

# **UVIS User Manual**

Applicable Models: ZK-VSCN200

Version: 1.0 Date: Sep. 2017

# **Contents**

Chapter 1 User Instruction	1
1.1 Purpose	1
1.2 Reading Object	1
1.3 General Introduction	1
Chapter 2 System Installation	2
2.1 Installation Profile	2
2.2 System Hardware Connection Structure	2
2.3 Software Requirement	3
2.4 Hardware Requirements	3
Chapter 3 Software Installation and Configuration	5
3.1 Scanner Driver Installation and Configuration	5
3.1.1 Driver Installation	5
3.1.2 Configuration	8
3.2 Video Capture Card Driver Installation	10
3.3 Under Vehicle Inspection System	13
3.3.1 System Survey	13
3.3.2 Installation of System	14
3.3.3 "CCSystem" Files Configuration	14
3.3.4 Software Registration	16
Chapter 4 Software Instruction	17
4.1 Starting Software	17
4.2 Main Interface	17
4.3 Image Operation	19
4.3.1 Magnifying Glass	19
4.3.2 Image Full Screen	20
4.3.3 Image Dragging	20

	4.3.4 Zoom In	21
	4.3.5 Zoom Out	21
	4.3.6 Most Suitable	21
	4.3.7 Real Size	22
	4.3.8 Brighten	22
	4.3.9 Darken	23
	4.3.10 Restore	23
	4.3.11 Contrast Enhancement	23
	4.3.12 Edge Enhancement	24
	4.3.13 Super Enhancement	24
	4.3.14 Image Delete Function	25
	4.3.15 Open	26
	4.3.16 Save	27
4.4 l	Real-time Video	27
	4.4.1 Real-time Monitoring Video Display	27
	4.4.2 Real-time Capturing Video Attributes Setting	29
4.5	The results display and modify the license plate recognition	30
4.6 I	nformation List of Vehicle Detected	31
4.7 l	Real-time Log Information List	32
4.8 I	Function Operation	33
	4.8.1 Date Query	33
	4.8.2 Playback Record	34
	4.8.3 LPR Attribute Setting	35
	4.8.4 Real-time Curve	36
	4.8.5 DVR Parameter Setting	37
	4.8.6 Video Color Setting	38
	4.8.7 Language	38
	4.8.8 Scanner Camera Parameter Setting	39

	4.8.9 Exit		39
--	------------	--	----

# **Chapter 1 User Instruction**

# 1.1 Purpose

Preparation of this document is intended to improve vocational skills of maintenance personnel. Make sure they can play a role as vehicle inspection system maintenance personnel well and respond, judge and maintain for customer quickly. Through this document, you will learn how to install, maintain and use the system.

# 1.2 Reading Object

Vehicle inspection system maintenance and customer service personnel's technical maintenance, use of personnel.

#### 1.3 General Introduction

This document includes the following several aspects:

- 1) System requirement.
- 2) Software installation and configuration.
- 3) Software instructions.

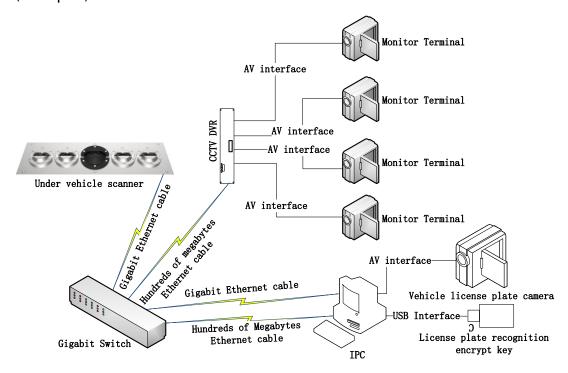
# **Chapter 2 System Installation**

#### 2.1 Installation Profile

Vehicle inspection system required to run the program, including under vehicle scanner drivers, configuration tools, video capture card driver, CCTV DVR, monitor terminal, license plate recognition module drive and control registration and vehicle inspection systems. System database is Microsoft Access 2003/2007 system. All installation procedures required are provided in the root directory where system is installed.

## 2.2 System Hardware Connection Structure

The hardware device used in system consists of an industrial personal computer, under vehicle scanner, CCTV DVR, monitor terminal, gigabit switch, vehicle license plate cameras and license plate recognition module. Hardware connection diagram (main part) can be seen below.



#### Note:

1) When the images saved by capturing is blue, try switching to connect to the channel of host video capture card.

2) Dual NIC IP configuration of the host cannot be on the same network segment, please refer to the contents of the configuration section 3.1.2.

# 2.3 Software Requirement

**Table 1 Software sheet** 

No.	Software name/catalogue	Note
1	Driver \ PCIVideoCaptureDriver	Video acquisition card driver
2	CCDConfigureTools \ MVGESDK_BIT32.exe	Gigabit nics camera driver
3	CarCheck.exe	Car inspection system software
4	Microsoft Access 2003/2007	Database software
5	Windows XP/Windows 7 (32bit)	Windows 7 system, does not support 64 - bit
6	RecordPlayer.exe	Local video player software

# 2.4 Hardware Requirements

Table 2 Hardware configuration sheet

NO.	Hardware Name	Note		
1	under vehicle	Offer by the under vehicle inspection system		
	scanner	software provider		
		1) Operation system		
		Windows XP/Windows 7 (32bit)		
		2) Hardware requirement		
2	PC machine	More than a dual-core 3.0 Ghz CPU, 2G		
		Memory, 200G or more free hard disk space,		
		Dual NIC(at least one gigabit), USB 2.0 interface		
		with more than 2, Display resolution is		
		1920*1080 and above.		
Offer by the under vehicl		Offer by the under vehicle inspection system		
3	PCI video capture	software provider according to the used		
	card	solution.		

