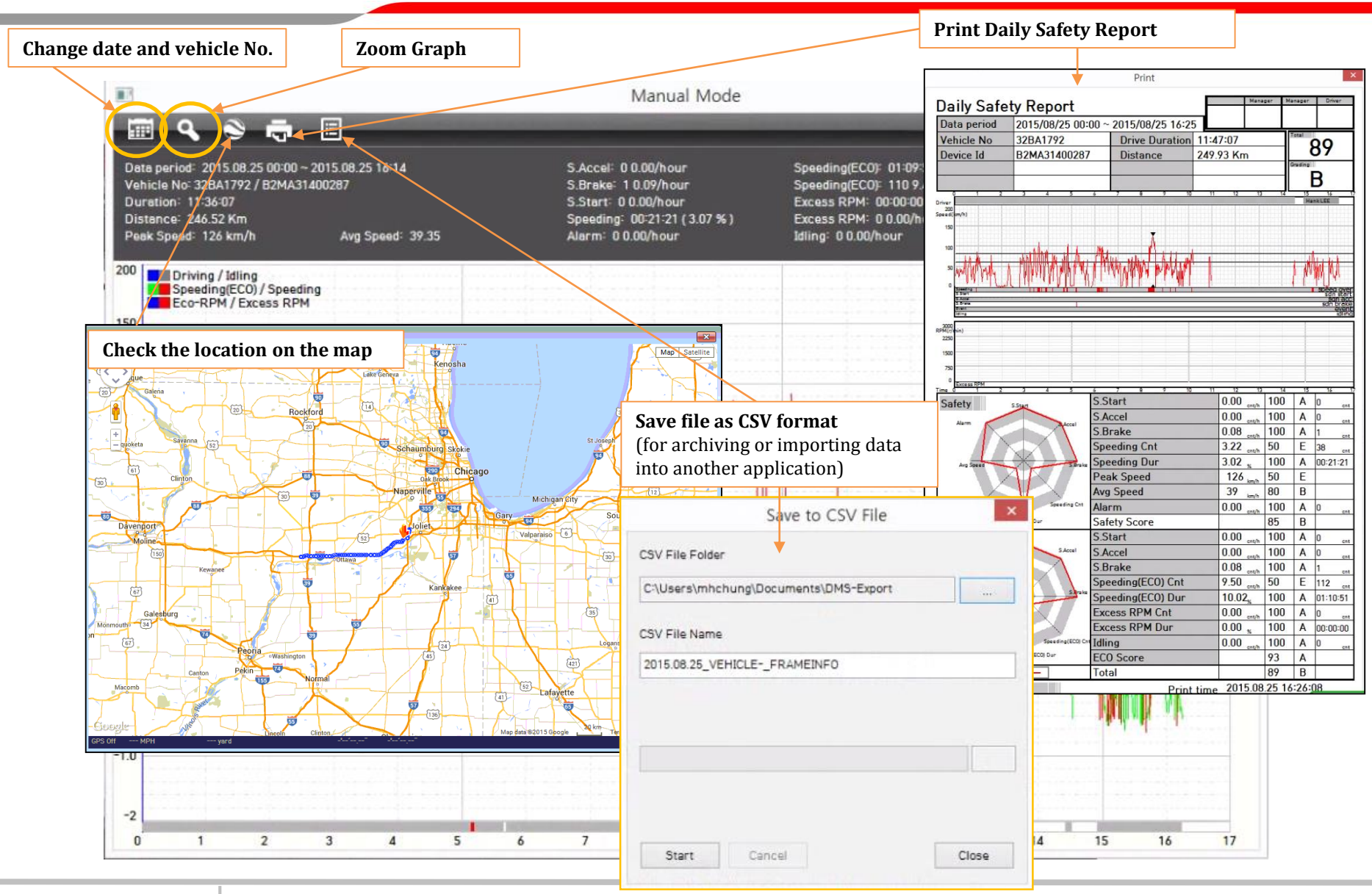


2) Select Date & Vehicle # and then click Data Search button.



3) Daily Report is generated

Daily report buttons



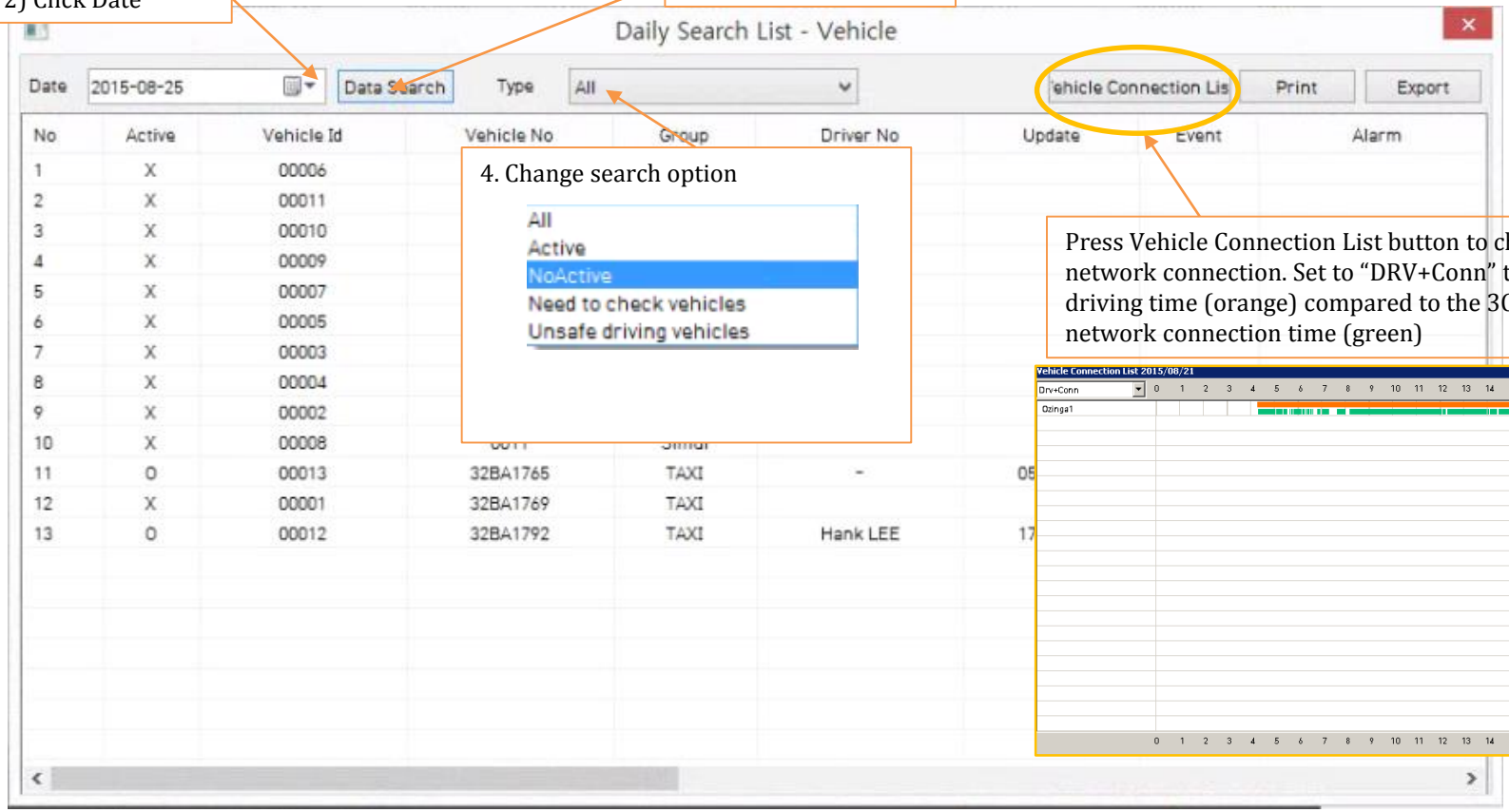
S.Start	0.00	100	A	0	
S.Accel	0.00	100	A	0	
S.Brake	0.08	100	A	1	
Speeding Cnt	3.22	50	E	38	
Speeding Dur	3.02 %	100	A	00:21:21	
Peak Speed	126 km/h	50	E		
Avg Speed	39 km/h	80	B		
Alarm	0.00	100	A	0	
Safety Score		85	B		
S.Start	0.00	100	A	0	
S.Accel	0.00	100	A	0	
S.Brake	0.08	100	A	1	
Speeding(ECO) Cnt	9.50	50	E	112	
Speeding(ECO) Dur	10.02 %	100	A	01:10:51	
Excess RPM Cnt	0.00	100	A	0	
Excess RPM Dur	0.00 %	100	A	00:00:00	
Idling	0.00	100	A	0	
ECO Score		93	A		
Total		89	B		

