# CarDetector Viewer Reference

# Preface

Thank you for purchasing CarDetector Viewer. We hope you enjoy using the software.

This reference gives you instructions for using CarDetector Viewer

If you have any questions about the software, please do not hesitate to contact your vendor.

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# Chapter 1

# **Overview**

This chapter covers the basic and fundamental information about CarDetector Viewer. The information includes:

- 1.1 Introduction
- 1.2 Structure of the system

1.1. Introduction

CarDetector Viewer is a PC-based visual system designed to view the result of recognizing

moving cars by auto capturing their license number plates via live video feeds of CarDetector

MiniPC. CarDetector Viewer which is connected with CarDetector MiniPC via TCP/IP protocol

for getting information of detection and show the result in the working window. CarDetector

Viewer can perform all functions like CarDetector Mobile except setting camera system.

The system also provides a search engine for reviewing the captured data, as well as the ability to

find all instances of car records by license plate number.

The alarm module of CarDetector Viewer allows the user to configure alarms to be triggered when

a given car being evaluated has a license plate number matching one in a list of user-defined

'black-listed' (unauthorized) vehicles.

In addition, CarDetector Viewer allows the user to input various detailed information related to the

individual driving the vehicle with a given license plate number.

1.2. Structure of the system

A complete CarDetector system requires the following components:

Input source: IR Camera, Recorder Camera or specific camera

Video capture device

Software: CarDetector Viewer, CarDetector MiniPC

The input video feed is from a camera that is connected directly to a PC with a capture card

(capture cards convert Analog signals from the camera to Digital signals which can be

processed by the computer)

CarDetector then uses DirectX 9.0c to preprocess the source data, during which CarDetector

adjusts the images for the final step: detecting and matching.

CarDetector utilizes highly sophisticated algorithms to detect when a vehicle is visible and

where to look for the license plate of the vehicle. The software then stores the image of the

license plate along with an image of the vehicle and the resolved license plate number for

cataloging.

Note:

The system must have at least one IR camera for capturing car plates.

Due to CarDetector Viewer works with the detection result from CarDetector MiniPC so before operating CarDetector Viewer first you must run CarDetector MiniPC.

# Chapter 2

# **Getting started**

This chapter provides the following information regarding installation and setup of CarDetector.

- 2.1 System Requirements
- 2.2 Installation
  - 2.2.1 Hardware installation
  - 2.2.2 Camera Installation Guidelines for best results
  - 2.2.3 CarDetector Installation
  - 2.2.4 Removing Older Version of MySQL Server
  - 2.2.5 Installing MySQL Server 5.0
  - 2.2.4 Uninstalling CarDetector

## 2.1. System Requirements

Please make sure your system meets the following requirements before installing CarDetector:

**Processor**: Intel Pentium IV 2.8 Ghz with Hyper Threading Technology **Operating System**: Microsoft Windows 2000 or MS. Windows XP Pro

Memory: 1GB RAM supported (more recommended)

Graphics Card: compatible with DirectX 9 (ATI Radeon or NVIDIA GeForce2 or higher

recommended).

**Sound Card**: compatible with DirectX 9 (optional)

CD-ROM drive

Speakers (optional)

Mouse

Hard Disk: 80GB or greater SATA 7200 RPM recommended

## 2.2 Installations

# 2.2.1. Installing CarDetector

#### Note:

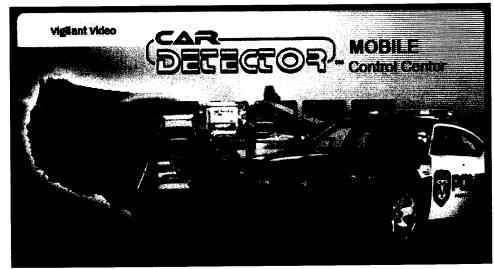
Only users that have the permissions to install a new program can set up this application. If the PC has already had MySQL installed, the user must have the administrator rights or the suitable permissions to work with the database.

Every CarDetector system comes with an installation CD, which includes the CarDetector software application.

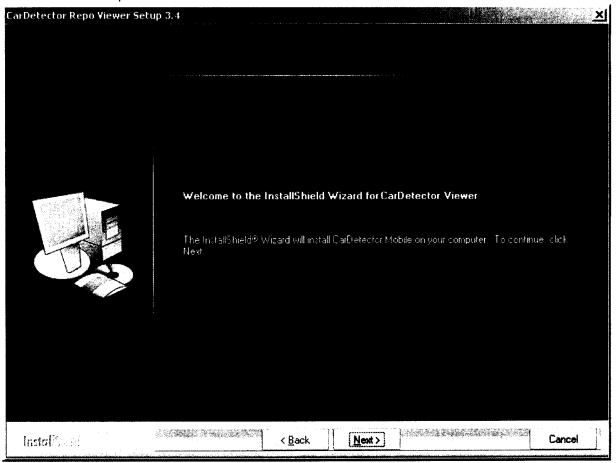
Follow these instructions to install CarDetector software application onto the PC:

1. Insert the CarDetector Software Installation CD into a CD-ROM drive, and the setup process will run automatically.

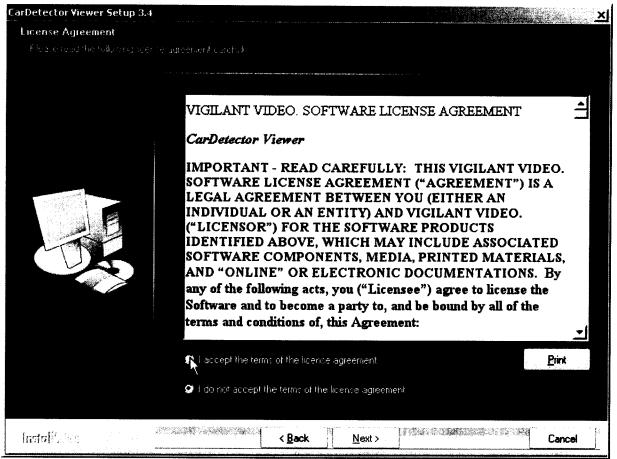
This window indicating the begining of installation is displayed:



2. Wait until the reprocess is finished.



2. Click **Next** to start installing.

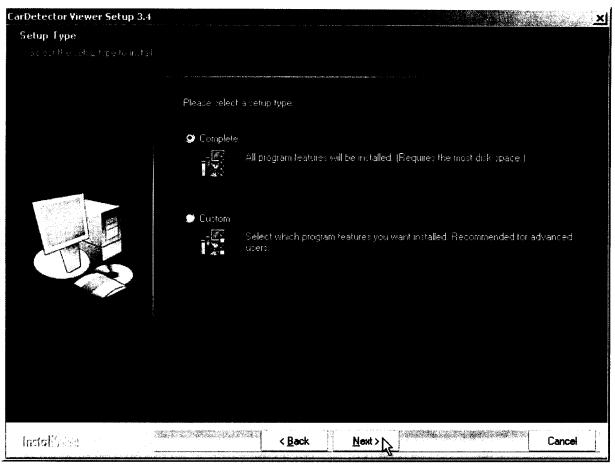


 Click I accept the terms of the license agreement to accept the End User License Agreement. Otherwise click No to exit the installation.

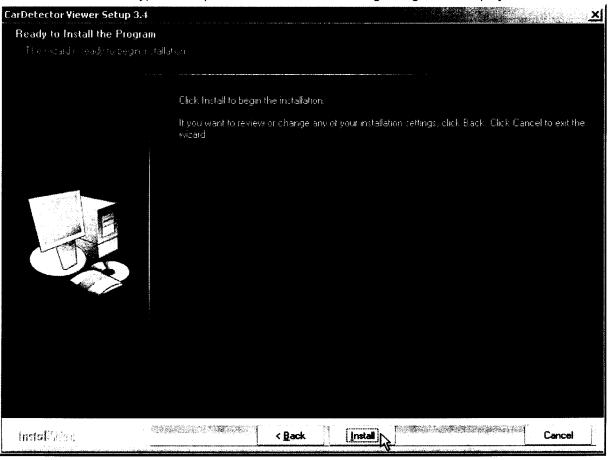
If Next is clicked, the following dialog is displayed:



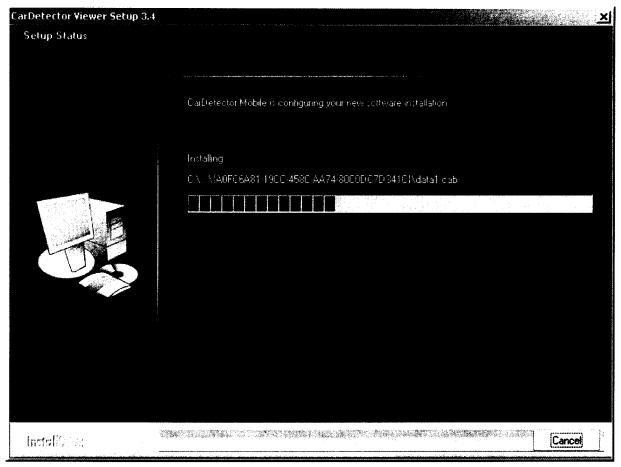
- 4 Enter your information (User Name and Company Name) and click Next.
- 5 The following dialog will be displayed:



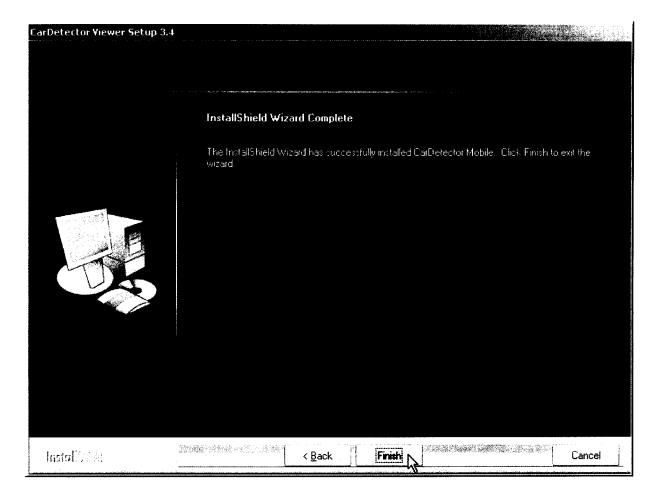
6 Select the suitable type of setup and click **Next**, the following dialog will be displayed:



7 Click **Install** to start installation.



8 Wait until the installation complete. The following window will be displayed



9 Click Finish. The installation of the application is complete. It is recommended you to restart your computer after finishing the installation.