4	License plate cameras	Offer by the under vehicle inspection system software provider according to the used solution.		
5	License plate recognition encryption dog	Offer by the under vehicle inspection system software provider according to the used solution.		
6	CCTV DVR	Offer by the under vehicle inspection system software provider according to the used solution.		
7	Video monitoring terminal	Offer by the under vehicle inspection system software provider according to the used solution.		
8	Gigabit Switch	Offer by the under vehicle inspection system software provider according to the used solution.		

# **Chapter 3 Software Installation and Configuration**

# 3.1 Scanner Driver Installation and Configuration

#### 3.1.1 Driver Installation

Step 1: Double click MVGESDK\_BIT32. exe to install Microview driver.

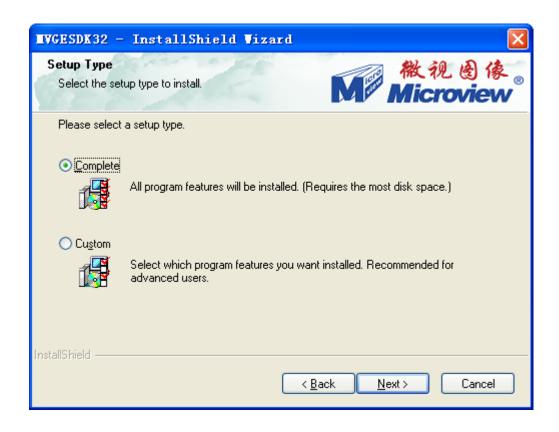
Step 2: Select the installation language in the pop-up window, as shown below.



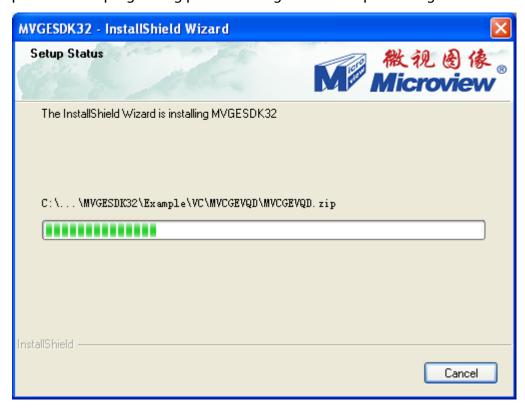
Step 3: After confirming the installation language, please click [Next[N]>] in the following window.



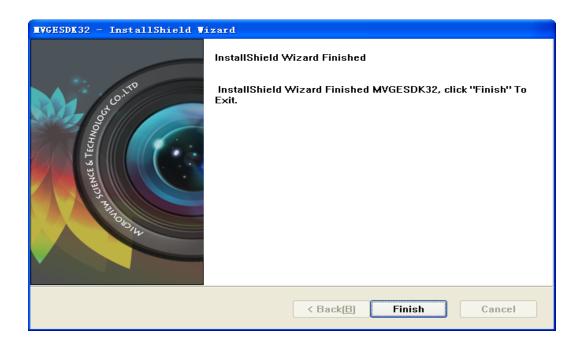
Step 4: When installation progress gets to the following interface, the user is encouraged to select [Complete], unless the user is very familiar with the system to choose click [Custom] key. And then click [Next], Click [Install] in the subsequent window to begin the installation.



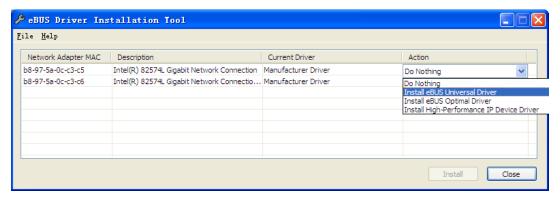
Step 5: There is a progressing picture during installation processing below.



Step 6: Complete the installation interface as shown below, click on [Finish] after the installation program will automatically start the next desired driver.



Step 7: When you click [Finish], the display interface is shown as follows.



List all the host card and select a network card to install the camera driver in real scenario. If the host is not used to connect to another network port underbody hardware and use the network port cannot install the camera driver. After assignment, select [Install eBUS Optimal Driver] item in the row Action column drop-down menu bar. If Gigabit Ethernet is not Inter825xx series chipsets, select [Install eBUS Universal Driver] (Universal type), and click the [Install] to begin the installation.

**Note:** If the interface is shown in the following pop-up window during the installation, click [Continue].



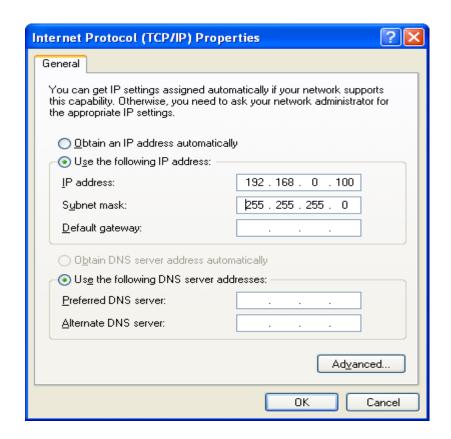
After finishing installation, in the [eBUS Driver Installation Tool] window, you can see [Current Driver]. The Manufacturer Dirver will change the Driver contents into the name which is in the Action column selected before. If it isn't, reboot the system and reinstall it. If you are prompted to restart the host, please restart it for the following subsequent configuration.

### 3.1.2 Configuration

#### 1) The configuration of the host's NIC IP

Windows XP operating system configuration:

Desktop->network neighborhood->Right button to property->Local connectivity->Click property->Select Internet protocol (TCP/IP), Click property, manually change IP address to 192.168.0.100 (Note: It cannot be on the same network segment with another network IP of host) and subnet mask is 255.255.255.0, as shown below.