Daily Search by Vehicle No

1) Click Search Icon

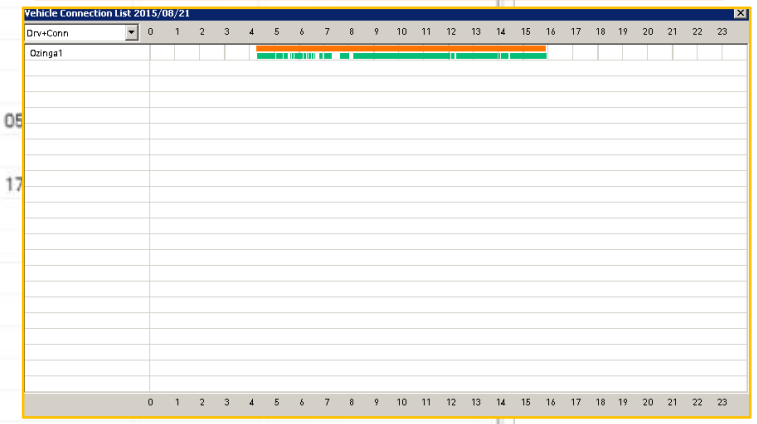
2) Click Date

3) Click Data Search



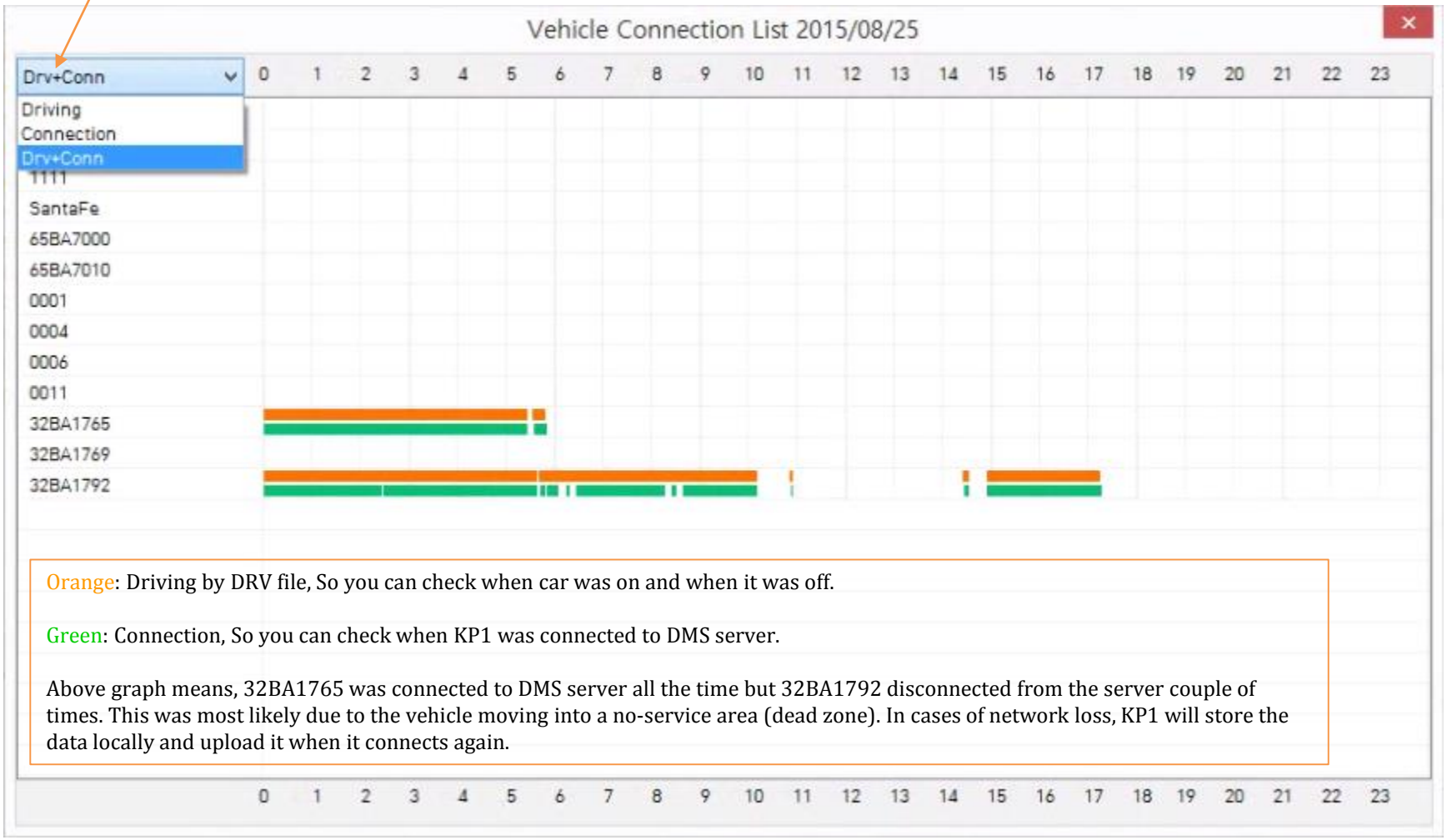
4. Change search option

Press Vehicle Connection List button to check the network connection. Set to “DRV+Conn” to see the driving time (orange) compared to the 3G or Wi-FI network connection time (green)



Vehicle Connection List

Select options here, 1) Driving Time 2) Connection = Network Connected to DMS4 (3G or WiFi) 3) Driving + Connection (side by side)



Orange: Driving by DRV file, So you can check when car was on and when it was off.

Green: Connection, So you can check when KP1 was connected to DMS server.

Above graph means, 32BA1765 was connected to DMS server all the time but 32BA1792 disconnected from the server couple of times. This was most likely due to the vehicle moving into a no-service area (dead zone). In cases of network loss, KP1 will store the data locally and upload it when it connects again.