After fully installing the software, it is highly recommended you restart your computer before running the application.

The information about the version of the software is shown in the **About** dialog of the running program.

# 2.2.2 Uninstall CarDetector

- 1. Select the **Settings\Control Panel\Add/Remove Programs\CarDetector Viewer** to uninstall **CarDetector Viewer** software.
- 2. The uninstaller will then remove all related files from your hard disk.

**Note**: Images and the database created by **CarDetector Viewer** will not be removed, but remain on the hard disk drive.

# **Chapter 3**

# **Operation of CarDetector Viewer**

This chapter provides information on how to start up the program, define camera systems, and operate for car detection.

- 3.1 Starting the application
- 3.2 Upgrading the Licensed Number of Feeds
- 3.3 Detection Setting up
  - 3.3.1 Audible Settings
  - 3.3.2 Alert Setting
  - 3.3.3 Region Selecting
  - 3.3.4 Database Cleanup
- 3.4. Car Detection
- 3.5 Alerting based on a Hot List
- 3.6 Import Hot List
- 3.7 Run Plate
- 3.8 Exit CarDetector Viewer

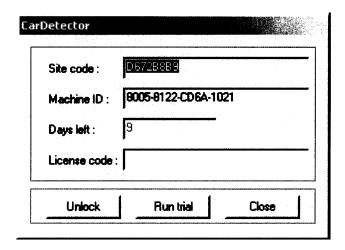
## 3.1. Start the application

After installing the hardware and software, you can work with the program by starting the software:

Choose Start\Programs\Vigilant Video\CarDetector Viewer to start the program

Or you can double click on the icon of the software on the desktop after installing.

The first time you run the software, the License Code dialog will be displayed as follows:



After installation, the program will create a 'Site Code' and a 'Machine ID'.

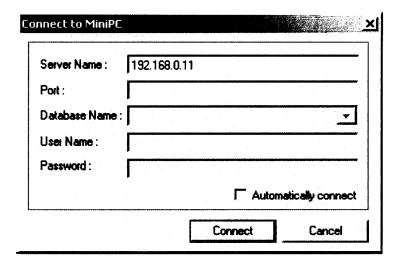
Please copy and send the 'Site code' and 'Machine ID' to your vendor or supplier to receive the associated "License code" to unlock the application permanently. Please be sure to include the number of inputs to unlock for the one system.

After receiving your license code, copy and paste it into the dialog textbox for 'License Code'. Click **Unlock**.

\*\* Should the number of inputs change and a larger number of feeds (cameras) be required, contact your vendor for pricing to purchase more feeds. An 'Upgrade License' will then be sent for upgrading the number of concurrent feeds that can be used. Refer to the following section, 'Upgrading the Licensed Number of Feeds', for details on updating your system with an 'Upgrade License'.

You may use the application in demo mode by clicking on the **Run Trial** button. As a demo, the application is only available in 14 days.

Next, you will be asked for connection information for CarDetector MiniPC by the following dialog:



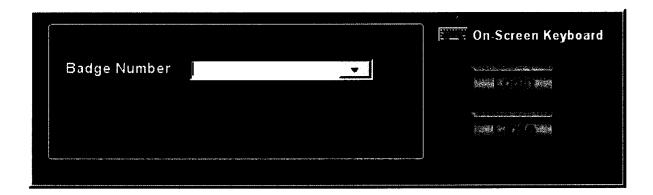
Enter the IP of the server running CarDetector MiniPC.

#### Note:

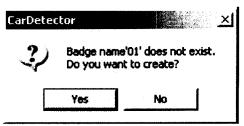
**Automatically connect**: If this checkbox is checked, the program will automatically connect to the database of CarDetector MiniPC with the entered parameters without showing this dialog next time the application runs.

Click Connect to open communication between CarDetector Viewer and CarDetector MiniPC.

Next, you will be asked to log in the system by entering your badge number - the code of the user, for running CarDetector:



Choose your badge number and click **Login**. In event that your badge number is not in the system, type the badge and click **OK**; the program will confirm creating the new badge with the following message:

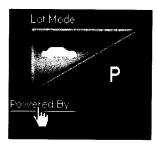


Click Yes to commit.

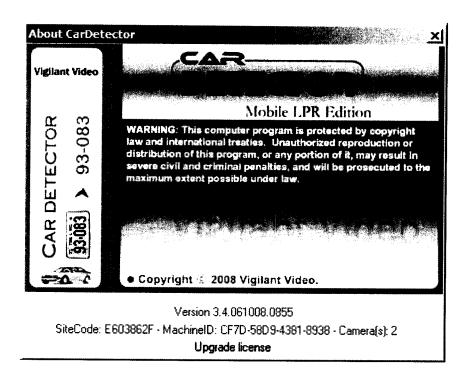
# 3.2 Upgrading the Licensed Number of Feeds

Each license provided is created specifically for a certain number of live cameras (depending on the number of feeds purchased). To increase the number of licensed feeds, please contact your vendor. An upgrade license will be sent. To install, perform the following:

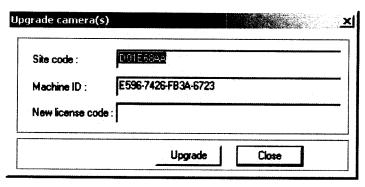
Click **Powered By** at the left-bottom corner of the screen to open the dialog with the information about the license



At that time the About CarDetector dialog will be displayed as follows:



Click 'Upgrade License'; the Upgrade camera(s) dialog will be displayed:



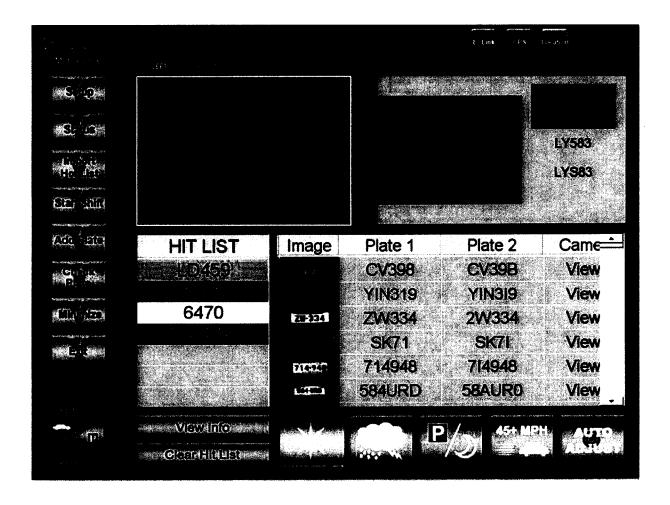
The dialog contains the information about the Site code and Machine code of the current license.

To register another license code with new number of camera(s), contact with your supplier to have the new code.

When the new license code has been received, copy and paste it into the 'New license code' text box of the 'Upgrade camera(s)' dialog and click **Upgrade**.

#### 3.3 CarDetector Viewer Interface

**CarDetector Viewer** is a PC application which is used to show the detection result of CarDetector MiniPC. It means CarDetector MiniPC receives an analog video stream from the cameras, and processes license plate detection and recognition, providing color overview and IR plate scan images for each detected plate in **CarDetector Viewer**.



The interface of CarDetector Viewer includes the following:

The Control buttons perform system functions

The Detection Result window shows the result of your most recent plate scan

The Hit List reports any scanned plates that are on the Hot list

The Detection table shows the list of detected car numbers

#### 3.3.1. Detection Table

The Detection Table contains the result of detecting process. The information shown in the table includes plate images (Image), car numbers (Plate 1, Plate 2) of detected cars and the corresponding surveillance camera.

Image	Plate 1	Plate 2	Camer_
	5LSR009	5ISR009	View2-l
LEAF587	4EAE587	4FAF587	View1-I
LEAF587	4EAF587	4FAF587	View2-I
51.38009	5LSR009	5ISR009	View1-I
PER S	NN534	MN534	View1-I
BEREIG	5BNM534	5RNM534	View2-I

#### 3.3.2. Control Buttons

The Control buttons:



This button is used to set principle parameters and options for detection.

This button is used to view the communication statistics of the application with the LEARN Server.

This button is used to import a list of suspect cars.

This button is used to start a shift for exporting detection result.

This button is used to end a shift for exporting detection result.

This button is used to add a new suspect car number to the current hot list.



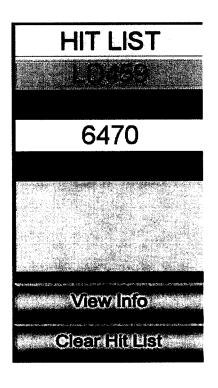
This button is used to search for a plate in the database

This button is used to minimize the application window

This button is used to exit the application

3.3.3. Hit List

The Hit List:



This is the list of suspect cars that have been detected by the application

To see detailed information about the detected car, select its number in the Hit List and click the **View Info** button

To empty the current Hit List, click the Clear Hit List button

## 3.3.4. Detection Result window

The result of detection will be shown here. The window consists of an image of detected car, detected number(s) and its plate image



#### 3.3.5. The Status Lights

Status lights consist of:



This light shows the connection status of CarDetector with the LEARN Server: **Green**: Connected, **Red**: Not connected. To view statistics about your connection with the LEARN Server, click the **Status** button.



This light shows the connection status of CarDetector with the GPS device: **Green**: getting good GPS coordinates, **Red**: GPS device not active



This light shows the tracking location of CarDetector. **Green**: normal status; **Red**: User is scanning a previously-scanned area.