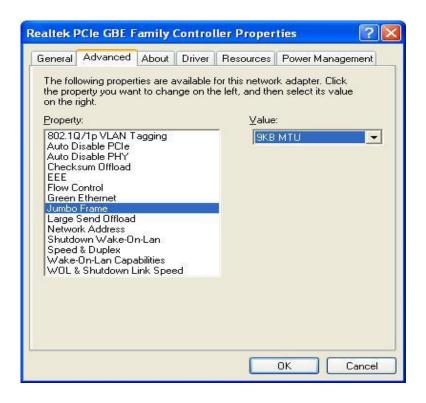


Win7 operating system configuration:

Start->Control Panel->Network and sharing Center->Click Change adapter settings->Local connection->Right button click property, select Internet deal the forth versions (TCP/IPv4) to change IP, this operation is same as the operation in XP system, please follow the above method.

#### 2) Open the card giant frame

During the NIC driver installation processing, select the type of [Install eBUS Optimal Driver] without continue operation. If you choose the type is [Install eBUS Universal Driver], you need to open the configuration of jumbo frame. In the "Local Area Connection Properties" under the General tab, click the "Configure" button. Then click [Yes] in the pop-up prompt dialog box and click the advanced options menu, as shown below:



In the "Advanced "tab properties, find the "Jumbo Frame" and select a value of 9KB MTU.

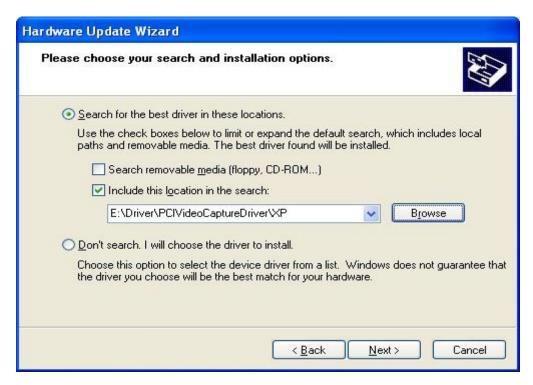
### 3.2 Video Capture Card Driver Installation

First make sure the host has a PCI slot, if no PCI slot, replace the host. After Installing and securing the capture card, open the host. There is a system prompt about finding new hardware in the lower right corner. And then click "multimedia video controller" and "Found New Hardware Wizard" window will appear. Specific installation steps are as follows:

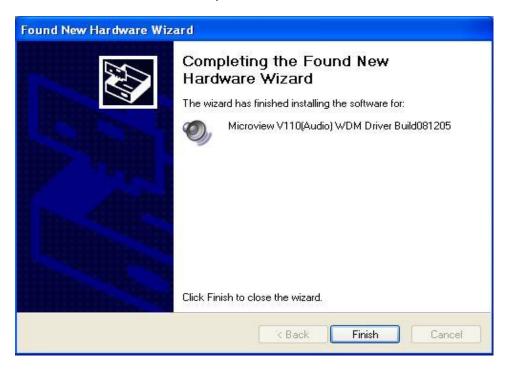
1) In the pop-up [Found New Hardware Wizard] window, select [Install from a list or specific location (Advanced)], click "Next" to continue the installation.



2) Select the [Include this location in the search] option, click Browse to manually select the directory storing the device driver:[Driver\PCIVideoCaptureDriver] folder, click OK, and then automatically return to the earlier window, single click "Next" to continue(Note: Location of driver).



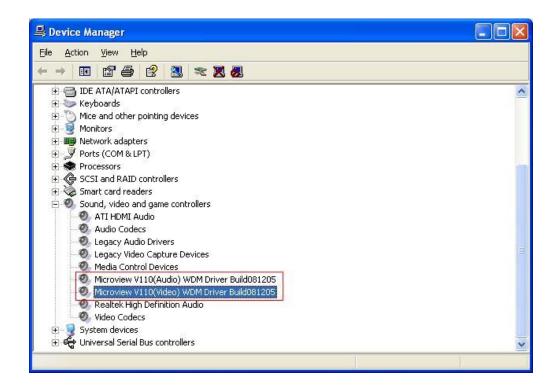
- 3) During the installation process, if there is a [required documents] window, click the Browse button in the installation folder [Driver\PCIVideoCaptureDriver], select the desired file MVBY.sys, and click OK. Automatically returns to the previous one [the required documents] window, click OK to continue the installation.
- 4) Click the "Finish" button to complete the driver installation, as shown below.



5) Follow these steps to check whether the device is successfully installed.

Step 1: Select the desktop [My Computer], right-click and select "Manage".

Step 2: In the pop-up "Computer Management" screen, click "Device Manager" and click to expand [Sound, video and game controllers]. If install properly, there will be two devices. [Microview V110 (Audio) WDM Driver Build081205] and [Microview V110 (Video) WDM Driver Build081205], as shown in the following figure.



If you install the device Microview V110 (Audio) WDM Driver Build081205 and occur some prompt, such as: a yellow "!" "?", follow the above steps to re-install or choose to restart the system.

## 3.3 Under Vehicle Inspection System

### 3.3.1 System Survey

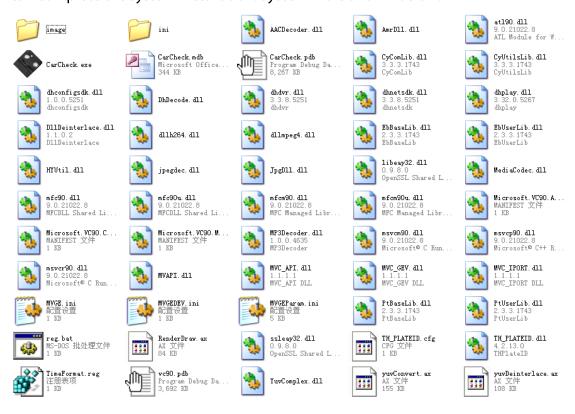
Under vehicle inspection system has achieved the video view and save, automatic vehicle license plate recognition and image capture function when the vehicle passing through. The system consists of six main functions: vehicle image display area, Real-time video display area, the license plate number information display area, vehicle information list, image manipulation functional areas and functional operation area.

