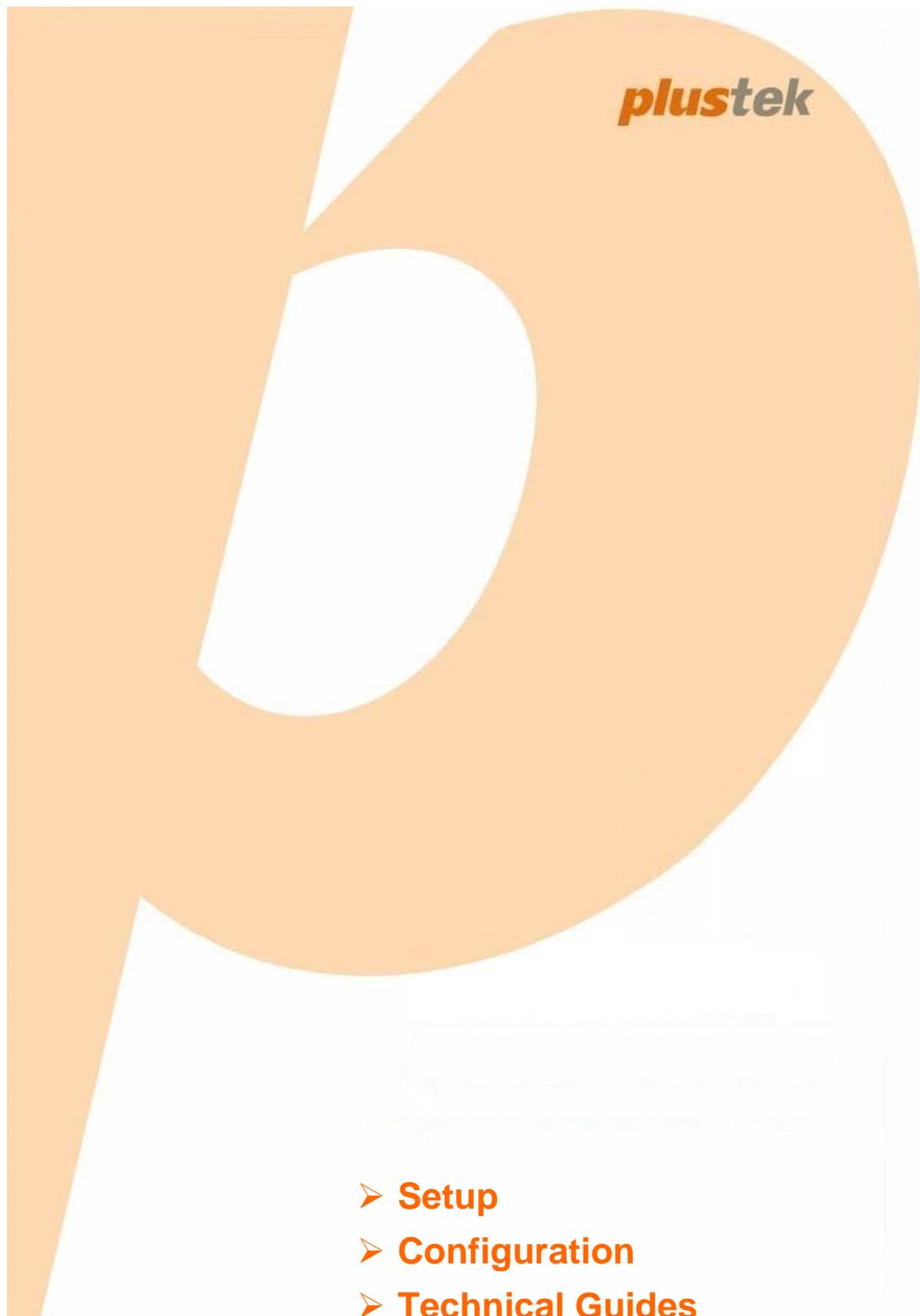


User's Guide



- **Setup**
- **Configuration**
- **Technical Guides**

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While all efforts have been made to ensure the accuracy of all contents in this manual, we assume no liability for errors or omissions or by statements of any kind in this manual, whether such errors are omissions or statements resulting from negligence, accidents, or any other cause. The contents of this manual are subject to change without notice.