# 3.4 Detection Setting up

To configure parameters and rules for license plate detection, perform the following:

Click the 'Setup' button; the following dialog will be displayed:

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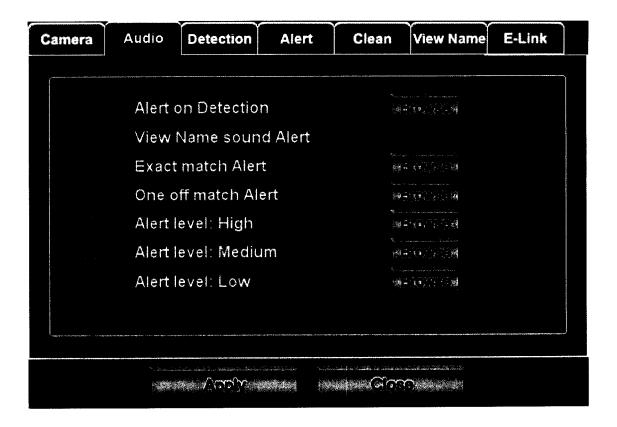
In the dialog, you can define a sound for alerting when there is any license plated detected or a hot plate detected. You can also choose the character matching method during the detection, set up the camera system and select the region where you intend to use the application for detection.

Audio Settings
Alert Setting
Detection Selecting
Cleanup Database
View Name
E-Link

After configuring necessary information for detection, click the **Apply** button; the changes will be updated to the database of the system. **These settings will effect on the performance of CarDetector MiniPC**.

#### 3.4.1. Audio Settings

**Audio Settings** allows you to choose the audio file for alerting the operator car numbers in the hot list.



**Alert on Detection**: allows defining a sound that will be played when any license plate is detected by the application.

**View Name sound Alert**: allows alerting by sound the name of the view on detection of a hot list plate.

**Exact match Alert**: allows defining a sound that will be played when a license plate is detected exactly matches any plate in the Hot List.

**One off match Alert**: allows defining a sound that will be played when a detected license plate is just one character different from the characters of any plate in the Hot List.

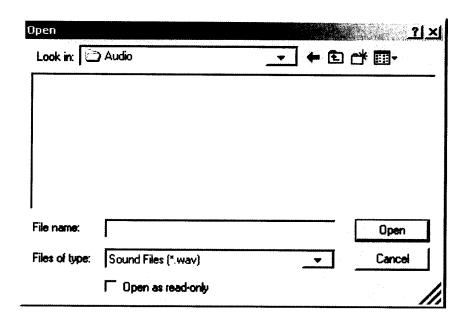
Alert level: High: allows defining a sound that will be played when a hot list plate with high alert level is detected

Alert level: Medium: allows defining a sound that will be played when a hot list plate with medium alert level is detected

Alert level: Low: allows defining a sound that will be played when a hot list plate with low alert level is detected

To activate playing a sound for any of these detection events, make a check on the corresponding option. The alarm sound will be the default one.

If you want to define the audio file, click the Browse button; the Open dialog will be displayed:



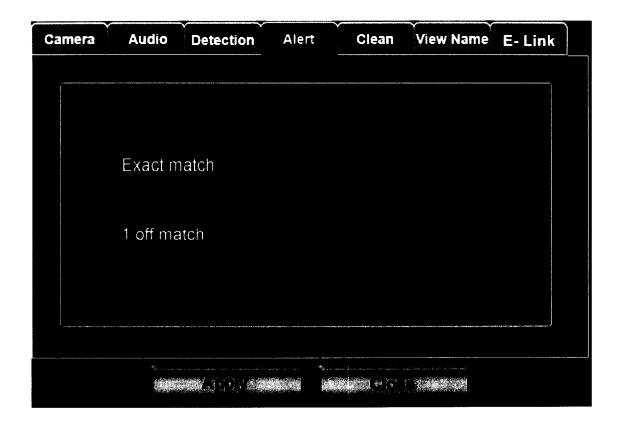
Choose the desired sound in the available Audio folder or from others and click Open.

After completing audio setting, click Apply to commit configuration.

Click Close to close the tab window.

# 3.4.2. Alert Setting

**Alert Match** allows defining the method of matching when searching for detected plates on the hot list.



**Exact match**: make an alarm sound when any detected plate number exactly matches all characters of a plate number on the hot list

1 off match: make an alarm sound when there any detected plate number has only one character difference from one of those of any plate number in the hot list (including the case if a plate with less or more than one character). See the following figure

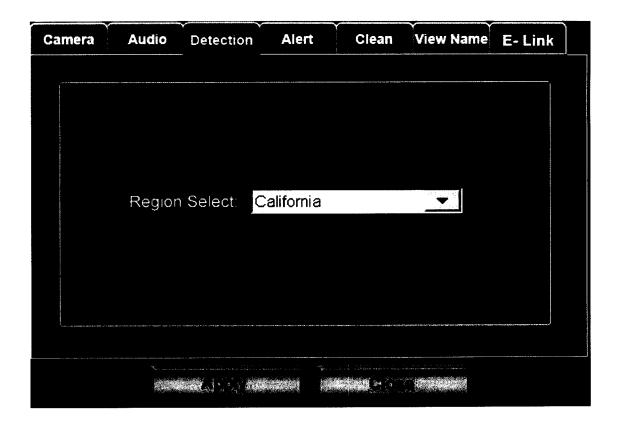


Click Apply to commit configuration.

Click Close to close the tab window.

#### 3.4.3. Region Selecting

This tab allows you to select an appropriate region for detection



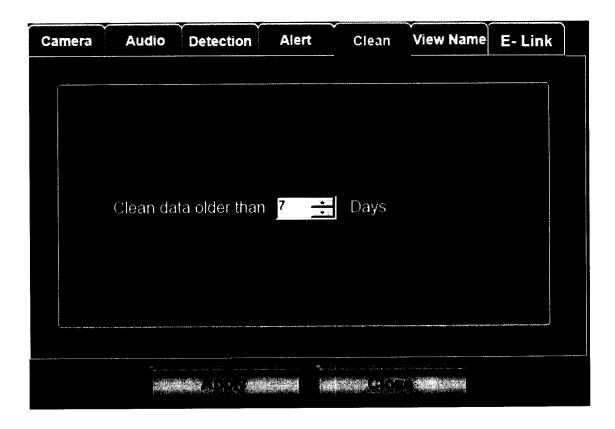
**Region Select**: choose the appropriate region (state/province) as the default one for detection. This is the region where the program is typically used to detect cars. In each region (state, city, or country) there are different methods of numbering license plates, so choosing the correct region helps make detection more reliable.

Click **Apply** to commit region selection.

Click Close to close the tab window.

#### 3.4.4. Database Cleanup

This function allows you to cleanup of the database



Clean data older than [X] day(s): check to enable Archive Maintenance. Specify the maximum number of days for the local archive to hold. All data older than 'X' days will be deleted.

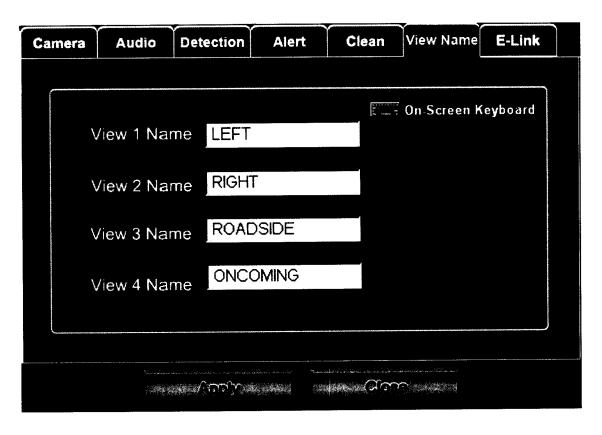
Click Apply to commit configuration.

Click **Close** to close the tab window.

## 3.4.8 View Name

CarDetector allows you to change the name of default views by the following:

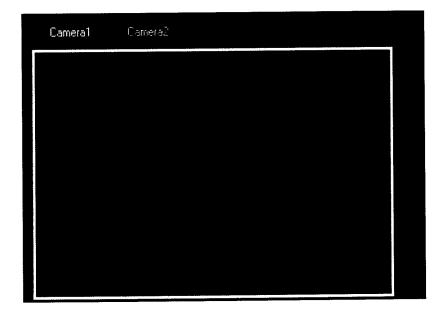
Select the View Name tab, the corresponding dialog will displayed



Enter the new names of views. You can click the **On-Screen Keyboard** button to open the keyboard for entering the new name for the View. Click **Apply** to commit changes.

Click Close to close the View Name tab window.

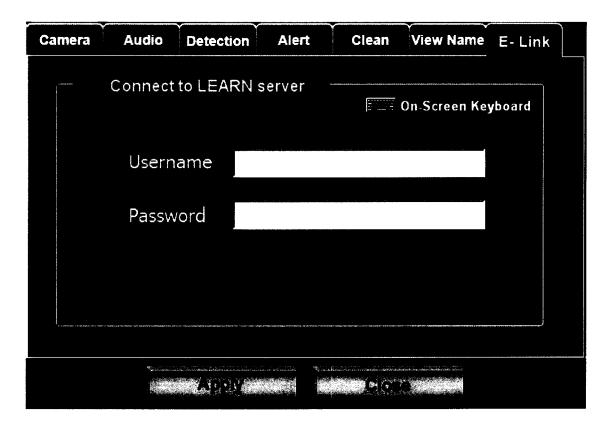
For example the views can be changed and displayed as follows:



#### 3.4.9 E-Link

E-Link is used to set connection with LEARN Server, perform the following:

Choose E-Link tab to open the corresponding window:



#### Check the Connect to LEARN Server

Enter the authorized username and password to connect to the LEARN Server. (you can click **On-Screen Keyboard** to open the keyboard and then typing the username and password.)

Click Apply to start connecting to the LEARN Server. Click Close to close the dialog.

Once the connection is established, the user can transfer information to and from the LEARN Server and the E-Link button is **Green**.