- 1) Vehicle image display area: Real-time display of vehicles at the detected image, historical images, and bottom of the vehicle after processing images.
- 2) Real-time video display area: Real-time display the monitoring video and capturing vehicle plate video, they were saved by digital video surveillance DVR.
- 3) License plate number information display area: Displays the detected vehicle license plate capture photos with automatic identification of the results, click [Modify] button can modify the number if error occurred.

- 4) Vehicle information list: Checking vehicle information all day, including license plate number, check the time and vehicle inspection results.
- 5) Image manipulation functional areas: Complete image zoom; brighten, darken, edge enhancement and super-enhanced operation.
- 6) Functional operating areas: Set parameter of license plate recognition, DVR parameters, playback video recording, equipment registry, system language, real-time curve and historical data query functions.

#### 3.3.2 Installation of System

Copy under vehicle inspection system install files to the appropriate directory, you can complete the system installation. System file is shown below.



**Note:** After copying install files to the appropriate directory, run [reg.bat] to finish system registration. Otherwise, software may not work correctly.

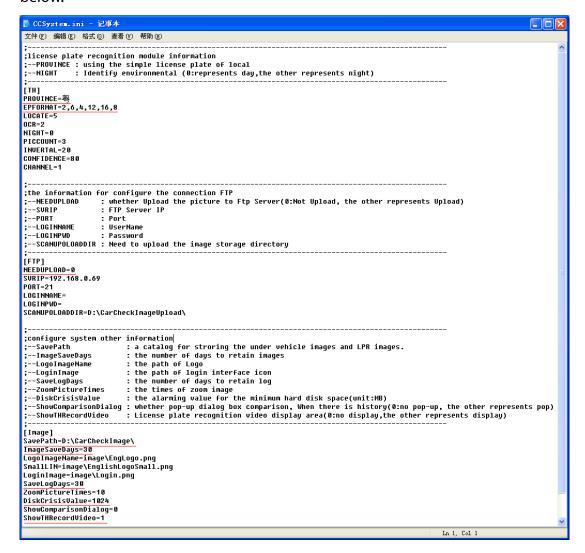
# 3.3.3 "CCSystem" Files Configuration

"CCSystem", the configuration file. Follow the steps below to finish configuration.

Step1: Open the software installation directory to find "CCSystem.ini" file (For example: [C:\CCD\CarCheck\ini\]), select"CCSystem.ini" file.

Step 2: Double click "CCSystem" file, in the "Notepad" program editing interface to

add different functions if need be. Underline text is corresponding content in figure below.



- 1) [PROVINCE=粵]: The"粵"is shorthand for province, this configuration is in the "LPR Properties Settings".
- 2) [EPFORMAT=2, 4]: The"2, 4" stand for types of special license plate. This configuration is in the "LPR Properties Settings".
- 3) [NEEDUPLOAD=0]: Indicate whether image upload feature is start. If you start this function, you need to set FTP server's IP address and other information and ensure that FTP server connects to host. Specific meaning can be seen in the configuration files note.
- 4) [SavePath=D:\CarCheckImage]: The [D:\CarCheckImage] is a catalog for under vehicle images and LPR images.

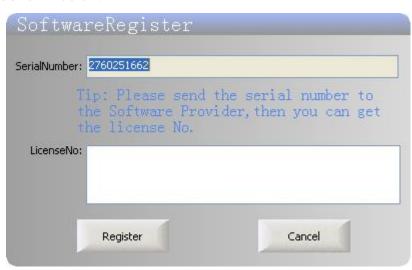
- 5) [SaveLogDays=30]: The "30" is the number of days to keep log.
- 6) [ImageSaveDays=3]: The "30" is the number of days to retain images.
- 7) [DiskCrisisValue]: Alarming value for the minimum hard disk space.
- 8) [ShowComparisonDialog=0]: When there is history, whether pop-up dialog box to compare (0: do not pop-up, the other represent pop).
- 9) [ShowTHRecordVideo=1]: Whether interface display captured video of license plate (0: Non-display, other is display).

**Note:** Save the file after setting.

#### 3.3.4 Software Registration

Before using under vehicle inspection system, you must activate it.

Registration method: click system installation directory [CarCheck.exe] file. Interface is shown below.



As shown in the interface, users send software provider [serial number] and can obtain the corresponding [License] to complete the software's registration.

Each key has service time. User can freely use under vehicle inspection system during service time. When service time is over, you can buy another registration key to activate the system.

**Note:** Serial number is different when under vehicle system runs in another computer. It means you need to pay for another key.

# **Chapter 4 Software Instruction**

# **4.1 Starting Software**

Under the "under vehicle inspection system installation catalog", click [CarCheck.exe] file to start the software and pop-up interface, as shown below. (If remaining service time is more than 30 days, interface is shown as Figure 1. If remaining service time is less than 30 days, interface is shown as Figure 2).



Figure 1



Figure 2

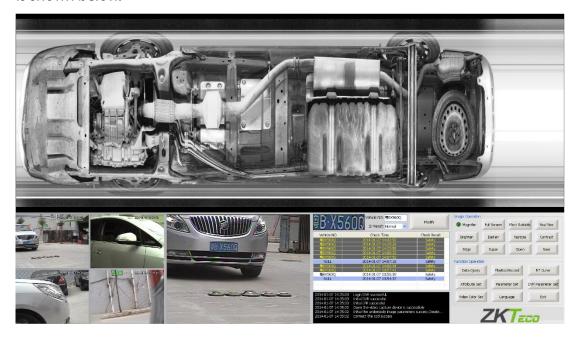
Like the figure above, enter the correct [User Name] and [Password], Click the [Login] button to enter the system. If the times you input user name or password wrong more than three, it will automatically exit the vehicle inspection system.