This device is intended to be used in a lawful manner. Certain uses of the device may be prohibited by local laws in some countries or states, such as the surreptitious recording of audio and/or video communications for certain purposes. If you have any question about whether a proposed use of your products is lawful, you should consult a local legal authority before proceeding.

The product is designed and produced to achieve sustainable environmental improvement. We strive to produce products in compliance with global environmental standards. Please consult your local authorities for proper disposal. The product packaging can be recycled.

Attention to recycling (For EU countries only)

Protect your environment! This product should not be thrown into the household waste container. Please give it to the free collecting center in your community.

The screen shots in this guide were made with Windows XP. If you are using Windows 7, Vista or 2000, your screens will look somewhat different but functions are the same.

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Introduction

Thank you for choosing us as your device supplier. Like all of our products, your new device is thoroughly tested and backed by our reputation for unsurpassed dependability and customer satisfaction. We hope you will continue to turn to us for additional quality products as your computing needs and interests grow.

How to Use This Guide

This User's Guide provides instructions and illustrations on how to setup and configure your device. This guide assumes the user is familiar with Microsoft Windows 7, Vista, XP and 2000 Professional. If this is not the case, we suggest you learn more about Microsoft Windows by referring to your Microsoft Windows manual before using your device.

The **Introduction** section of this manual provides an outline of this manual, and describes the minimum system requirements, and box contents.

Chapter I describes how to set up basic device and camera system in the network environment.

Chapter II describes how to log in the device interface and get live view of the connected cameras.

Chapter III provides you with plenty of illustrations and information about advanced configuration of the device. You may get familiar with it and try out all functions provided with the device.

Chapter IV provides useful technical information and usage tips.

Appendix A covers the glossary that may help you to know more about the network and network devices.

Appendix B contains the specifications of the device you purchased.

Appendix C contains our customer service, limited warranty agreement and FCC statement.

Conventions of This Guide

"XXX" — Represents commands or contents on your computer screen.

Bold — Represents important notes.

A Note about Icons

This guide uses the following icons to point out information that deserves special attention.



Warning: A procedure that must be followed carefully to prevent injury, or accidents.



Attention: Instructions that are important to remember and may prevent mistakes.



Information: Optional tips for your reference.

Safety Precautions

Before using this device, please read the following important information carefully to eliminate or reduce any possibility of causing damage and personal injury.

1. Do not use the AC adapter that comes with this device (if it is available). Use of other AC adapter may lead to malfunction, heat up, electrical shock, fire or injury.
2. Keep the space around the adapter clear in case you need to quickly unplug the adapter during emergencies.
3. Do not install near any heat sources such as radiators or other devices.
4. Use only attachments/accessories such as cover and plates specified by the manufacturer.
5. Do not touch the unit or the AC adapter when power on.
6. Unplug the device if you don't need to use for a certain period of time to avoid any risks of causing fire.
7. Do not disassemble the device case.
8. Damaged wire could cause fire or electrical shock. Keep the power cord straight and without being twisted, bended, or scraped.
9. Moisture condensation may occur inside this device and cause malfunction at these conditions:
 - When this device is moved directly from a cold to a warm location.
 - After a cold room is heated.
 - When this device is placed in a damp room.

To avoid the moisture condensation, you are recommended to follow the procedure:

- Seal this device in a plastic bag for it to adapt to room conditions.
 - Wait for 1 ~ 2 hours before removing this device from the bag.
10. Avoid excessive smoke, mechanical, dust, or direct sunlight.
 11. Do not replace incorrect type of battery on the Server main board. There is risk of explosion if the battery is replaced by an incorrect type. Dispose of used batteries according to the instructions.