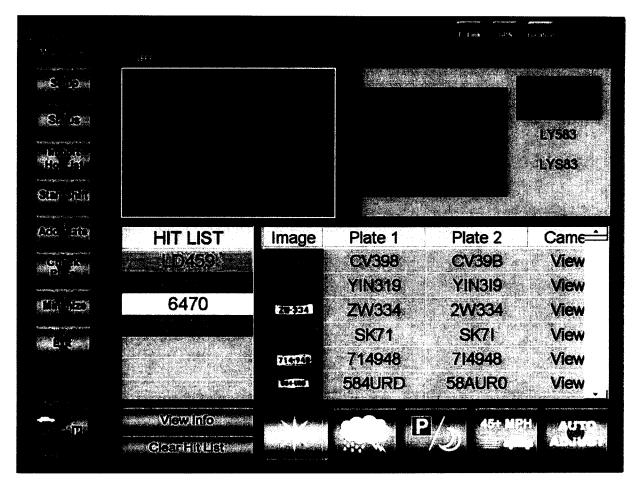
If there is no communication with the LEARN Server the E-Link button will be Red

#### Note:

LEARN Server is a storage of detection data from CarDetectors via the integrated E-Link.

## 3.5. Car Detection

If CarDetector Viewer is connected to the PC running CarDetector MiniPC, the working window is as follows:

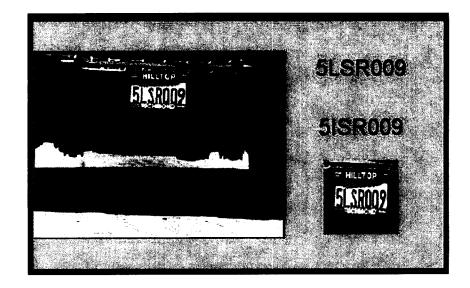


#### \*\* Note:

It is important to define the appropriate region (state/province) to ensure accurate detection because there are some differences between plate numbers in different states and/or provinces. The program utilizes different algorithms to properly analyze a visible license plate based on the selected state or province.

To define the default country/state/province for detection, select the **Setup** button and then select the correct region in the **Region Select** list.

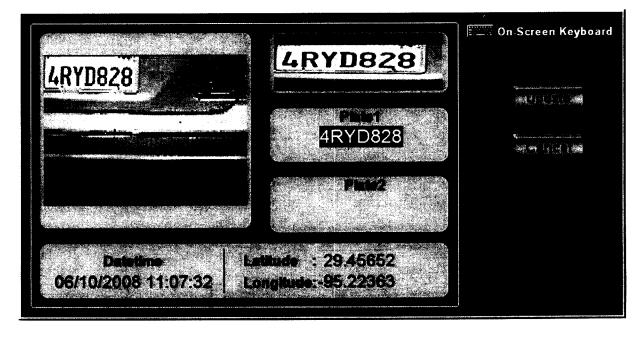
The license plate number of the most recent detected vehicle will be shown in the **Detection Result** window on the right of the screen.



Simultaneously, you can see the running history of detection results in the **Detection Table**.

Plate 1	Plate 2	Camer_
5LSR009	5ISR009	View2-
4EAF587	4FAF587	View1-I
4EAF587	4FAF587	View2-I
5LSR009	5 SR009	View1-I
NN534	MN534	View1-I
5BNM534	5RNM534	View2-I
	5LSR009 4EAF587 4EAF587 5LSR009 NN534	5LSR009 5ISR009 4EAF587 4FAF587 4EAF587 4FAF587 5LSR009 5ISR009 NN534 MN534

To view the detected plate with its images, double click on the number in the Detection table the details dialog will be displayed as follows:

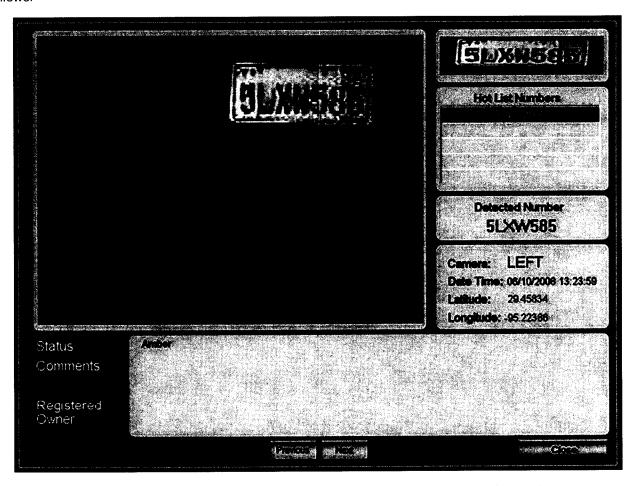


In some case there may be misdetected number, you can correct it by clicking the **On-Screen Keyboard** to open the keyboard and then typing the correct one. To finish, click the Update button.

#### Note

If a sound is defined in **Audio Settings**, when any license plate or an alarmed plate is detected by the application the sound will be played to alert the operator.

In case that an alarmed car is detected, the picture of the car will be shown in the window as follows:



To view the communication status of CarDetector with the LEARN Server, click the **Status** button to open the window as follows:

Upload Status	Plates Uploaded	
Plates Transferred	0	
Plates Buffered	0	
Download Status	Plates Downloaded	
Total Hot Plates	1501620	
Last 24 Hours	1501620	
Last 12 Hours	1501620	
Last 1 Hour	1501620	
The second and the se		

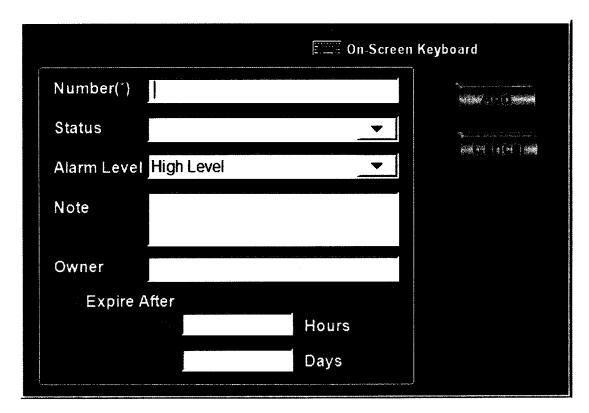
# 3.6. Alerting based on a Hot List

In the setup of CarDetector, you can configure a watch list with applied tags (i.e. 'Stolen', 'Expired') and notes (user-defined) by setting up a list called the **Hot List**. The **Hot List** is used for security or management purposes such as noting the appearance of special cars (cars that have been stolen; cars of important guests or clients; cars of employees in the company) and sounding an alarm.

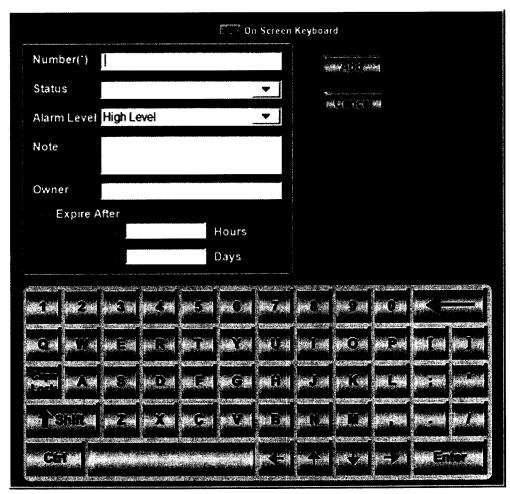
When any car in the **Hot List** is detected, the program will cross-reference the parameters defined in the **Hot List** to sound an alarm.

To add to this Hot List for CarDetector, perform the following actions:

- Click the **Add Plate** button; the **Alarm Information** dialog will be displayed:



To open the keyboard for typing the car plate and other information, click the "on-Screen Keyboard" button.



**Number**: enter the plate number in Number. **Status**: select the alert status for the vehicle

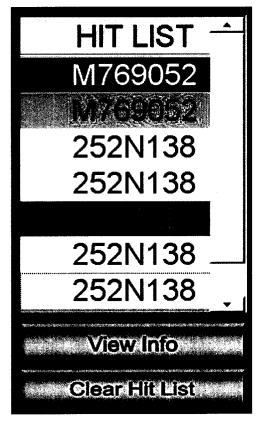
**Alarm level**: select the desired alarm level for the plate. **Note**: enter more information on the alarmed plate (if any)

Owner: enter the name of the car's owner (if any)

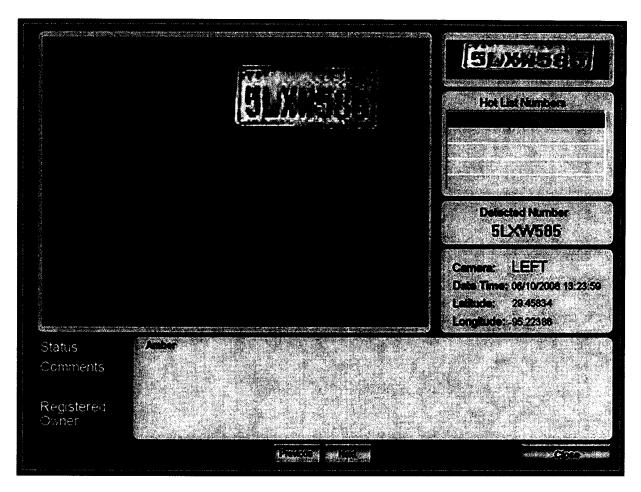
**Expire After**: check this option to set an expiration time on the plate, the time may be hours or days.

Click the Add button to finish.

When any alarmed car passes the watched area and is detected, the program will play an alarm sound and the **View Info** window will be displayed with a picture and relevant information of the detected plate. Concurrently, the plate number will be displayed in the Hit List.



To review the information about an alarmed car in the Hit List, select its number and click the **View Info** button



Press the **Previous** or **Next** to see other alarmed plates detected. Click **Close** to turn off the window.

## Note:

If the Alarm Match method is '1 off match', the Detected Number may not be the same as those of a plate number in the Hot List Number (there may be a one character difference).