As described in figure 2 above, the user can click [Tip] information links to pop-up [software registration] interface and activate system.

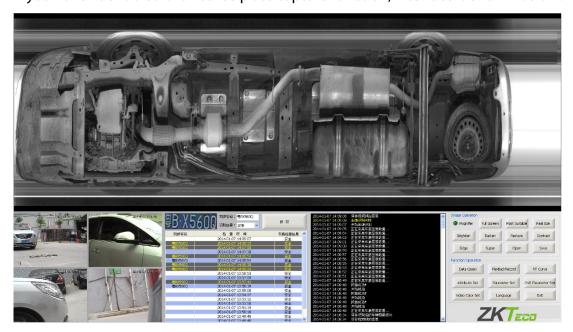
#### 4.2 Main Interface

After logging in successfully, the system will enter the main interface. And interface

#### is shown below.



If you haven't enabled the license plate capture function, interface is shown below.



There are six display areas in the main interface, including undercarriage image display area, Real-time vehicle video display area, the license plate number information display area, vehicle information list, image manipulation functional area and functional operation area. Users can view or operate different function in different area.

1) Undercarriage image display area: Real-time display undercarriage image of vehicles detected, historical images and undercarriage image with treatment.

- 2) Real-time video display area: Real-time display the monitoring video, capturing vehicle plate video, and then they were saved by digital video surveillance DVR. (Customized is based on the actual usage scenarios.).
- 3) License plate number information display area: Displaying license plate photo of vehicle detected and automatic identification result. Click [Modify] button to modify the number in automatic identification result if error occurred.
- 4) Vehicle information list: Checking vehicle detected information in that day, including license plate number, the checking time and vehicle inspection results.
- 5) Real-time log information list: Real-time display log information during the process running. It is convenient for operator and maintenance man to check system state.
- 6) Image operation functional areas: Make the image to zoom, brighten, darken, edge enhancement, super-enhanced, contrast enhancement, magnifying glass, real size, most suitable and open/save.
- 7) Functional operating areas: Setting attributes of license plate recognition, parameters of line CCD camera, DVR video attributes, video playback and registry equipment, system language, real-time curve and historical data query functions.

# 4.3 Image Operation

There are buttons to operate the undercarriage image, including Magnifying Glass function, zoom in, zoom out, the most suitable, true size, brighten, darken, restoration, edge enhancement, super enhanced features and open/save functions.

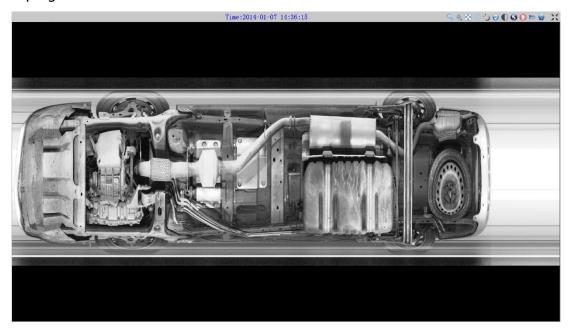
# 4.3.1 Magnifying Glass

Click [magnifying glass] button and press the left mouse button to create a green box where you want to zoom in in the image. Click the right mouse button or use the left mouse button to click anywhere except the green box in the image can quit magnifying glass function.



# 4.3.2 Image Full Screen

Double-click image or click [Full Screen] button, you can switch to full screen mode. In the full screen mode, you still can operate image. And function buttons move to top right corner of screen.



# 4.3.3 Image Dragging

Keep pressing the left mouse button and dragging can move the image.



#### 4.3.4 Zoom In

In the undercarriage image, you can use the middle mouse button to zoom in and zoom out the image. In the same time, image dragging function is enable.



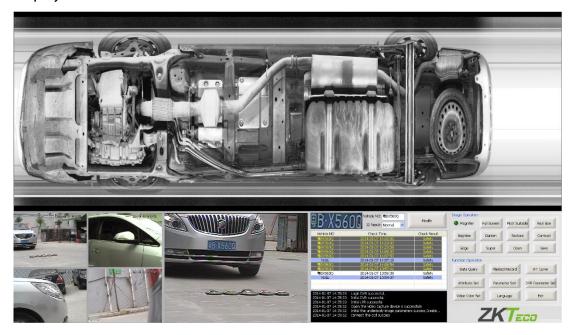
## **4.3.5 Zoom Out**

The default image is the most suitable mode and can zoom out at the beginning. Only after the zoom in operation, Image can zoom out.

#### 4.3.6 Most Suitable

Click [Most suitable] button, the image will be centered for the ratio of the image

display area.



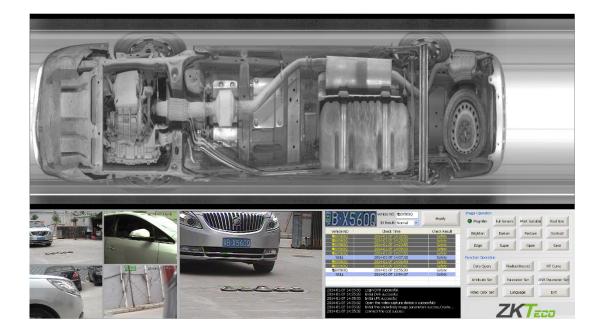
# 4.3.7 Real Size

Click the [Real Size] button, the image will be displayed with the actual length and width.



# 4.3.8 Brighten

Click the [Brighten] button, the image will become brighter, as shown below.



#### 4.3.9 Darken

Click the [Darken] button, the image will become darker, as shown below.