The mark shown to the left is in compliance with the Waste Electrical and Electronic Equipment Directive 2002/96/EC (WEEE). The mark indicates the requirement NOT to dispose the equipment as unsorted municipal waste, but use the return and collection systems according to local law. If the batteries, accumulators and button cells included with this equipment, display the chemical symbol Hg, Cd, or Pb, then it means that the battery has a heavy metal content of more than 0.0005% Mercury, or more than 0.002% Cadmium, or more than 0.004% Lead.

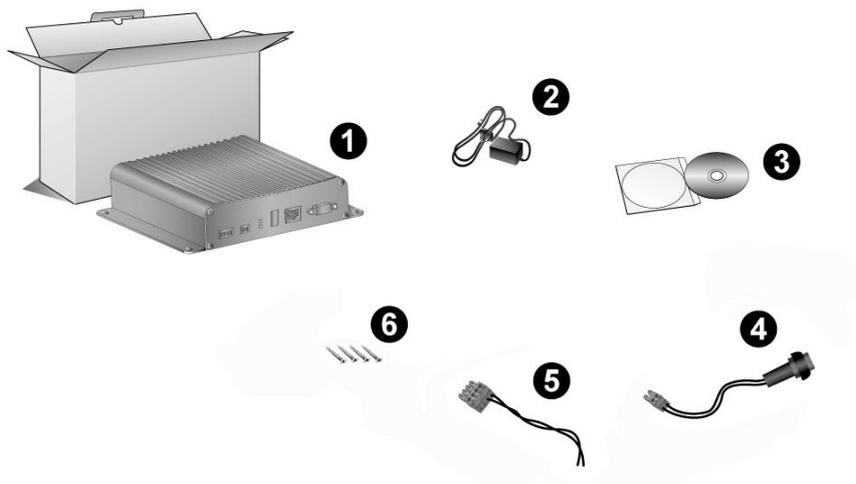
Minimum System Requirements¹

The device is recommended to work with personal computer or network that meets the following requirements:

Operation System	Microsoft® Windows® 2000 Professional, XP Home Edition or XP Professional, Vista, 7 compatible
CPU	Intel Pentium® 4 processor or above
Network Protocol	TCP/IP Network protocol installed. (DHCP, Static IP, DDNS, SMTP)
Web Browser	Internet Explorer 6.0 or later ²
RAM	256 MB (512 MB or higher recommended)
Ethernet Interface	10/100 Mbps Ethernet Card and Category 5 cables for network connections ³
Others	CD-ROM/DVD Drive, Video card that supports 16-bit color or greater, 800 MB Free Hard Disk Space

Box Contents⁴

Before you start installing your device, check the box contents to make sure all parts are included. If any items are damaged or missing, please contact the vendor where you purchased your device or our customer service directly.



1. Video Server
2. AC Adapter
3. Installation CD
4. Channel Select Button & Channel Select Terminal Blocks Pluggable Plug
5. RS-485 Terminal Blocks Pluggable Plug
6. Screws x 4

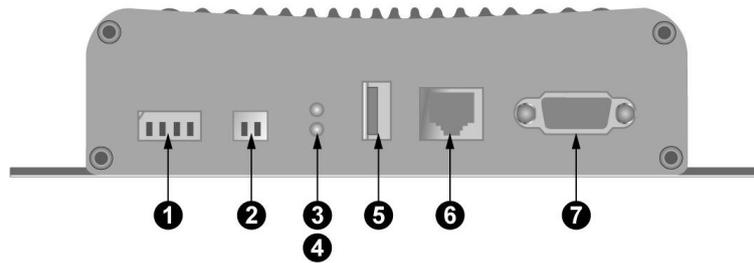
¹ The system requirements here are only a guideline, as in general the better the computer (motherboard, processor, hard disk, RAM, video graphic card), the better the results.