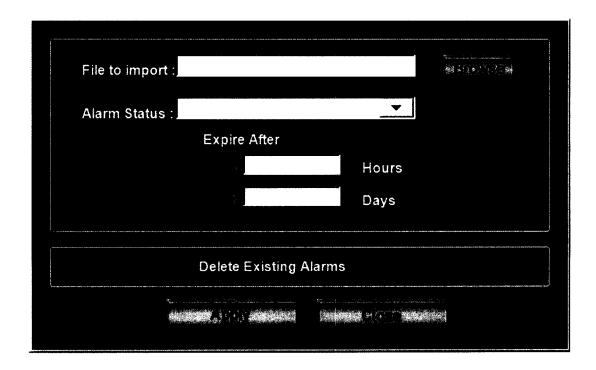


If the vehicle is defined **High level**, when it is detected the number plate will appear with **red** color, a **medium level** is orange and **low level** is

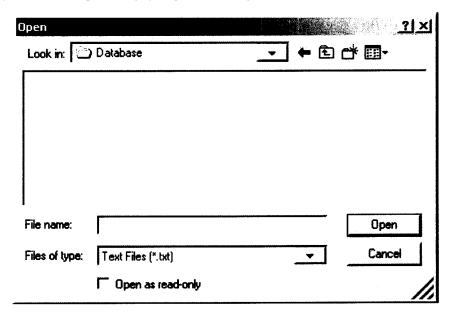
## 3.7. Import Hot List

You can import an available hot list or a txt file containing a list of alarmed car numbers to the current hit list by performing the following:

Click the Import Hot List button the following dialog will be displayed



Specify the path to the target file by typing or browsing in the Open dialog



Choose the  ${\bf Alarm\ Status}$  for car numbers in the imported file.

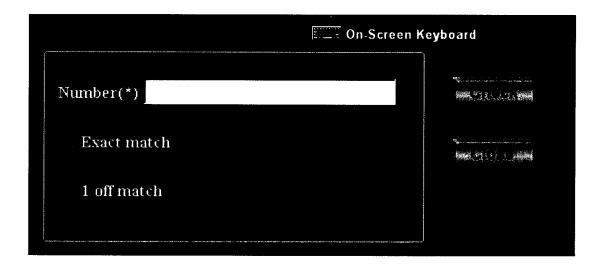
Click **Apply** to finish. Click **Close** to close the dialog.

## 3.8. Check Plate

This function allows you to enter a plate manually and then search for the plate in the database. If the plate is present it will be shown in the Hot List (if it is on the hot list) or in the Detection Result window.

Perform the following:

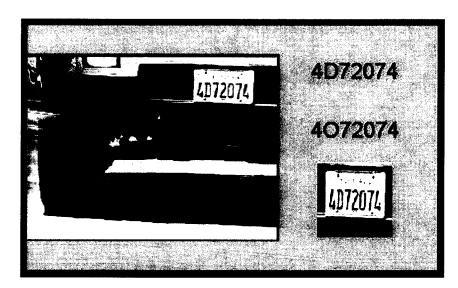
Click the Check Plate button, the following dialog will be displayed:



To enter the plate, click the **On-Screen Keyboard** button to open the keyboard for typing the plate. Click the button again to close the keyboard.

Select the appropriate matching mode.

Click **Check**. If the plate is found in the 'detected' database, the plate image will be displayed in the Detection Result window

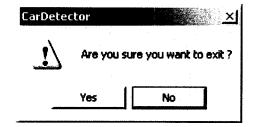


Click Close to finish searching plate.

## 3.9. Exit CarDetector Viewer

When the detection process is finished, you can stop the program by performing the following:

Click the **Exit** button, the program will show the following message:



Click Yes to finish.

## **Chapter 4 Database**

This chapter provides information about the database of the system.

4.1 Exporting the detection results

## **4.1 Export Detection**

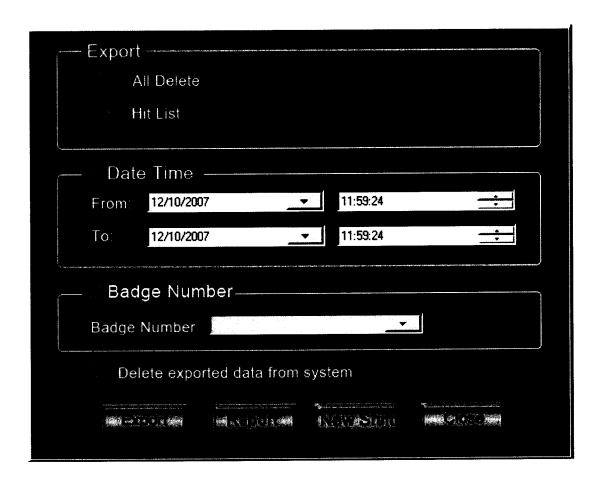
This function is used to export detection data or the content of the Hit List to another file format for storage or reference purposes.

Perform the following steps:

First it is necessary to define the period of time for data exporting

Click the 'Shift Start' button to start the shift for data exporting and the button will change to 'Shift End'

After the desired period of time, click the **End Shift** button to open the dialog to export the shift report as follows:



Choose a data type for exporting:

All Detected: if checked, all detected plates will be exported

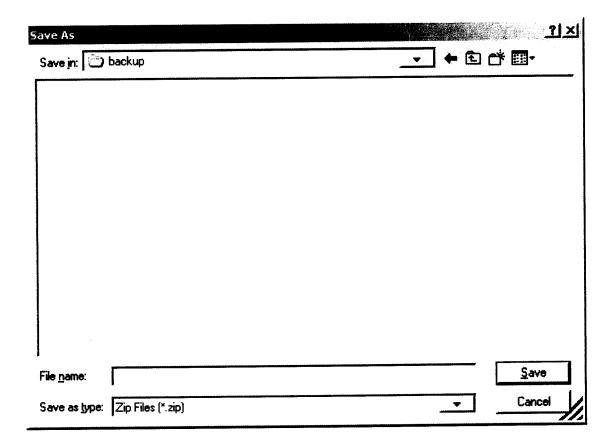
Hit List: if checked, all hit list records will be exported

**Date Time**: this is the time when you first click the Start Shift button till the time you click the End Shift button. You can also change the period of time of the report by choosing the desired time.

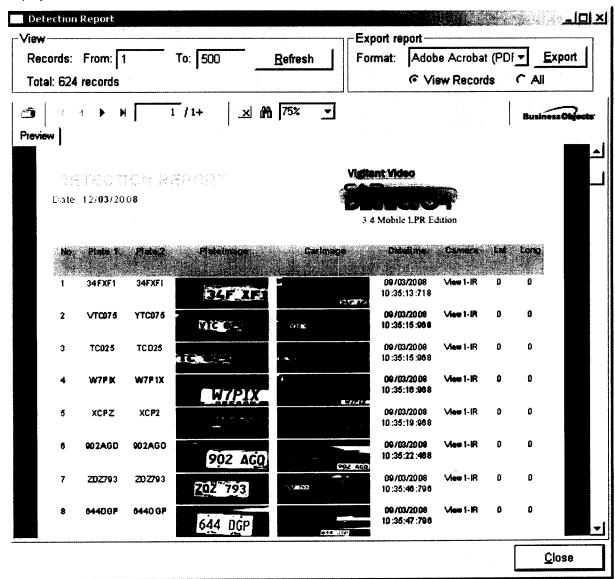
**Badge Number**: check this option and choose the desired badge number if you want to export the data of the corresponding user.

**Delete exported data from system**: if checked, all data in this period of time will be removed from the system database after being exported.

Click the **Export** button; the **Save As** dialog will be displayed. Name the export file and click **Save**.



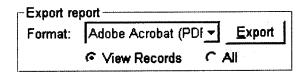
To make a report on the detection result, click **Report**; the Detection Report window will be displayed.



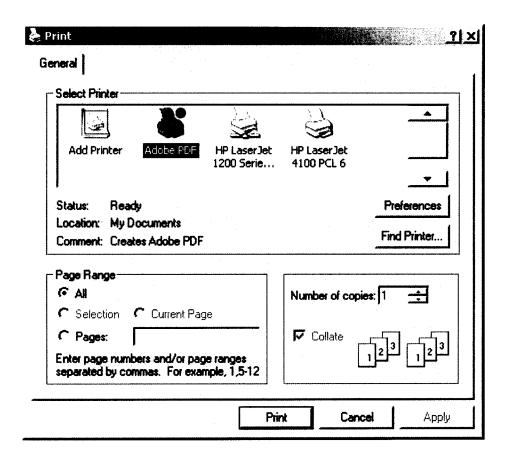
There are two types of exporting report:

**View Records**: check it if you want to export only the data in the Detection report table **All**: check it if you want to export all data in the CarDetector database.

Select the desired file format and export mode. Click the **Export** button.



Click the button to open the Print dialog for printing the content of the Detection Report.



Return to the export dialog; click the New Shift button to start a new shift.





## LICENSE REGISTRATION & UPGRADE PROCESS

## **Table of Contents:**

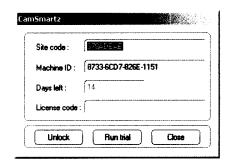
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## 1 New License Install

This is a guide for registering a new installation of CarDetector, CamSmartz or LineUp.

## 1.1 Interface Screen

After running the installation, you will receive a License Code pop-up window when launching the application.







## Vigilant Video

Please note the following information from this screen:

- Site Code
- Machine ID

## 1.2 Getting a License Key

Email the above information ('Site Code' and 'Machine ID') copied/pasted as text, along with the number of cameras you are requesting a license for, to:

## support@vigilantvideo.com

Be sure to include all of the following information:

**Subject:** LICENSE REQUEST

**Body:** 

Customer Name

Purchase Order Number

Contact Name

Contact Phone Number

Software Title (i.e. CarDetector, CamSmartz or LineUp) Software Title & Version (i.e. CarDetector 3.0.xxxx.xxxx)

\*\* under Help->About OR on your CDROM\*\*

Site Code

Machine ID

Number of Cameras to Unlock

Please allow up to 24hours for your unlock code to be emailed to you.

NOTE: You may run any of the applications in 'Trial' mode for a period of 14 days from installation on a single camera feed or video clip without registering. Click the "Run Trial" button to run in the unregistered mode.

## 1.3 Using the New License

To unlock the application please enter the unlock number emailed to you. After Running the installation, you will receive a License Code pop-up window when launching the application.

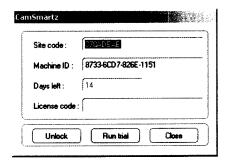
21811

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1/29/2008



Enter the License Code emailed into the 'License Code' entry box (copy/paste from the email). Once it is unlocked you will receive a message indicating you have unlocked it successfully. You will have to restart the program after unlocking.