Daily Search by Driver No

1) Click Search Icon

2) Click Date

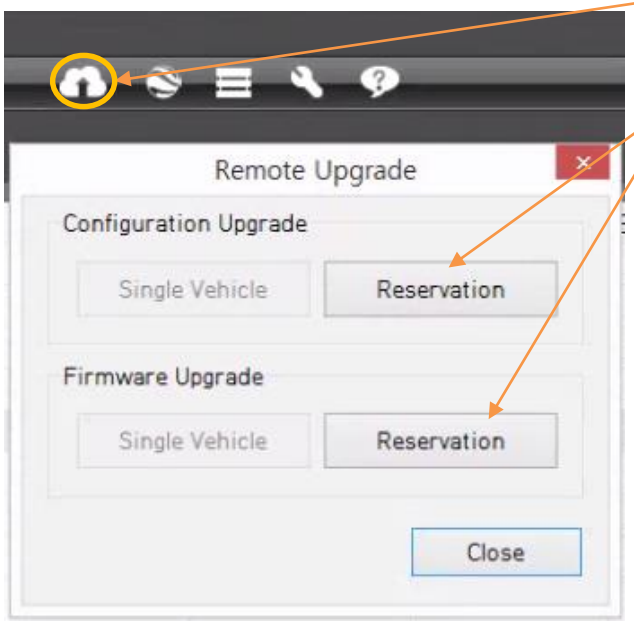
3) Click Data Search

Daily Search List - Driver

Date 2015-08-25 Data Search Print Export

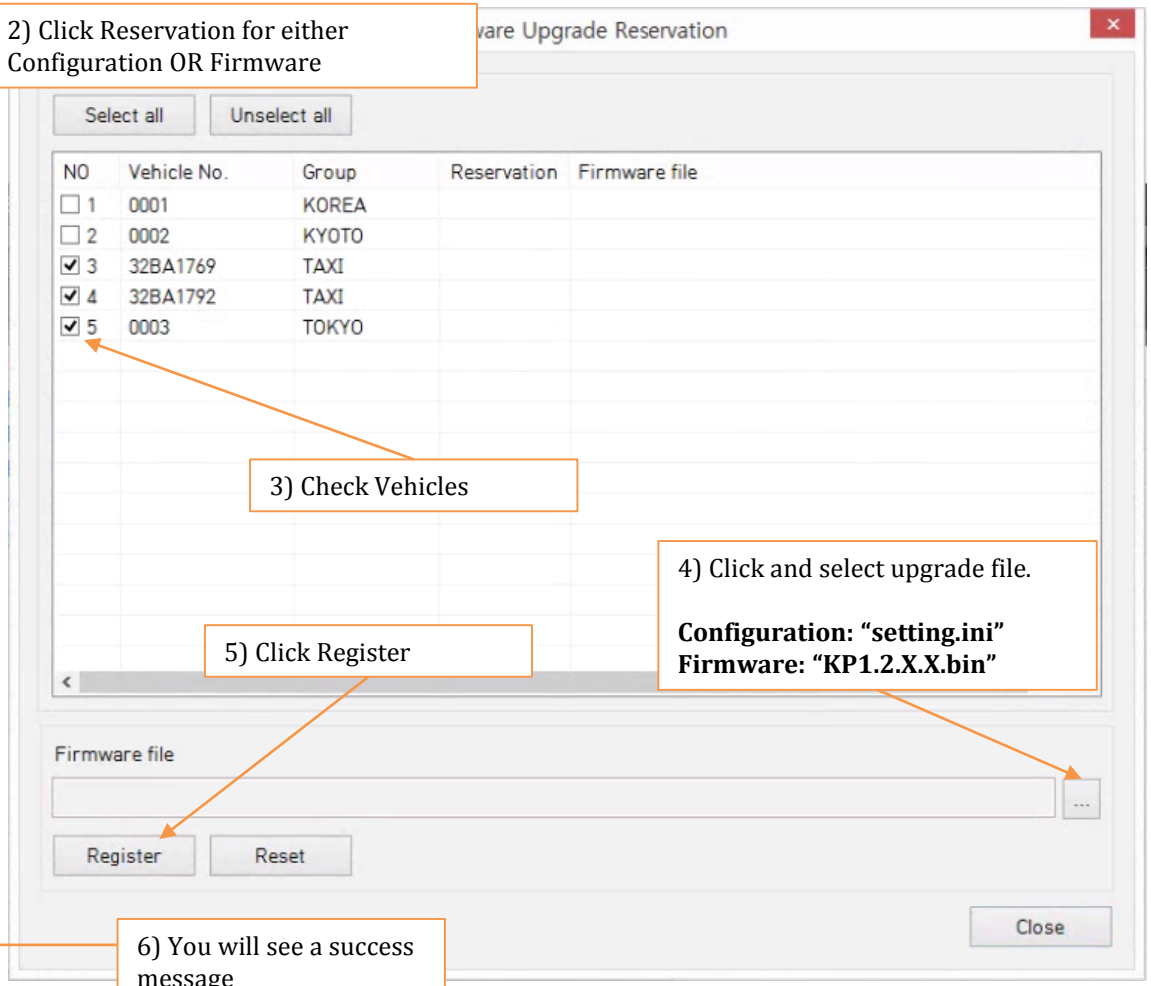
Driver No	Driver Name	Total	Safety	ECO	Drive Duration	Distance	Vehicle No
Hank LEE	Hank LEE	93	93	93	14:55 ~ 17:25 02:30:46	47.58 Km	32BA1792

Mass OTA (Over the Air) KP1 Updates (Firmware & Config)



1) Click Remote Upgrade Icon

2) Click Reservation for either Configuration OR Firmware



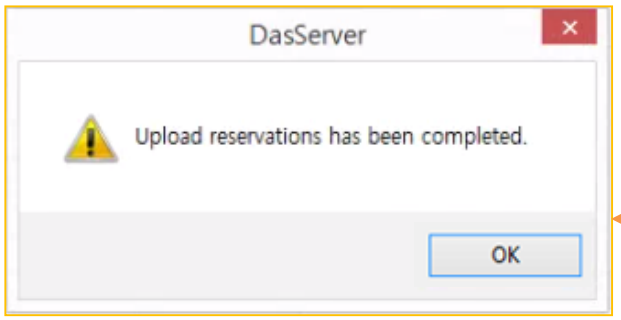
3) Check Vehicles

4) Click and select upgrade file.

Configuration: "setting.ini"
Firmware: "KP1.2.X.X.bin"

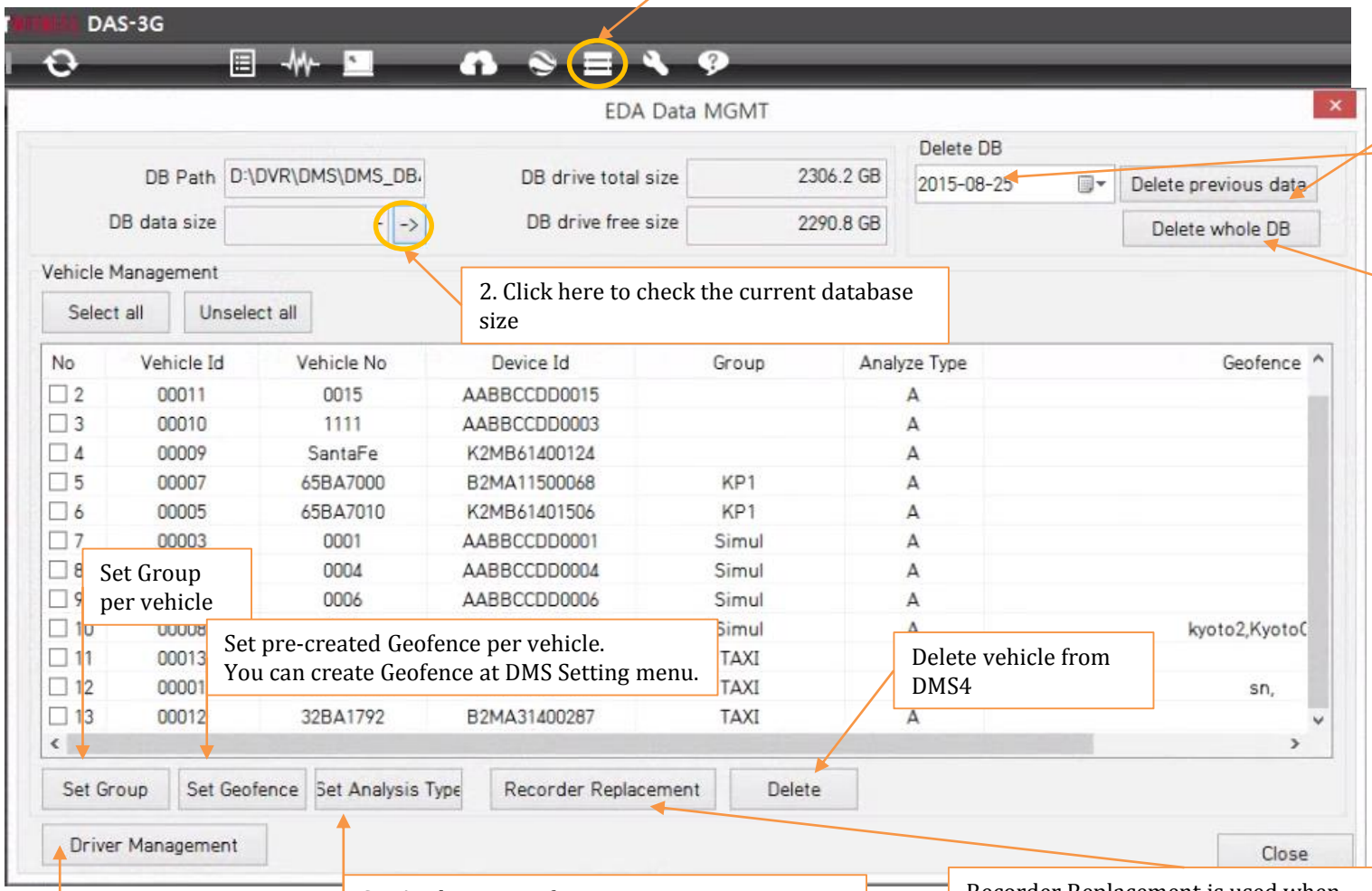
5) Click Register

Once KP1 is connected then Server will upload the new firmware or configuration file
KP1 will be upgraded automatically upon the next power cycle.