² The program is available with Microsoft Windows and therefore is not included in the Setup/Application CD-ROM of this product.

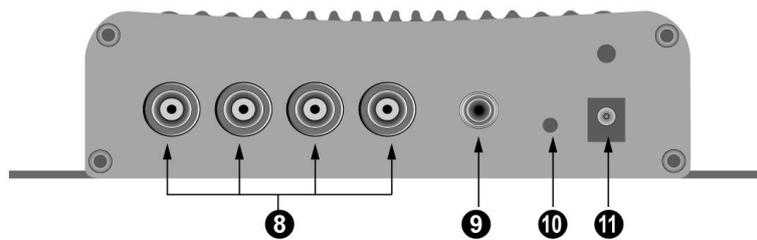
³ These parts are not included in the package.

⁴ Save the box and packing materials in case you need to transport this DEVICE in the future. The product packaging can be recycled.

Overview



1. RS-485 Terminal Block
2. Channel Select Terminal Block
3. Power Indicator
4. Status Indicator
5. USB Port
6. Ethernet Port
7. COM Port

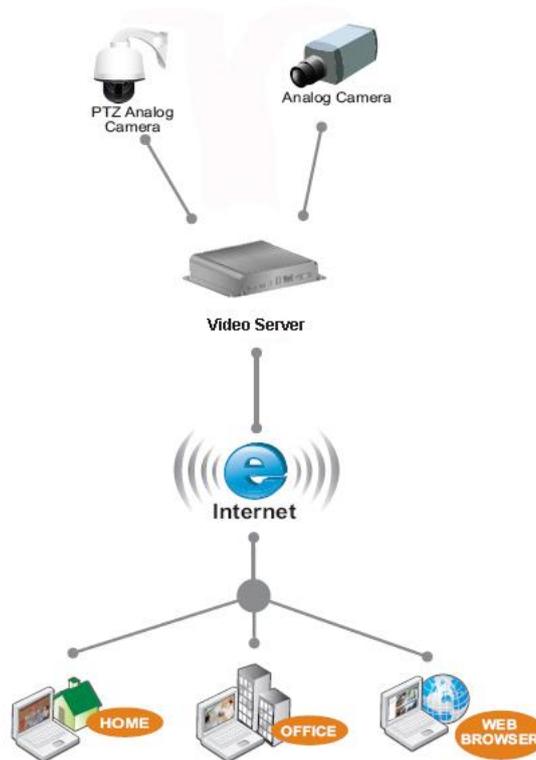


8. BNC Connector x 4 (Video In)
9. RCA Connector (Video Out)
10. RESET Hole
11. DC-Jack

Chapter I. Setup the Device

Before you setup the device, please make sure all components are available and ready. A list of the package contents is provided in the [Box Contents](#) section of this guide. If any items are damaged or missing, please contact the vendor where you purchased your device or our customer service directly.

Setup the Device System



Power on device

Use the power adapter, provided in the package, to power on the device. The adapter should be plugged into a 110V~220V AC power socket.

Connect to Network

Connect this device to a network hub/switch via standard CAT5 Ethernet cable with an RJ-45 connector. Please note that the PC must be on the same network domain as the device.

Connect to Analog Camera

Connect the video out of your camera with the video in of the device, using a standard 75Ω coaxial cable with BNC type connector.

Connect to PTZ Camera

(If you don't have PTZ camera, please proceed to next topic.)

Connect the video out of your PTZ camera with the video in of the device, using a standard 75Ω coaxial cable with BNC type connector. Insert RS-485 Terminal Blocks Pluggable Plug into RS-485 Terminal Block, connect the extended wires to the RS-485 wires of the PTZ camera.



Serious damage to the device may result if a device is connected to the RS-485 Terminal Blocks that exceeds its electrical capability.