#### **4.3.10 Restore**

Click the [Restore] button, the image will restore the default brightness state. Screen brightness cannot see the brightness of the image before the operation.

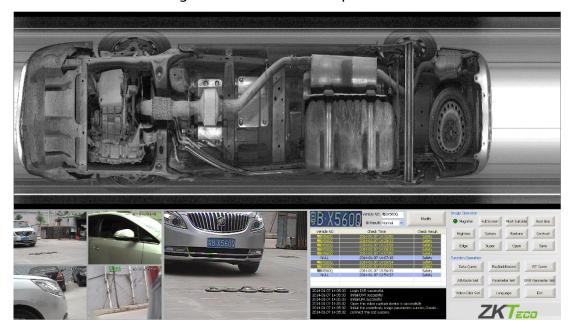
#### **4.3.11 Contrast Enhancement**

Single click [Contrast] button, enhancing image brightness contrast of each part, the interface shown in the following figure.



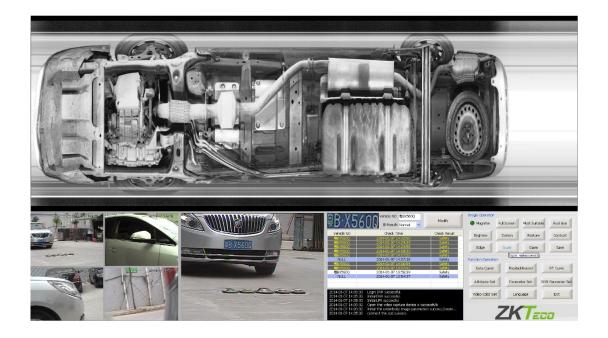
# 4.3.12 Edge Enhancement

Click [Edge] button underbody parts in the image edge contour is highlighted, more conducive to distinguish between different parts of cars.



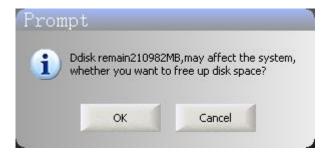
# **4.3.13 Super Enhancement**

Single click [Super enhancement] button, enhancing image edge, changing the image brightness and darkness.

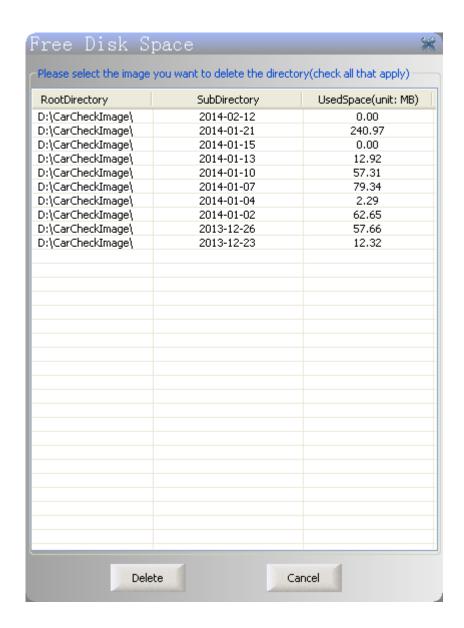


# 4.3.14 Image Delete Function

After saving the image, the system will automatic-check the disk space every time while the space of disk is less than the set threshold, the dialog box will pop up as shown below.



If you select [OK], the following interface will pop up.



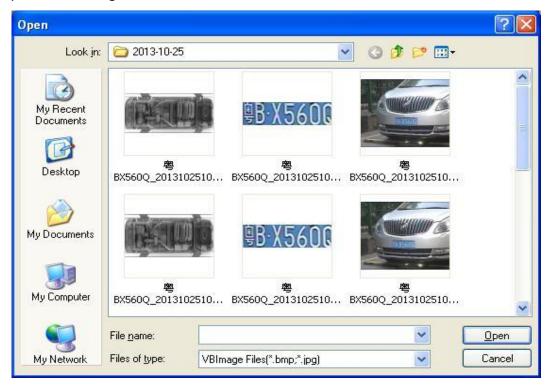
In this interface, you can double-click an image catalog that is no longer needed, then click [Delete] key.



# 4.3.15 Open

Click the [Open] button to open the window shown below, the user can select the saved images for display, and clicking the other buttons on the operating area to

operate the images.



#### 4.3.16 Save

The image (brighten, darken, edge enhancement, super-enhanced) processing, click the [Save] button, the processed image will overwrite the previous picture.

#### 4.4 Real-time Video

# 4.4.1 Real-time Monitoring Video Display

Start the software, the real-time monitoring display area will show 4 video areas (customized with 4 cameras) surveillance video .Interface is shown below.



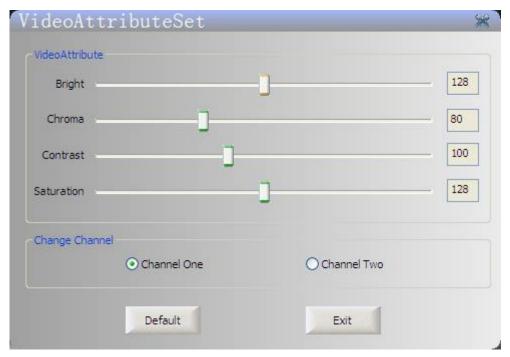
Double click one of video areas to check; double click again to turn back to 4 video areas.



#### 4.4.2 Real-time Capturing Video Attributes Setting

In the case of video capture card and camera connect normally. If you need to set the video properties, double-clicking "real-time video display area," according to the pop-up interface (as shown below), set the video properties. In the setting process, the corresponding property in real time effect of the video display area, the user can watch "real-time capture video display area" to view the effect of settings.