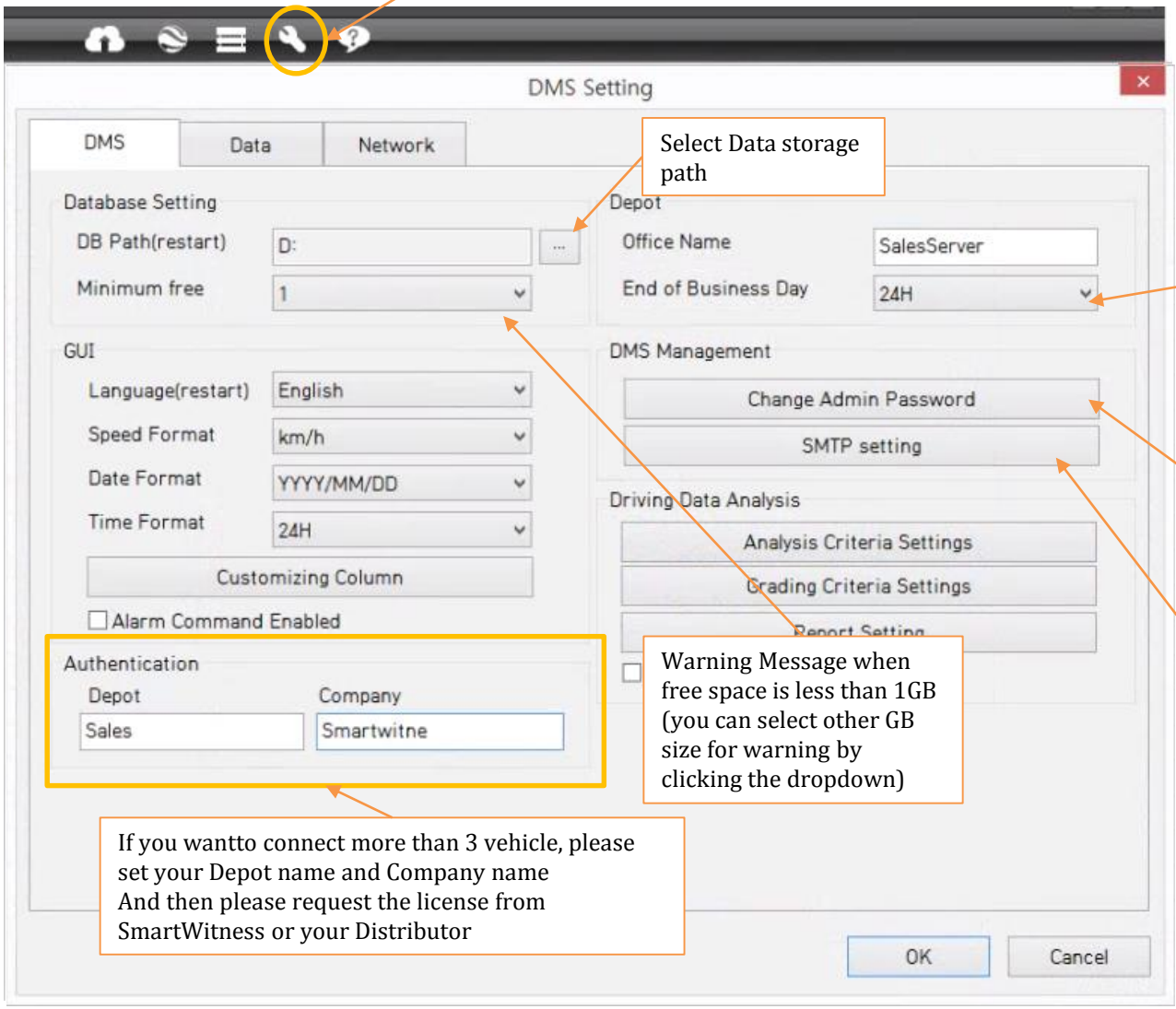
6) You will see a success message

DMS Database Management



DMS Settings: DMS Tab

Click Settings button



Select Data storage path

Warning Message when free space is less than 1GB (you can select other GB size for warning by clicking the dropdown)

If you wantto connect more than 3 vehicle, please set your Depot name and Company name
And then please request the license from SmartWitness or your Distributor

Select the end of a day.

24H: the end of a day is Midnight and new working day starts from 00:00:01.

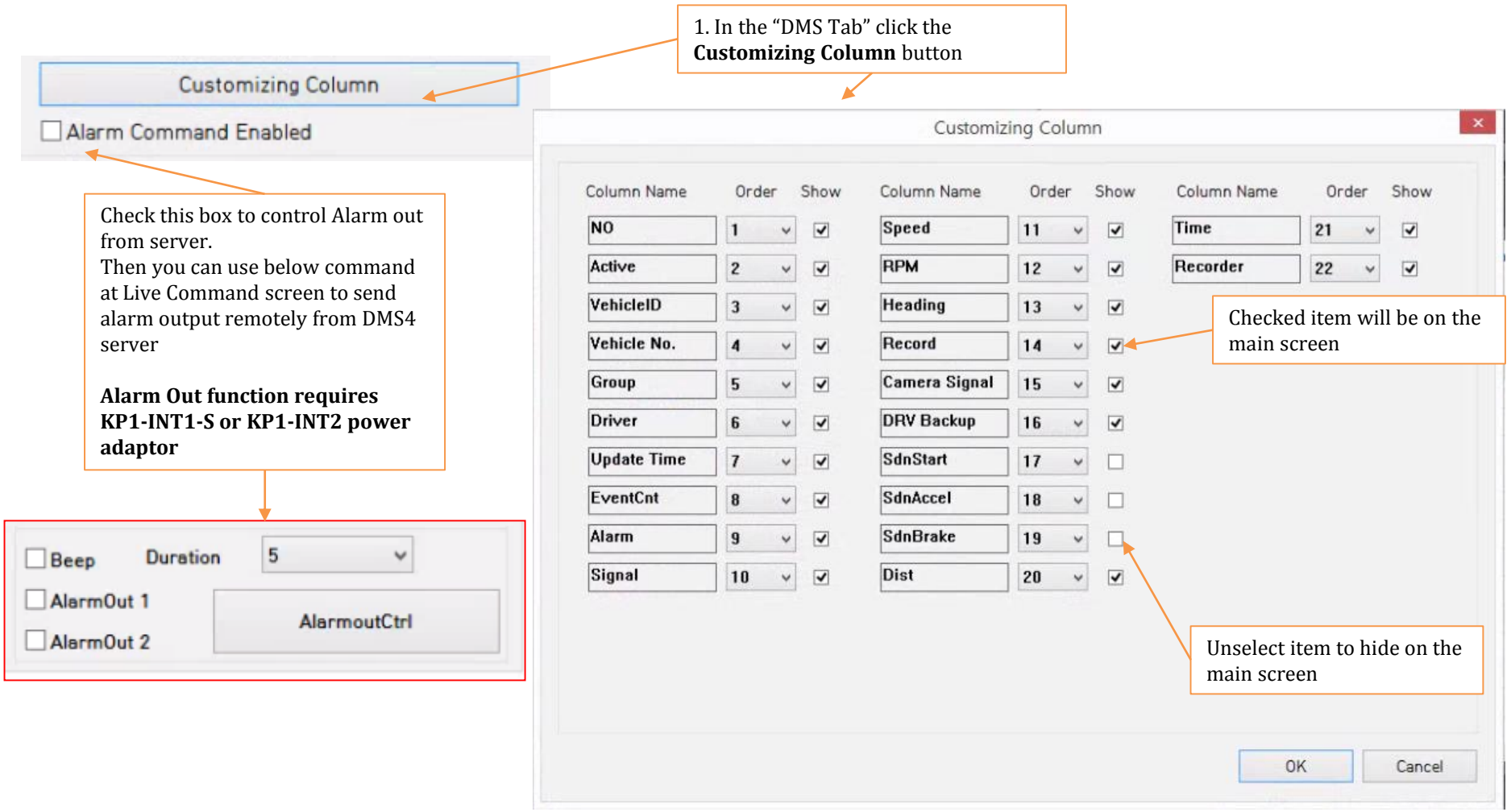
2H: the end of a day is 2 o'clock and new working day starts from
02:00:01

Change DMS4 password. **Initial password is 4321.**

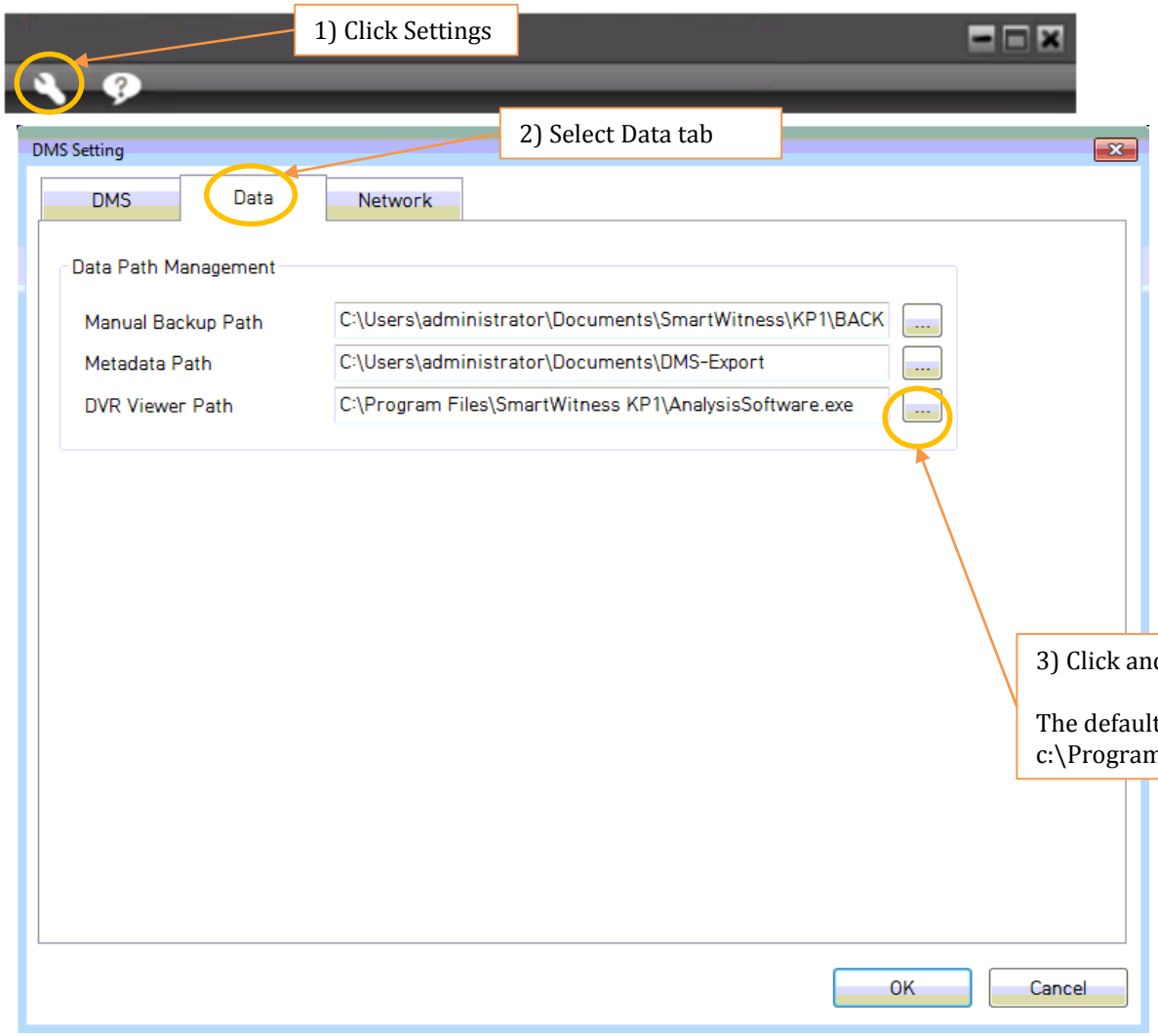
Enter SMTP information to send email reports from DMS4.