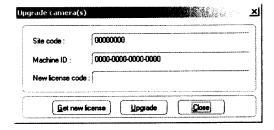
**NOTE**: If you get a warning saying 'invalid license code', be sure you trim all white space from the beginning and end of the license code. Sometimes a copy/paste will put in white space characters in the beginning and end of the text box.

## 2 Upgrading to More Cameras

This is a guide for modifying the number of cameras an existing installation is licensed for.

## 2.1 Interface Screen

After installing and registering, you can modify the number of video feeds the application is licensed for. To begin, click 'File' -> 'Upgrade License' in the interface. Or click on the Vigilant Video logo and click Upgrade License.



Please note the following information from this screen:

- Site Code
- Machine ID



1/29/2008

## 2.2 Getting an Upgrade License Key

Email the above information copied ('Site Code' and 'Machine ID'), along with the number of cameras you are requesting a license for, to:

## support@vigilantvideo.com

Be sure to include all of the following information:

**Subject:** LICENSE UPGRADE REQUEST

**Body:** 

Customer Name

Purchase Order Number

Contact Name

Contact Phone Number

Software Title (i.e. CarDetector, CamSmartz or LineUp) Software Title & Version (i.e. CarDetector 3.0.xxxx.xxxx)

\*\* under Help->About OR on your CDROM\*\*

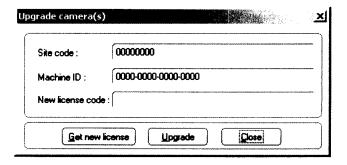
Site Code Machine ID

Number of Cameras to Unlock

Please allow up to 24hours for your unlock code to be emailed to you.

## 2.3 Using the Upgrade License

To upgrade the license code for the application please enter the unlock number emailed to you. After running, click 'File'->'License Upgrade' in the interface menu or Click the Vigilant Video logo. The following screen will appear:



Enter the License Code emailed into the 'New license code:' entry box (you can copy/paste from the email) and click 'Upgrade'. Once it is unlocked you will receive a message indicating you have unlocked it successfully. You will have to restart the program after unlocking to use the number of cameras the new license code authorizes.

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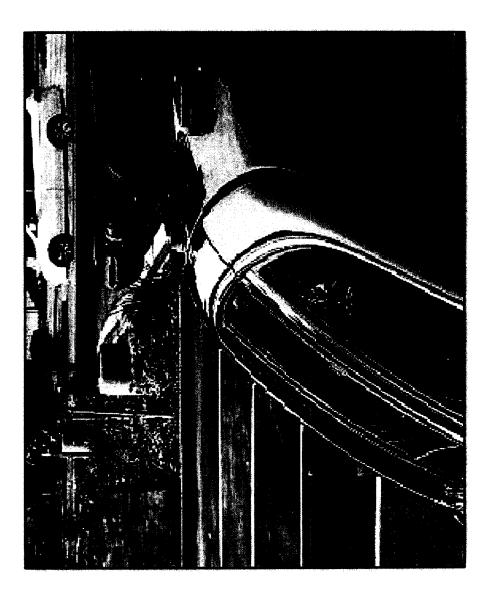


## Vigilant Video

1/29/2008

**NOTE**: If you get a warning saying 'invalid license code', be sure you trim all white space from the beginning and end of the license code. Sometimes a copy/paste will put in white space characters in the beginning and end of the text box.

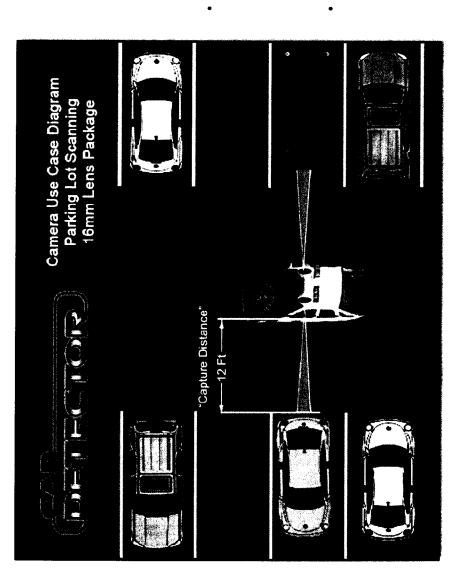
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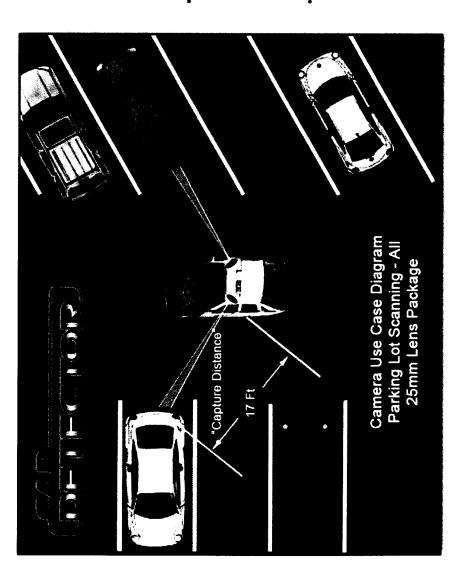


## "Parked Car" Scanning 16-mm Camera

Camera Model # VVC-01-816-XE

- Used for "Squared" parked Cars
- Parking lots
- · Shopping malls
- Retail outlets
- "Sweet Spot" capture distance = 12'





## "Parked Car" Scanning 25-mm Camera

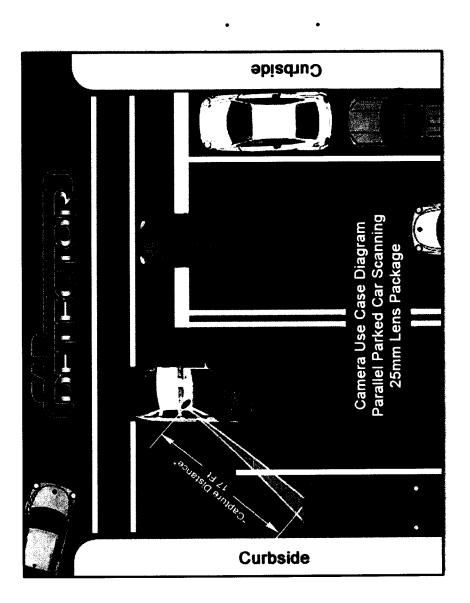
Camera Model # VVC-01-825-XE

- Use for Angled or "Square" parked cars
- · Parking lots
- Shopping malls
- Retail outlets
- "Sweet Spot" capture distance = 17'

Note: Use of a 25mm camera for square parked cars results in a 5% accuracy reduction







## "Scanning the Curb" 25-mm Camera

Camera Model # VVC-01-825-XE

- Used for "Paralleled" parked cars
- Roadside parking
- Main street shopping areas
- "Sweet Spot" capture distance = 17







35-mm Camera
Camera Model # VVC-01-835-XE

- Used for "Roadside" scanning
- Ideal for moving traffic
- Rural or urban roads
- "Sweet Spot" capture distance = 25'

**21819** 001061

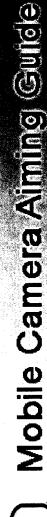
Capture Distance

25 Ft

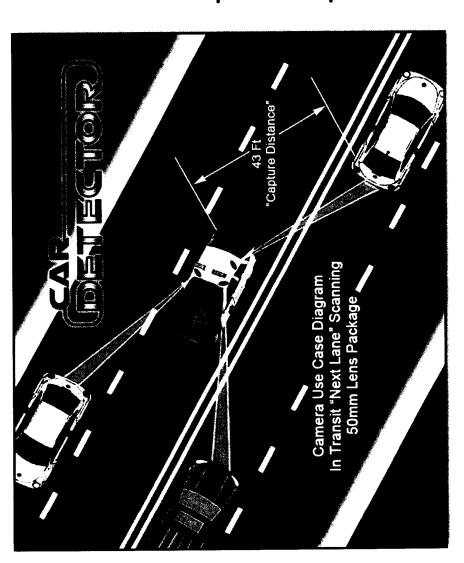
Road Side "Hot-Spot" Scanning

35mm Lens Package

Camera Use Case Diagram







## "Monitoring Undivided Highways" 50-mm Camera

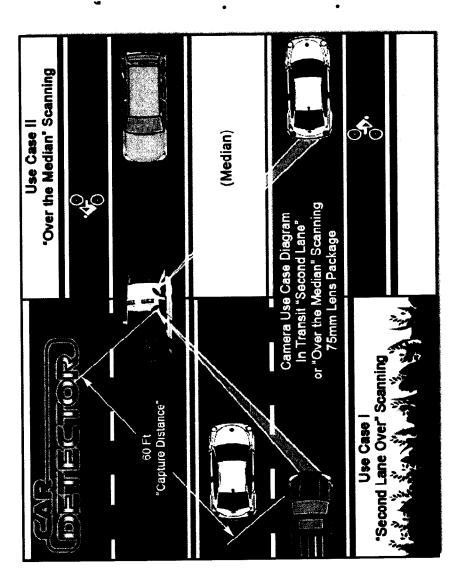
Camera Model # VVC-01-850-XE

- Used for Monitoring high-capacity boulevards and rural highways
- No median
- Next lane over
- "Sweet Spot" capture distance = 43'



# Mobile Camera Aiming ഭ്യൂരില

## 75-mm Camera



## "Monitoring the Divided Highway" 75-mm Camera

Camera Model # VVC-01-875-XE

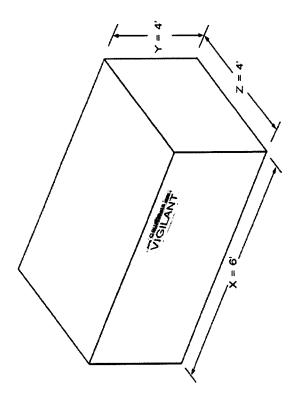
- Used for monitoring divided roads, highways & multi-lane freeways
- Over the median
- Capture passing vehicles
- "Sweet Spot" capture distance = 60'

# **Mobile Camera Aiming @**well

## Capture Volume

## "The Sweet Spot" Capture Volume

- "Sweet Spot": the area of tolerance when aiming the camera
- If properly positioned at the target capture point, accuracy improves
- Any plate that passes squarely through the Sweet Spot capture volume shall yield positive LPR results