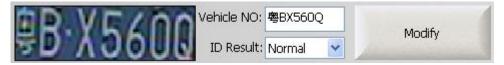
The PCI video capture card is the way of two into one out, for two-way video signal input, only choose one way among them to be output. Therefore, for the "Chanel switching" feature, you only need to select "Channel one" button under normal circumstances; If you select "Channel one", the "Video Display Area" is not properly display the video (Display the blue background), then you need to switch channels.



Because the license plate recognition rate greatly influenced by the environment, it is necessary to set the video properties according to the actual environment when using the system. When you use the system in daylight or light environments, you usually just click the "default" button to set the video properties. In the night or low light environments, the video attributes need to be adjusted accordingly to achieve the best rate of license plate recognition. Normally, you just need to adjust the two parameters, "Brightness" and "contrast", and adjust the two values to half of the "default" value. The specific parameters are based on the parameters of the license plate number which can be clearly distinguished by the human eye from display.

# 4.5 The results display and modify the license plate recognition

This area real-time display license plate recognition license plate image, license plate number and license plate recognition interface, as shown below.



Users can observe the license plate image, license plate number or other information, if the license plate recognition results are wrong, click the [Modify] button on the license plate number recognition result to modify.

Users can click the "day vehicle inspection information list" in a column information to modify the license plate number recognition result. If the license plate number has been modified, then the corresponding records in the database with the name also will modify.



Real-time inspection of the vehicle, if the vehicle license plate number recognition in the database already exists, the following interface will pop up on the vehicle identification information for comparison. If an abnormal situation occurs, the "comparison result" at the bottom of the interface, the green light of the corresponding item in the information column will be changed into a red light to alarm.



#### 4.6 Information List of Vehicle Detected

After system starting up, system list the information of vehicles detected, as shown in the figure below.

Vehicle NO	Check Time	Check Result
粤BX560Q	2014-01-07 14:32:50	Safety
粤BX560Q	2014-01-07 14:29:33	Safety
粤BX560Q	2014-01-07 14:23:58	Safety
粤BX560Q	2014-01-07 14:08:33	Safety
粤BX560Q	2014-01-07 14:07:50	Safety
NULL	2014-01-07 14:07:18	Safety
粤BX560Q	2014-01-07 14:06:54	Safety

When inspect the vehicle in real-time and found abnormal stuff under the vehicle, you can click the column bottom of the vehicle inspection results and select the corresponding result type in drop-down box, then make changes on the testing results, the corresponding modification results will be saved in the database. If the car bottom inspection results are unsafe, the row information will be displayed in red and serve as a warning, as shown below.

Vehicle NO	Check Time	Check Result	I
粤BX560Q	2014-01-07 14:32:50	Safety	
粤BX560Q	2014-01-07 14:29:33	Safety	
粤BX560Q	2014-01-07 14:23:58	Safety	,
粤BX560Q	2014-01-07 14:09:33	Safety	
粤BX560Q	2014-01-07 14:07:50	Salety Alarm	
NULL	2014 01 07 14:07:10	Prohibit	
粤BX560Q	2014-01-07 14:06:54	Paleri	
粤BX560Q	2014-01-07 13:57:41	Safety	

# 4.7 Real-time Log Information List

In order to make the system user and maintenance personnel to understand the operational status in real-time, we add this real-time information display list. During system operation, it will generate some information, such as image acquisition information, save the image information, warning or error messages and etc. The interface is shown below.

```
2014-01-07 14:54:25 Save the video capture image
2014-01-07 14:54:25 Recognition the License Plate Fail
2014-01-07 14:54:23 Collecting vechile bottom data...
2014-01-07 14:54:22 snap success!
2014-01-07 14:54:22 begin snap
2014-01-07 14:54:22 snap success!
2014-01-07 14:54:22 begin snap
2014-01-07 14:54:22 snap success!
2014-01-07 14:54:22 begin snap
2014-01-07 14:54:22 Collecting vechile bottom data...
2014-01-07 14:54:19 Finished collected data
2014-01-07 14:54:17 Collecting vechile bottom data...
2014-01-07 14:54:16 snap success!
2014-01-07 14:54:16 begin snap
2014-01-07 14:54:16
                     snap success!
2014-01-07 14:54:16 begin snap
2014-01-07 14:54:16
                     snap success!
2014-01-07 14:54:16
                     begin snap
2014-01-07 14:54:16
                     Collecting vechile bottom data...
2014-01-07 14:52:49
                     Login DVR successful.
2014-01-07 14:52:49
                     Initial DVR successful.
2014-01-07 14:52:49
                     Open the video capture device is successfully
2014-01-07 14:52:49
                      Initial the underbody image parameters success, Creat...
2014-01-07 14:52:48
                      connect the ccd success
```

 Yellow font information indicates a warning message. If such information is generated during the operation of the system, it may not start certain devices or functional modules.

- 2) Red font information indicates an error message. During the system running, there is such a message to be generated, it represents the system has serious problems that will affect the operation of the system.
- 3) Black font information indicates a normal log information, the user can check the system status in real-time.

```
2014-01-07 14:35:33 Login DVR successful.
2014-01-07 14:35:33 Initial DVR successful.
2014-01-07 14:35:33 Initial LPR successful
2014-01-07 14:35:32 Open the video capture device is successfully
2014-01-07 14:35:32 Initial the underbody image parameters success,Create...
2014-01-07 14:35:32 connect the ccd success
```

## 4.8 Function Operation

The functional areas are mainly related to system parameter setting, history queries and other operations.

#### 4.8.1 Date Query

By clicking [Data Query] button, you can query the vehicle inspection information in the interface shown below. The query conditions are supported fuzzy queries. If you don't select the "time" condition, it will query the vehicles of all the time period, the query results will show in the "Results" and "Vehicle list", and show the first image data in the right images column. Video area play the video in time allocation (the time allocation refer to section 4.8.5). If the data which meet the conditions are more than 50, then it will display with pages. The user can view different data by clicking the navigation bar under the "Vehicle List".