Set the email recipients on the "Network Tab"

GUI (Main screen and Live Command screen) Setting



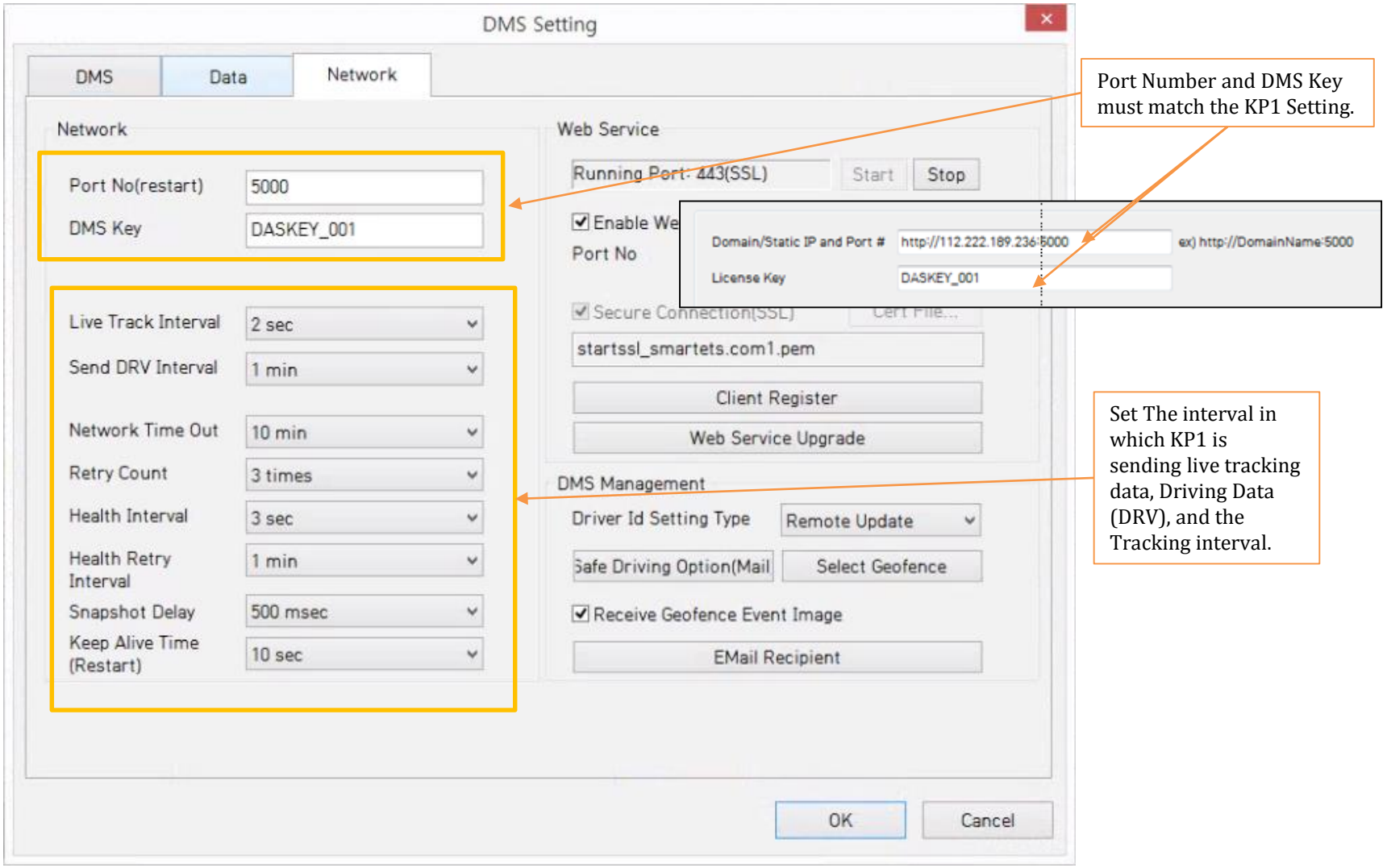
DMS4 settings: setting the data & the PC viewer paths



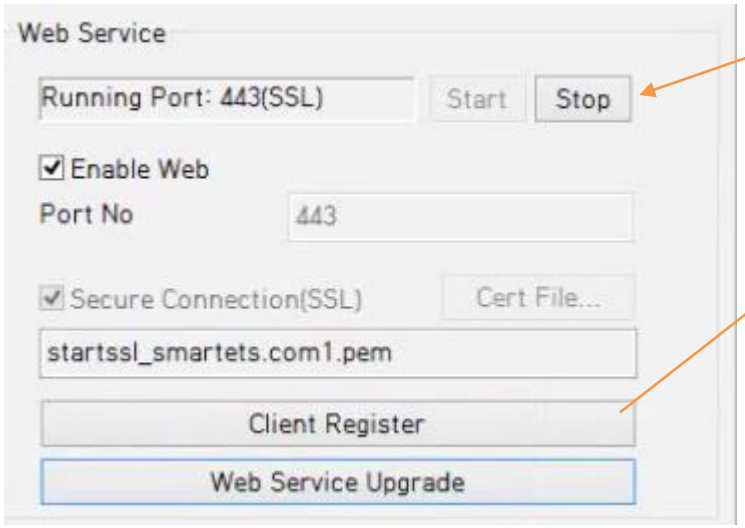
3) Click and select AnalysisSoftware.exe file.

The default location is
c:\Program Files (x86)\SmartWitness KP1\AnalysisSoftware.exe

DMS Settings: Network Tab

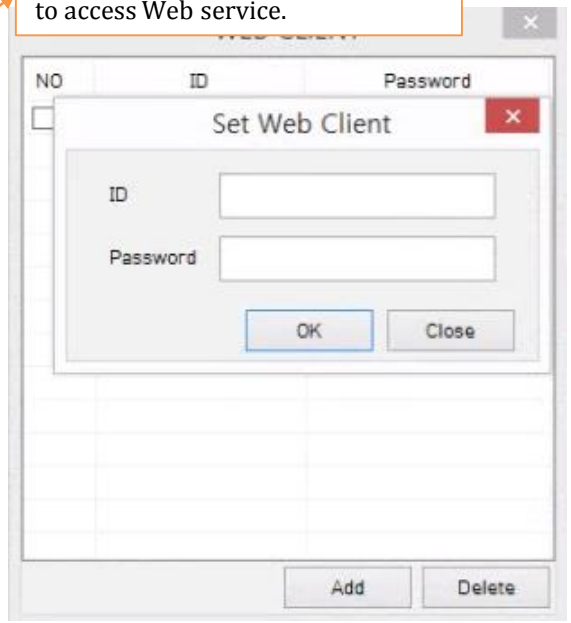


DMS Settings: Web Service (HTML5 web application, available Sept 2015)



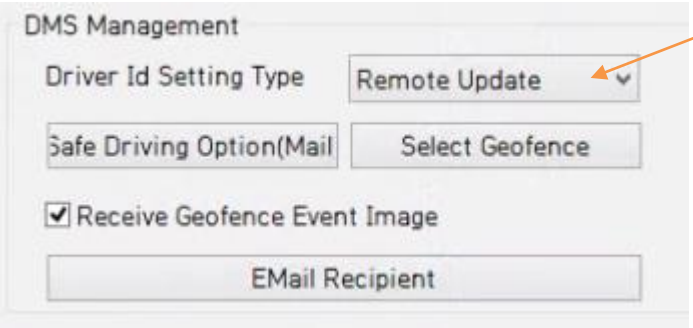
Display status of web service

Click and add new client ID & PW to access Web service.