Connect Channel Select Button

Insert Channel Select Button's plug into Channel Select Terminal Blocks to switch channels by the Channel Select Button. Pressing the Channel Select Button will cycle through all available channels one by one. The Split View (All Channels) will be shown after all available channels have been cycled through.

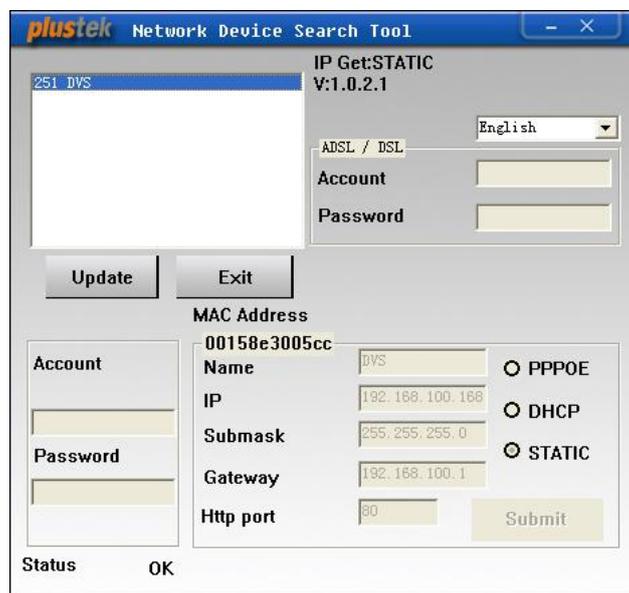
Chapter II. Getting Started with the device

Log in the device

Log in the device Method I. by using Network Device Search Tool Application

Network Device Search Tool is an application that can detect Plustek device(s) that you connect to an organization's network or your PC.

1. Insert the CD-ROM into the CD-ROM drive of your PC.
2. Double click on the "Plustek Network Device Search Tool" file.
3. The Network Device Search Tool window is displayed.



4. Select and double click on the desired device.
5. The System Login page appears on the screen.



When you use the Internet Explorer to browse the website, ActiveX controls may assure the normal display of images.

6. When you log in your device for the first time, enter "admin" as your user name and "admin" as your password.
7. Click "OK" to send the identification information for recognition.



Attention

The “admin” and “admin” are the default user name and password for your first login of the device as Administrator. Please change the default password as soon as possible. To change the password, please refer to the section “[Users](#)”.

Log in the device Method II. by using IE Address Bar

When you connect the device to the Internet with static IP address, you may log in the device by directly entering the IP address in the IE Address Bar.



Information

If you are provided with dynamic IP address in an organization’s network, please refer to the “[Use the device with Dynamic IP Address](#)” section for more instructions.

1. Start the Internet Explorer, enter the IP address of the device in the IE address bar, and press “Enter” on the keyboard to launch the System Login page.



2. The System Login page is displayed.

3. Enter “admin” as your user name, “admin” as your password and click “OK”.



Attention

The “admin” and “admin” are the default user name and password for your first login of the device as Administrator. Please change the default password as soon as possible. To change the password, please refer to the section “[Users](#)”.