Users can click on the any row under the "Vehicle List" to see the license plate numbers and modify corresponding details.

The user can double-click the car image to display the full screen of the car image, and then double-click the "Esc" button to exit the full screen display

User can double click the video to check the video of this period time; Double click again to display 4 video.



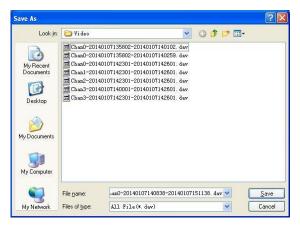
#### 4.8.2 Playback Record

Click [Playback Record] button to watch the video recording, as shown in the figure.

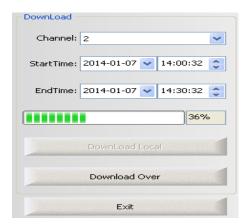


Select the playback channel, set the starting time and ending time, click the playback button for playback and default interval is 3 minutes. After clicking play, you can drag the playback progress bar to skip some of the content. Click the button to the right of the playback progress bar can also change the playback state.

Download video is same setting with playback. After setting parameter, click the button to download to local, then pop up another window shown as below. Finally, select the save path and set the name, click [OK] to confirm that.



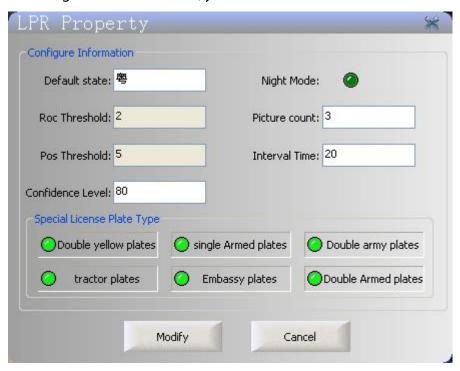
The download window displays download progress in real time, as shown below. Click ending download can be ended the download in advance, but it only can save the content which has been downloaded. The saved surveillance video can be played by video player.



# 4.8.3 LPR Attribute Setting

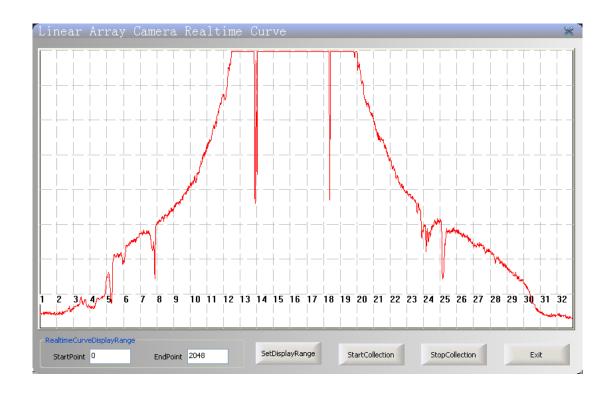
Clicking "Attribute Set" button, pop-up interface shown below and set the

properties for the license plate recognition. To prevent misoperation during user settings, the gray text box has been set up by the system deployment personnel when the software is installed. The user can according to the specific requirements, set the "Default State", "Picture count", "Interval Time" and "Special Vehicle Type". After modification, click the "Modify" button to complete the property settings, to make new configurations take effect, you must restart the software.



#### 4.8.4 Real-time Curve

By clicking "RT Curve" button pops up the following interface, you can view realtime acquisition curve, when the under vehicle scanner Gigabit Ethernet cameras at work.



# 4.8.5 DVR Parameter Setting

Click [DVR Parameter set] button, the screen is shown below.

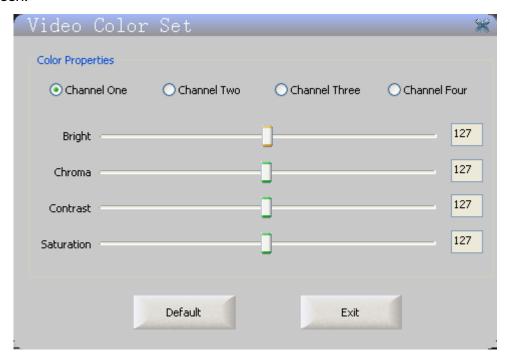


DVR configuration information related addresses, login user name, password and port number appear in the login window. IP addressed required to use network interconnection with TCP/IP protocols and ensure host is on the same network segment. After configuration, the software will automatically reconnect, but to ensure that the login information is correct.

Channel name cannot be empty and use eight characters (16 bytes) at most. Time setting is used for data query to play the video of special period time.

#### 4.8.6 Video Color Setting

Click [the video color set] button, will appear the interface shown below, click on the corresponding channel number, drag the slider to change the channel display relevant attributes of the video, brightness, color, contrast and saturation (this is soft regulation), Only one requirement is that the video can be clearly displayed on the screen.



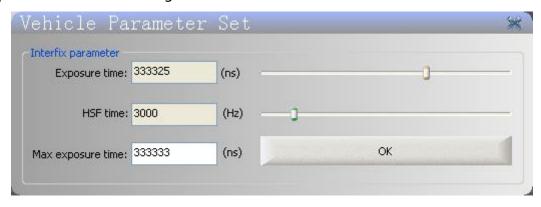
#### 4.8.7 Language

Click "Language" button to pop up window as shown in the figure below, the user can switch the system language and need to restart the software to take effect.



# 4.8.8 Scanner Camera Parameter Setting

Click the "Parameter Set" button and pop-up interface as shown below, you can set parameters of scanner Gigabit Ethernet camera.



#### 4.8.9 Exit

Click the "Exit" button and pop-up window as shown below. Click the "OK" button to exit the system, click the "Cancel" button to close the window.