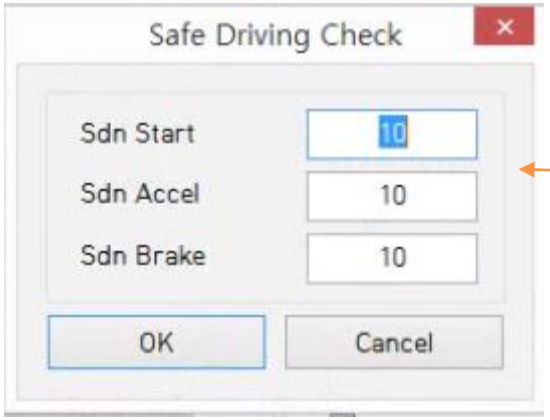
Select file for SSL

Driver ID Management & Safe Driving Option



Remote Update = Change the Driver ID (Driver Name) from server

SD Card = Change the Driver ID using the main SD card only.



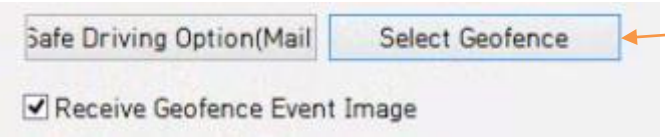
Safe Driving Option(Mail)

Threshold for Driving behaviors:

Sudden Start 10 times per day.
Sudden Acceleration 10 times per day.
Sudden Brake 10 times per day.

Please set SMTP and email recipient.
Then you will receive an email daily to see which vehicles exceed this number.

Adding Geo-fences



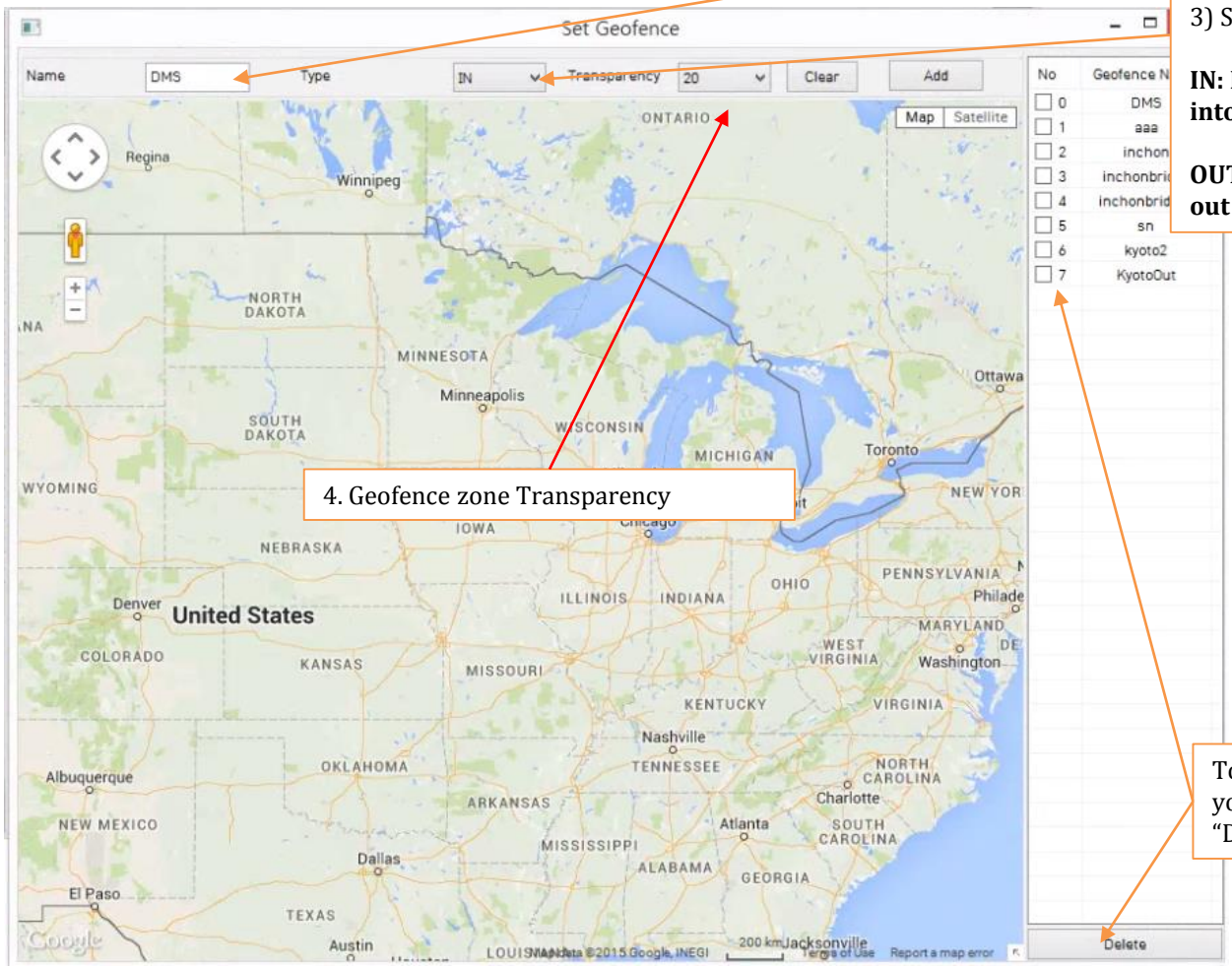
1) Click Geofence Edit in the DMS settings

2) Set new Geofence Name

3) Set Geofence Event Trigger type:

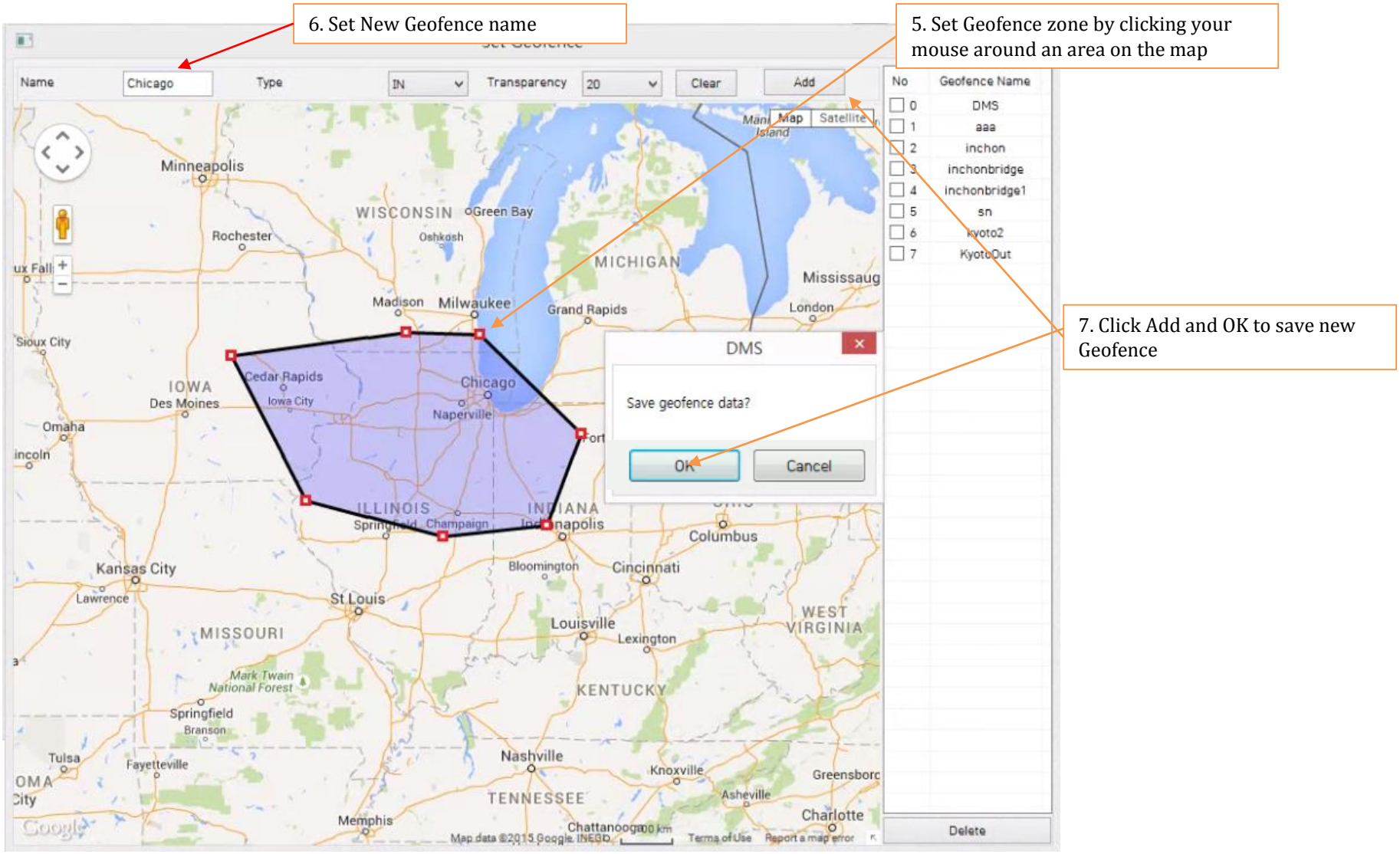
IN: Event trigger when vehicle moves into a Geofence zone