- Average "Sweet Spot" capture dimensions:
- 6' Wide
- 4' High
- 4' Deep
- Actual measurements vary based application conditions

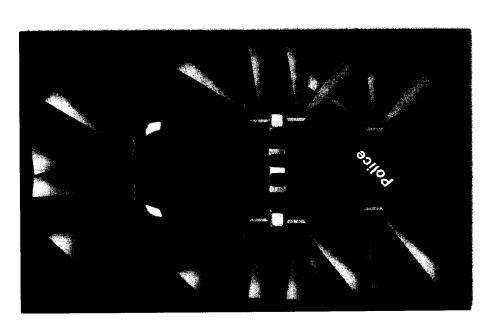


# Mobile Camera Aiming சூங்

# Camera Mounting Tips

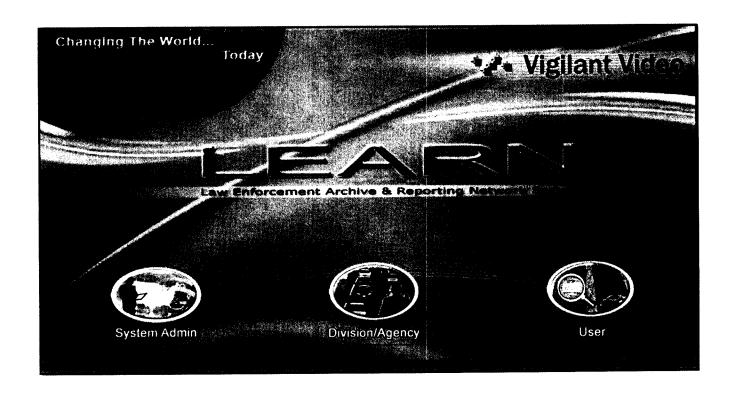
- One (1) Lane per camera
- Camera aiming calibration is done with the IR camera NOT color camera
- Cameras should be positioned before road use LPR scanning
- Cameras are selected based on 'Use Case' scenarios
- Refer to the diagram (Right) for generally accepted placement & position
- Use CarDetector "Camera Test" for aiming assistance See CarDetector 'Advanced Settings' menu





Possible Mounting Locations





## "Hot-List" Basics

For LEARN V.4.0



## "Hot-list" Fundamentals

"Hot-List" — A 'vehicles of interest' record set that can be used to identify target vehicles by license plate. This list is provided by various sources such as the Department of Justice (DOJ), National Crime Information Center (NCIC), Department of Motor Vehicles (DMV), state Department of Public Safety (DPS), or an internal "Hot-List" by any law enforcement department or security company.

"Hot-List" formats - Vigilant Video's Law Enforcement Archival Reporting Network (LEARN) has the built in intelligence to manage a variety of already available Hot-List files. Additionally a custom Hot-List file can be created using LEARN's custom Hot-List template utility.

**Available "Hot-List"** — Available Hot-List files, such as NCIC, can be automatically managed by LEARN via 'Remote Hot-List' functionality. These files are typically characterized by format elements determined by the institutions that govern the Hot-List. LEARN has a pre-packaged library of standard templates that may be used to interpret many of the commonly available Hot-List files. Vigilant Video has created the templates for these files based on customer demand.

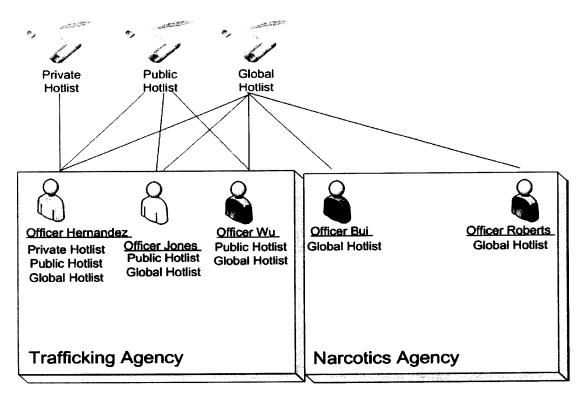
**Custom "Hot-List"** – Custom Hot-List files are typically created by law enforcement or security companies specific to their local objectives. Custom templates may be created in LEARN to manage these files via the "Upload Hot-List" utility.

"Hot-list" Types - LEARN categorizes "Hot-Lists" into three basic 'Types' according to LEARN's User distribution scheme:

<u>Global Hot-List</u> – made available for distribution to ALL LEARN in-network users.

<u>Public Hot-List</u> –made available ONLY for distribution to users of a 'Division/Agency' or 'Super Agency'

<u>Private Hot-List</u> – made available ONLY to specific assigned User(s) within a Division/Agency.





## "Hot-list" Management Options



**Upload Hot-List** – This feature is intended to be used with a Hot-List considered to be 'Static', or updated manually. Use 'Upload Hot-List' to upload a file into LEARN from a local directory. Using this utility will **NOT** employ automated update functionality. Any 'Static' file that has a corresponding template may be uploaded into LEARN for distribution to LEARN's Users.

Remote Hot-List – This feature is intended to be used with a 'Dynamic' Hot-List or one that is remotely managed with regularly update issues (typically by a 3<sup>rd</sup> party source). Use Remote Hot-List to upload and subscribe to remotely managed Hot-List files with regularly scheduled updates. Any 'Dynamic' file that has a corresponding template may be uploaded into LEARN for distribution to LEARN's Users.

Hot-List Template – Use the Hot-List Template utility to create a Template for uploading "Hot-Lists" into LEARN. A custom Template is necessary in order for LEARN to convert a Hot-List file to a format that complies with LEARN's database. The Template is tailored to conform to a specific Hot-List file format.

There are two types of Hot-List templates:

<u>Fixed Width Type</u> —A certain number of spaces (SPACEBAR, ascii character 32) is allocated for each field <u>Delimiter Type</u> — each field is separated by a certain character

NOTE: Each Hot-List template requires at least two (2) fields - PlateID & StateID (denoted in LEARN with an asterisk "\*").

## Creating the LEARN "Hot-list" Template

## **Consider a Fixed Width Template:**

Consider a text (txt) file of Hot-List records with the following data set format:

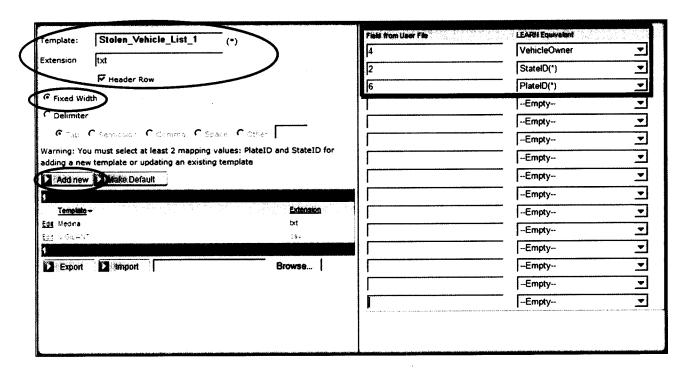
**Example Format:** 

•	
Name;State;Plate	• Row 1 = Header
JohnCAABC123	<ul><li>For each Subsequent Row:</li></ul>
CarlTXDEF456	<ul> <li>First 4 characters - 'Name' field</li> </ul>
MarkFL123456	<ul> <li>Next 2 characters - 'State'field</li> </ul>
Bud TXGHI789	<ul> <li>Final 6 characters - 'Plate Number' field</li> </ul>

Format Breakdown:



## **Creating the Fixed Width LEARN Template:**



- Click on the 'Hotlist Template' menu tab
- Enter a user defined template name in the 'Template' cell (EX. "Stolen\_Vehicle\_List\_1")
- Enter the file extension of the Hot-List source file type (Ex." txt")
- Check the 'Header Row' box to indicate that the first line of the file is a header
- Select 'Fixed Width' to indicate that the Hot-List file format is fixed width type
- Input the 'Field from User File' for each data point For fixed width, the entry will be the number of characters allocated to each field:
  - o Enter "4" for the Vehicle Owner
  - o Enter "2" for the State Identification
  - o Enter "6" for the Plate Number
- For the 'LEARN equivalent' section, select the cells that best describe these data points
  - o Field 1 VehicleOwner
  - o Field 2 StateID
  - o Field 3 PlateID
- Click 'Add New' to add this Template to the existing library of LEARN Templates

The Template has been successfully created and may now be used with 'Remote' or 'Upload' Hot-List Functions



## **Consider a Delimiter Template:**

Consider a Comma Separated Value (csv) file of Hot-List records with the following data set format:

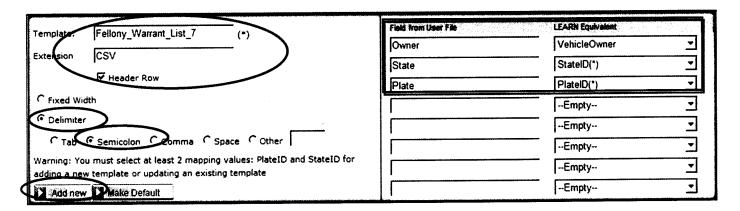
**Example Format:** 

Owner;State;Plate John;CA;ABC123 Carl;TX;DEF456 Mark;FL;123456 Format Breakdown:

- Row 1 = Header
- For each Subsequent Row:
  - o First character group 'Owner' field
  - Next character group 'State' field
  - o Final character group 'Plate' field

Note – This format differs from the Fixed Width format where a semicolon (;) separates the data fields

## **Creating the Delimiter Width LEARN Template:**



- Click on the 'Hotlist Template' menu tab
- Enter the user defined template name in the 'Template' cell (EX. "Fellony\_Warrant\_List\_7")
- Enter the file extension of the Hot-List source file type (Ex." csv")
- Check the 'Header Row' box to indicate that the first line of the file is a header
- Select 'Delimiter' to indicate that the Hot-List file format is Delimited type
- Select the Delimiter character In the example choose the semi-colon ";"
- Input the 'Field from User File' information for Delimiter, this entry will be used as a User defined label for each data point:
  - Field 1 Enter "Owner"; Field 2 Enter "State"; Field 3 Enter "Plate"
- For the 'LEARN equivalent' section, select the cells that best describe these data points
  - o Field 1 VehicleOwner; Field 2 StateID; Field 3 PlateID
- Click 'Add New' to add this Template to the existing library of LEARN Templates

The Template has been successfully created and may now be used with 'Remote' or 'Upload' Hot-List Functions

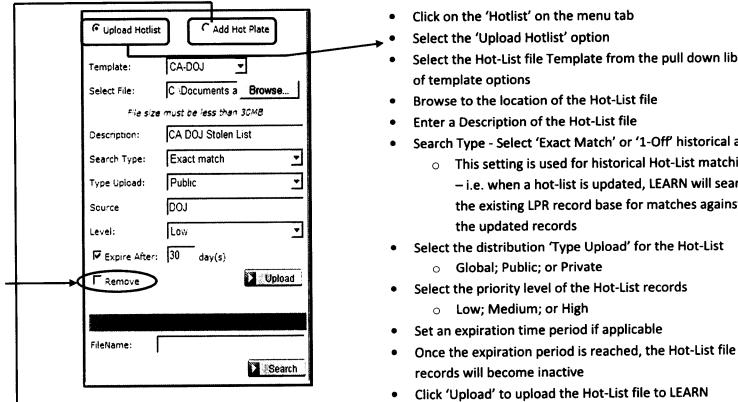


## Upload "Hot-list" to LEARN (Static)

Once a Template has been created in LEARN, a Hot-List file may be Uploaded and made available for LEARN Users and CarDetector license plate recognition applications.