Viewer Windows

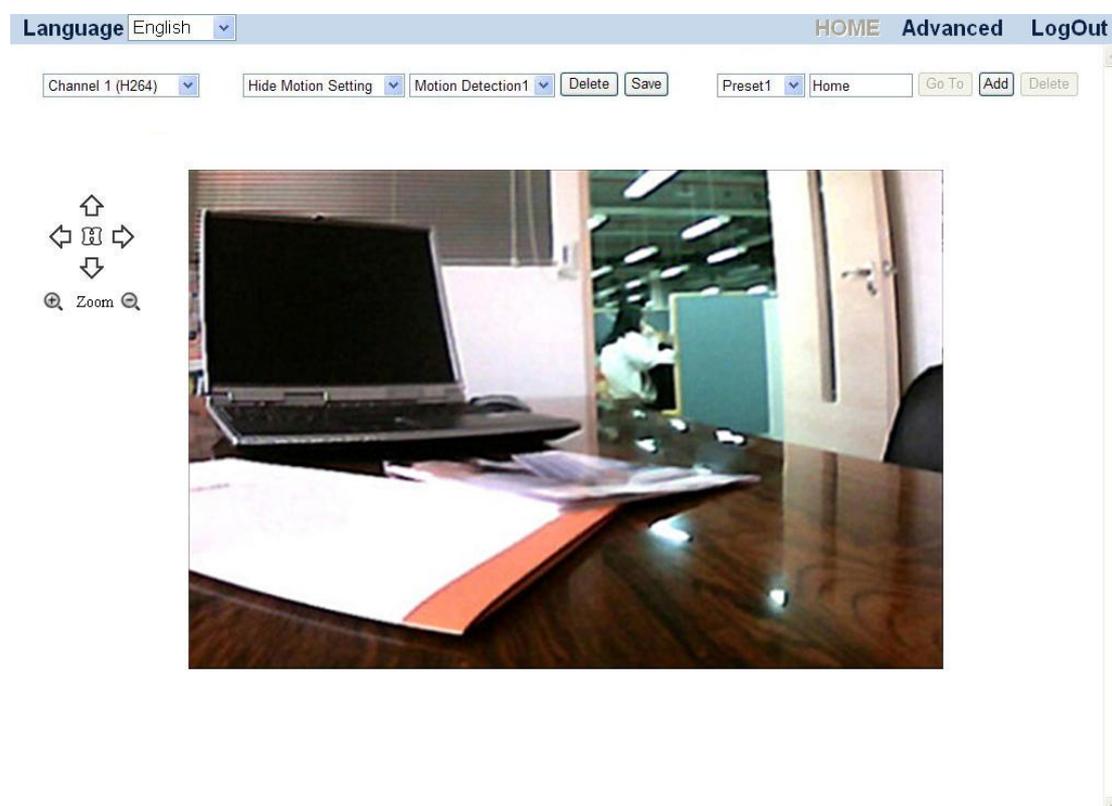
Language

After logging in, the “Home” page will be displayed. You may choose the system language from the drop-down list.

Home

After logging in, the “Home” page will show first camera screen, displaying the live video stream captured by the camera. Select the desired channel and format from the drop-down list .

There're a few buttons for you to control the functions of the camera and the system.



To hide or show motion setting

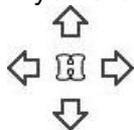
Select the hide or show option from the drop-down list .

To set motion detection

Select to show the motion setting from the drop-down list . Select the desired motion detection number from the drop-down list , and then drag a square to define the desired area on the screen. Click on button to save the setting or click on button to delete the setting.

To set preset point⁵

If you are using a PTZ camera, the PTZ Setting button will be activated. Click on the



button to make PTZ adjustment of the camera. Select the desired preset number from the drop-down list , and then enter the desired name in the blank. Click on button to add the preset point, click on button to delete the preset point or click on button to go to the preset point.

To control the camera viewer⁶

The buttons and their respective functions are shown in the following table:

Button	Function
	If you are using a PTZ camera, the PTZ Setting button will be activated. Click on the button to make PTZ adjustment of the camera. By PTZ control, you may focus the camera to a desired position. Click these arrow buttons to adjust the direction of the camera lens. Click to reset the camera to its home position.
Zoom	Click or to zoom in or zoom out.

Log out the device

To exit the system page, click the “LogOut” button at the top right corner of the device’s main page.