OUT: Event trigger when vehicle moves out of a Geofence zone

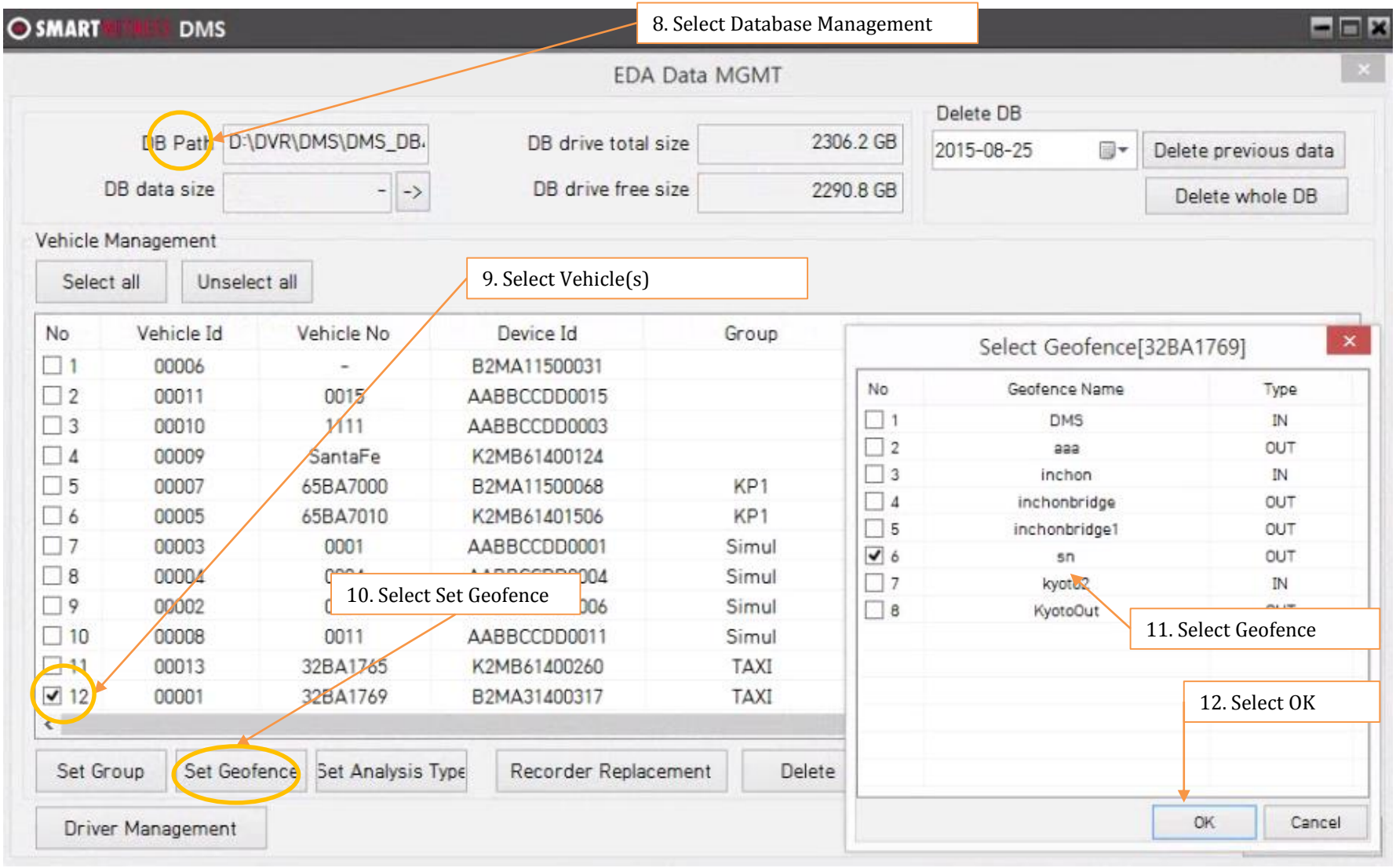


To delete Geofences, chech the box(es) you wish to delete and then click "Delete" button.