There are two (2) ways to use the 'Upload Hot-List utility- Upload Hot-List File and Upload Hot-List Plate.

## Upload "Hot-List" File



- Select the Hot-List file Template from the pull down library
- Search Type Select 'Exact Match' or '1-Off' historical alert
  - This setting is used for historical Hot-List matching - i.e. when a hot-list is updated, LEARN will search the existing LPR record base for matches against

## **LEARN "Hot-List" Record Management**

Static Hot-List File - The Upload Hot-List utility is intended for 'Static' files. Adding or subtracting records to any LEARN Hot-List file via the 'Upload Hot-List' utility must be conducted manually.

Adding Multiple Records to an Existing LEARN Hot-List File - Prepare a data file that conforms to the 'Static' Hot-List file's template and repeat the steps above - new records will be added as an additional "Hot-List File.

▶ Adding Single Records to an Existing LEARN Hot-List File -Follow the steps above using the "Add Hot Plate" in lieu of using 'Upload Hot-List' in the 'Upload Hot-List' menu tab – Complete the form and click 'Add'.

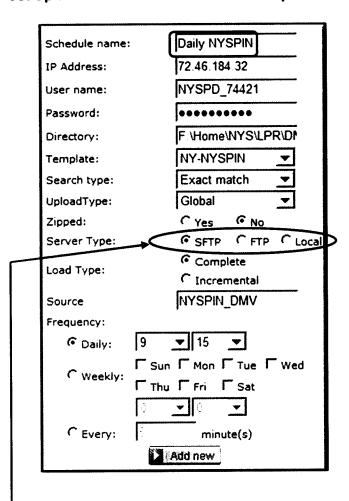
Removing Single or Multiple Records from an Existing LEARN Hot-List File - Removing records is done by uploading records with the use of 'Remove'. Follow the steps above as if you were adding single/multiple Hot-List records to an existing Hot-List. Select the 'Remove' option prior to uploading the changes - the records will be rendered 'Inactive' from the existing LEARN Hot-List file. Alternatively Hot-List records may be removed via the Delete function - See "More Hot-List Basics" below.



## Using the Remote "Hot-list" Utility (Dynamic)

Once a Hot-List template has been created in LEARN, a remote Hot-List file subscription may be set up and made available for LEARN Users and CarDetector license plate recognition applications.

## Set Up the Remote "Hot-List" File Subscription



- Click on the 'Hotlist' on the menu tab
- Select the 'Remote Hotlist' option
- Enter a 'Schedule Name' (User Defined)
- Enter the 'IP Address', 'User name' & 'Password'
   Please Note: IP Address, User name and Password inputs are used for SFTP and FTP transactions only
- Enter the directory in which the Hot-List file resides
- Select the Hot-List file Template from the pull down library of LEARN Template options
- Search Type Select 'Exact Match' or '1-Off' historical alert
  - This is used for historical Hot-List Alert matching
- Select the 'Upload Type' to be assigned to the Hot-List
  - Global; Public; or Private
- Indicate if the Hot-List file is native or zipped
- Select the Type of Server (See Below)
- Select the 'Load Type'
  - o Complete or Incremental (See Below)
- Enter a Source Name (See Below)
- Choose the frequency for LEARN to automatically update the record set, acquire and distribute to LEARN Users
- Click 'Add New' to activate the subscription to the remote Hot-List file – LEARN will immediately acquire the file
- Select the Hot-List schedule (Not Shown) and click 'Run'

Dynamic Hot-List File - The 'Remote Hot-List' utility is intended for subscription to 'Dynamic' files which are updated by 3<sup>rd</sup> party sources. Maintenance or changes to any Remote LEARN Hot-List files are automatically managed by LEARN at a frequency designated by the LEARN User.

SFTP / FTP - Remote Hot-List subscriptions will be Secure (SFTP) or standard (FTP) File Transfer Protocol.

Local Subscription – Many institutions that compile sensitive data lists may insist on 'pushing' the Hot-List to a law enforcement agency's network. LEARN provides a directory on the local network in which to store the incoming Hot-List data. LEARN will subscribe to the information (provided by the external source) and distribute the Hot-List changes within the LEARN network – Use the 'Local' setting to accommodate this type of data delivery.



Source Name – The Source Name is used by LEARN when managing 'Complete' Load Type subscriptions. The 'Source Name' allows LEARN to compare incoming 'Complete' Hot-List files against like-kind 'Source Name' files previously uploaded via the Remote Hot-List process.

**Complete Vs. Incremental** – Complete and Incremental Load Type settings define how the files are managed by the remote administrator (or Local via Push). These settings define the methodology of the 3<sup>rd</sup> party file updates.

'Complete' Load Type – This is used when a 3<sup>rd</sup> party administrator offers LEARN access to a Hot-List where the Hot-List file is updated in its entirety. This means that each time the 3<sup>rd</sup> party administrator updates the Hot-List, a new and complete Hot-List file is added to the file set in the directory to which LEARN subscribes.

## 'Complete' Load Type Example:

- Law enforcement agency "A" has obtained the permissions to subscribe to their respective state's Department of Public Safety's (DPS) available Hot-List data for license plate recognition
- DPS manages the records on a remote server. Each time DPS updates the record set, they add a new file to the directory that contains the most up-to-date complete list of all vehicle records
- Law enforcement agency "A" will subscribe to the DPS record set by using their assigned credentials and set the Load Type to 'Complete' with a 'Source Name' of "DPS\_Records"
- During the scheduled update LEARN will retrieve the newest file and upload all new vehicle records
  - Existing Hot-List records corresponding to the Source Name "DPS\_Records" will become Inactive
  - O New Hot-List records (Source Name = "DPS Records") will now become the active record set
  - The net difference between Hot-List record sets will be distributed to in-network CarDetector applications

'Incremental' Load Type – This is used when a 3<sup>rd</sup> party administrator offers LEARN access to a Hot-List where the Hot-List file is updated by posting an additional file to the Hot-List directory, whereby the sum total of all files represents the complete record set. This is often done by using a designation character as one of the record data points that represents the status of the record (active / inactive).

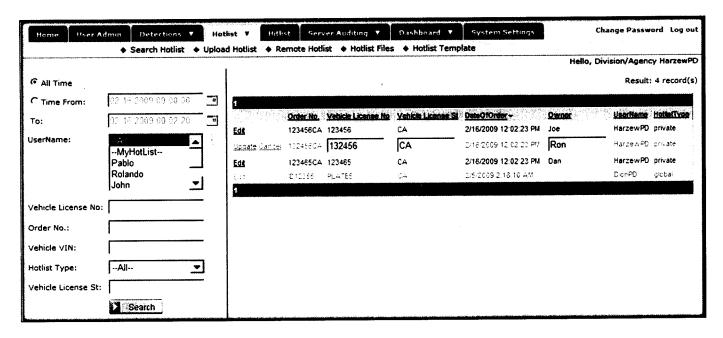
## 'Incremental' Load Type Example:

- Law enforcement agency "B" has obtained the permissions to subscribe to their respective state's Department of Public Safety's (DPS) available Hot-List data for license plate recognition
- DPS manages the remote server records Each time DPS updates the record set, they add a new file to the directory that contains a) new vehicle additions **and** b) vehicles that should "fall off" the old record list (Indicated as inactive) Essentially a record set indicating net changes to the Hot-List
- Law enforcement agency "B" will subscribe to the DPS record set by using their assigned credentials and set the Load Type to 'Incremental' No 'Source Name' is required
- During the scheduled update LEARN will retrieve the newest file and upload the additional vehicle records (both new vehicle records as well as vehicle records to be made 'Inactive')
  - All new vehicle records will be added to the Hot-List
  - o All existing Hot-List records will be compared to the list of records to be rendered inactive
  - The net difference between Hot-List record sets will be distributed to in-network CarDetector applications



## More "Hotlist" Basics

## Using 'Search Hot-List'



- Enter search criterion
- Click 'Search'
- View Hot-List records at a glance

- Update Hot-List records
- Delete single or multiple Hot-List records
- View detailed Hot-List Record Information

	"Hot-List" Record	"Hot-List" Record Information		
Order No.	RONCCA524BDT	Source	NICIC-3117	
Vehicle License No	524BDT	Notes1	5612 Eastwood Drive	
Vehicle Vin	62FCXA736UUHC990ST5251	Notes2	Burbank	
Vehicle License St	CA	Notes3		
Date Of Order	2/15/09 12:31:23 PM	Notes4		
Alarm Status	Stolen Vehicle	Notes5		
Vehicle Model	Mercedes Benz C350			
Vehicle Owner	Joseph Silverman			

## For questions or concerns, please contact Vigilant Video's support team:

## support@vigilantvideo.com

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