Adding Geo-fences cont'd

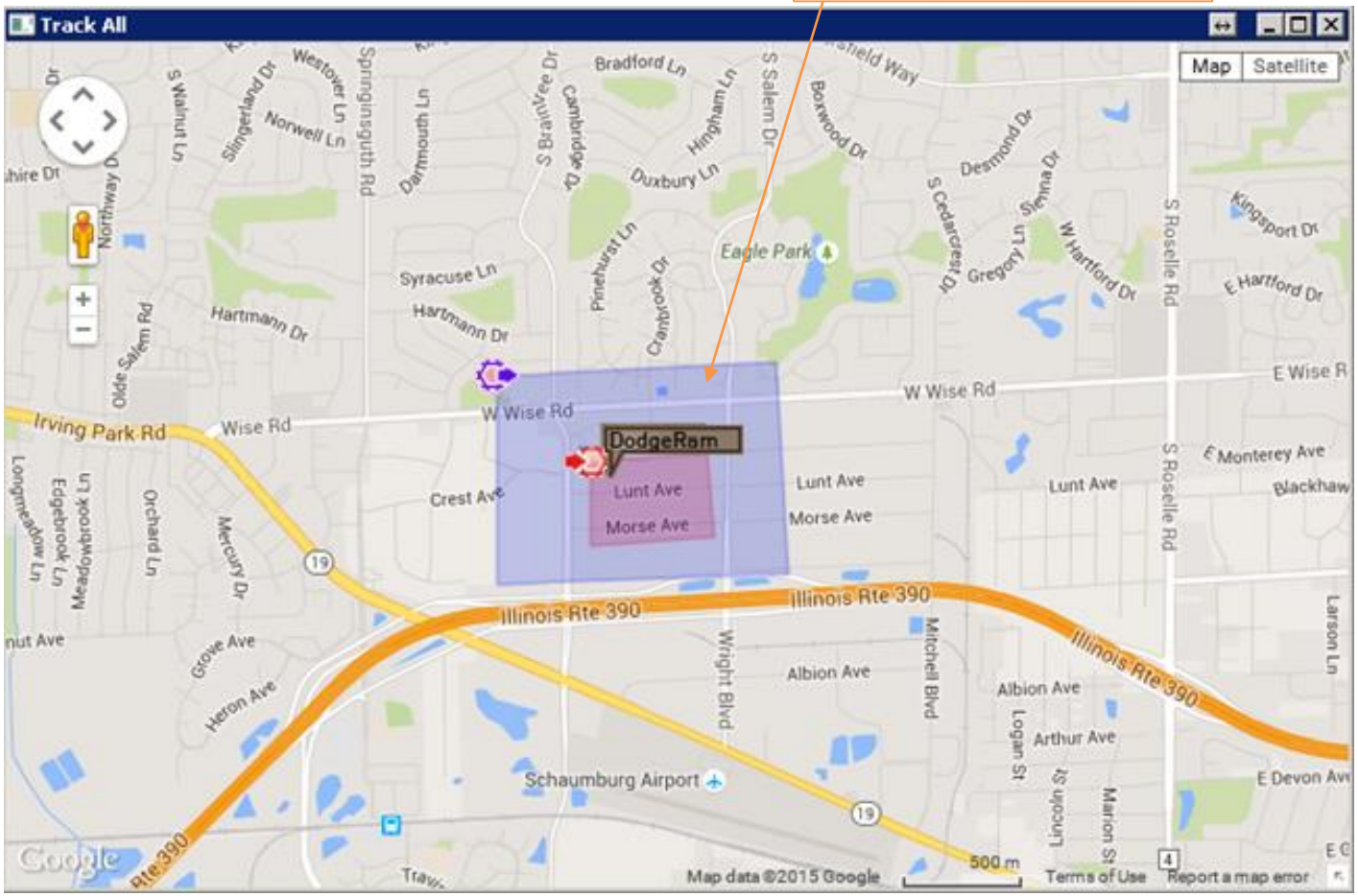


Applying Geofences to Vehicles



To use Geofence 5

13) Now you can view a new Geofence on the map when you click a vehicle

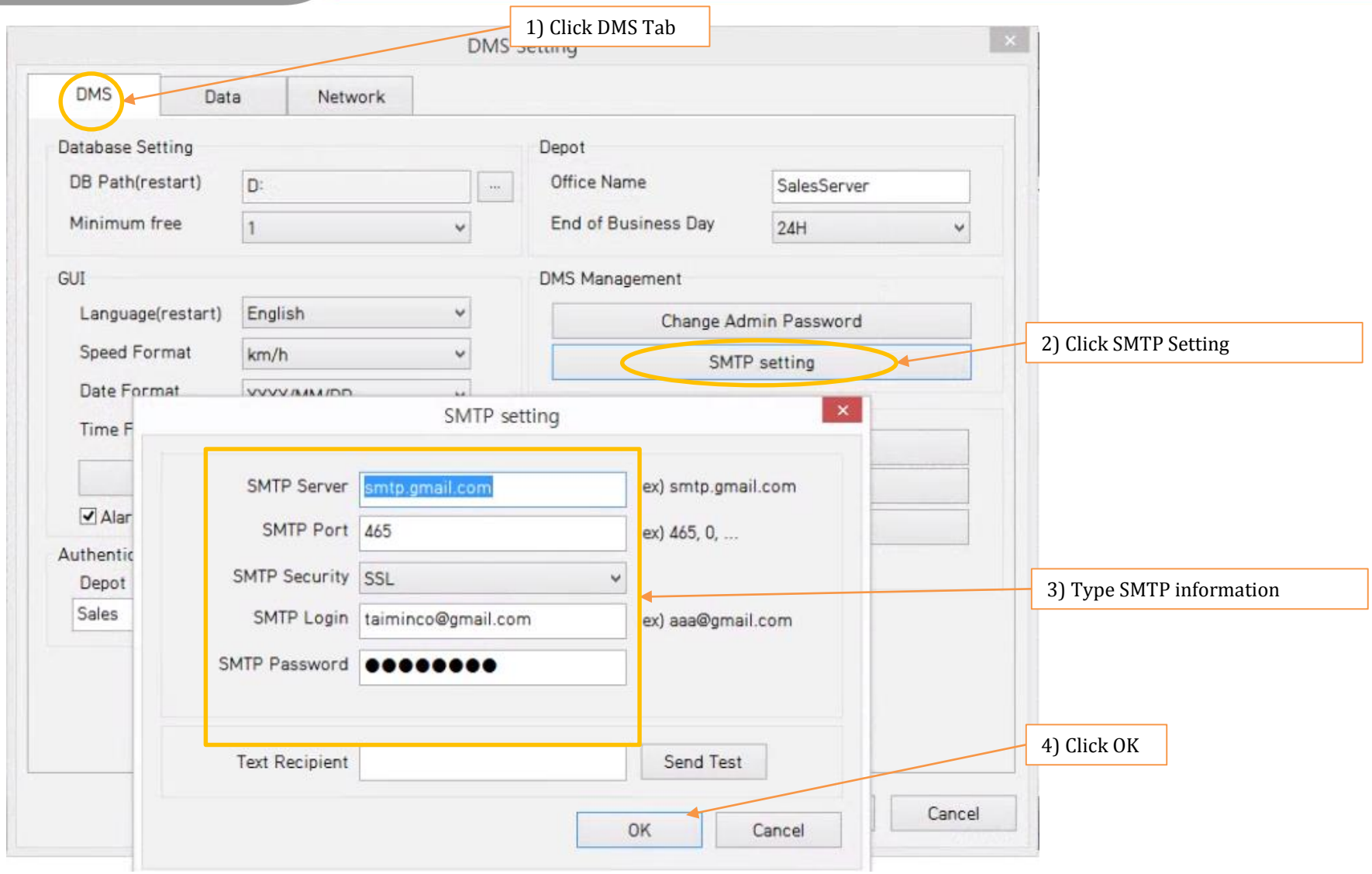


Geofence Icon

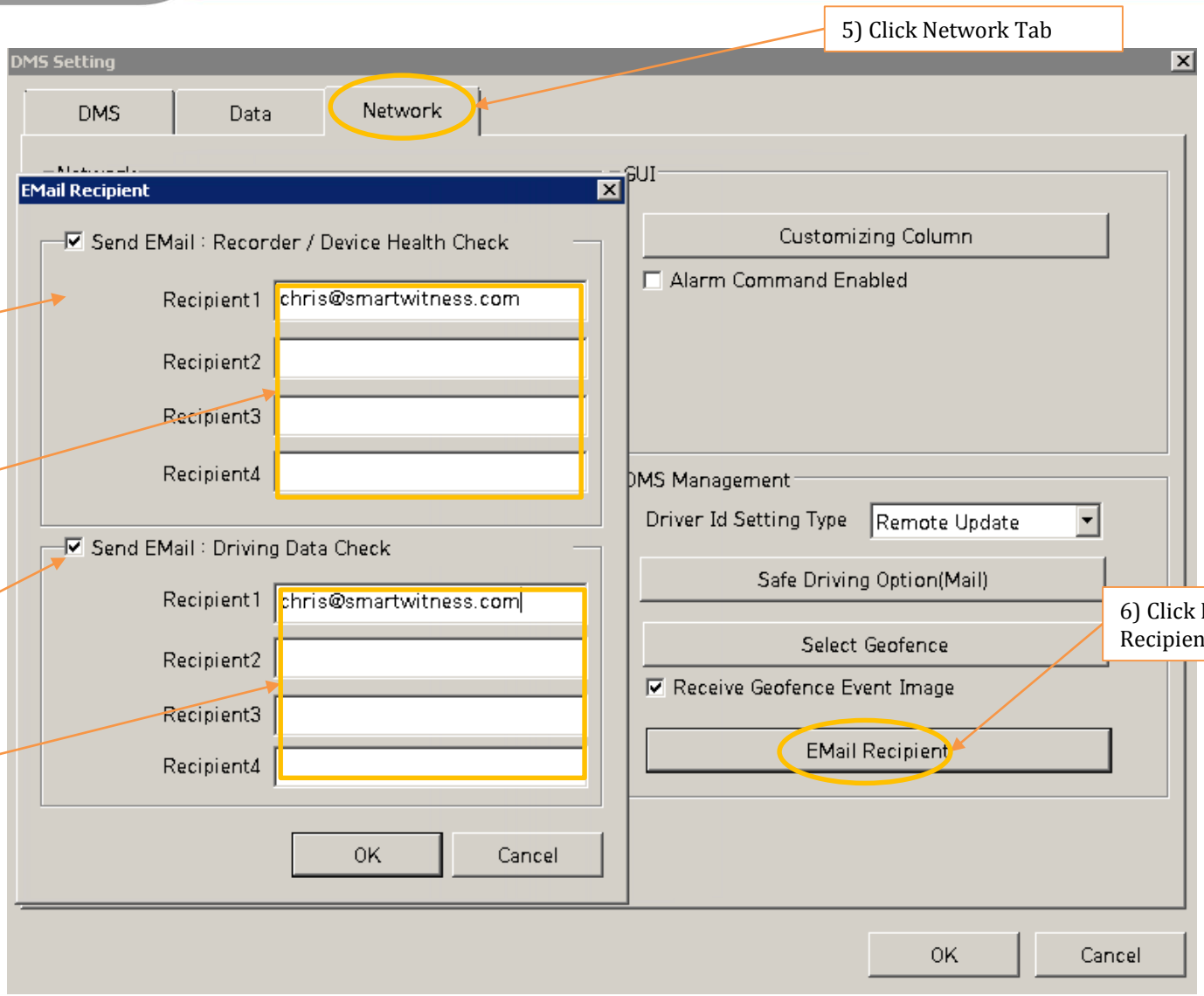
1) IN: Event trigger when vehicle come in to Geofence zone

2) OUT: Event trigger when vehicle go out from the Geofence zone

Receiving Emails from DMS4 Server

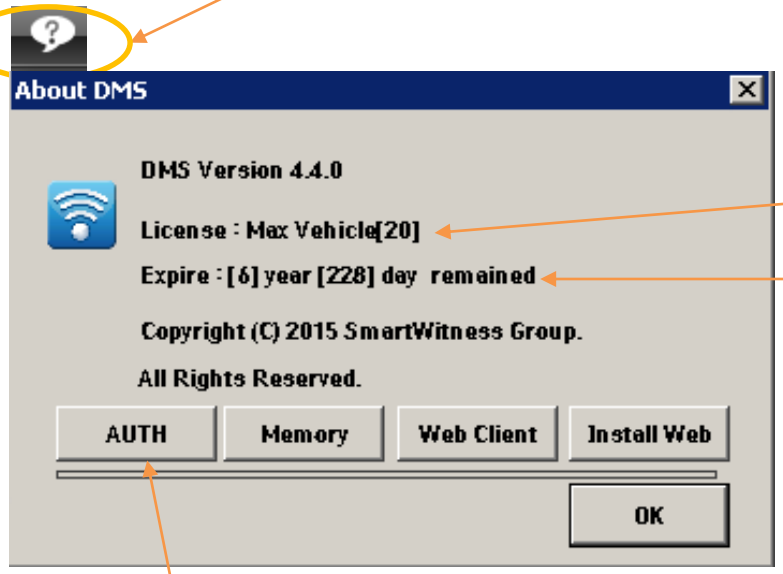


Receiving Emails from DMS4 Server cont'd



About Icon

Click About Icon



You can check the Max vehicle number which you can add and control.

You can check the license expiration date.

If you want to connect more than 3 vehicles, please set your Depot name and Company name in the DMS Setting Tab. (see page 38). Then tell your supplier how many vehicles you'd like to activate under this license.

Once your supplier provides the license, please click AUTH to apply your new license.