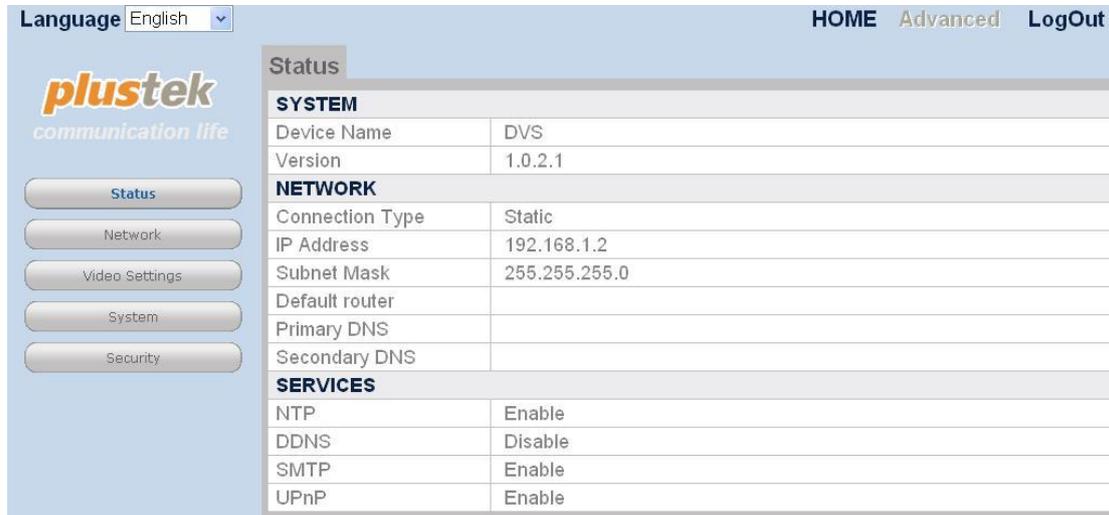
 Attention	Please do NOT click on the button on the Internet Explorer window to exit the device. Clicking on the button will not change the logged-in status of the user.
----------------------	--

⁵ The following functions are available only when the connected Camera is built with related functions.

⁶ The following functions are available only when the connected Camera is built with related functions.

Chapter III. Advanced Configuration

The administrator has the right to access all the device functions, and can make advanced configurations for the device according to the special needs.



Language English HOME **Advanced** LogOut

plusTek
communication life

Status
Network
Video Settings
System
Security

Status

SYSTEM	
Device Name	DVS
Version	1.0.2.1
NETWORK	
Connection Type	Static
IP Address	192.168.1.2
Subnet Mask	255.255.255.0
Default router	
Primary DNS	
Secondary DNS	
SERVICES	
NTP	Enable
DDNS	Disable
SMTTP	Enable
UPnP	Enable

To enter the Advanced settings page:

1. Click the “Advanced” button on the main page banner to enter the advanced configuration page. On the left of the page shows the configuration menu. There are 5 menus available: “Status”, “Network”, “Video Settings”, “System” and “Security”.
2. Click on each menu item to enter the submenus. You may configure settings according to your special need.

The following describes the menus individually and the related settings.

Status

Status

SYSTEM	
Device Name	DVS
Version	1.0.2.1
NETWORK	
Connection Type	Static
IP Address	192.168.1.2
Subnet Mask	255.255.255.0
Default router	
Primary DNS	
Secondary DNS	
SERVICES	
NTP	Enable
DDNS	Disable
SMTP	Enable
UPnP	Enable

To view the current device status

Go to the “Advanced” page and click the menu “Status” → “Status”, and the current status of the device will display on the right.

You can alter some of the settings shown in this sector from other menu items.

Network

Network

Go to the “Advanced” page and click the menu “Network” → “Network”. In the Network menu, you may configure the device’s Network settings according to the network connection conditions and your special needs. You may select desired options from the drop-down list.

TCP/IP

TCP/IP

Obtain IP via DHCP

Use the following IP

Dial-Up xDSL(PPPoE)

HTTP Port

Port number

DNS

Obtain a DNS address automatically

Use the following DNS address

Primary DNS address . . .

Secondary DNS address . . .

*TCP/IP (Transmission Control Protocol) is a set of rules (protocol) used along with the Internet Protocol (IP) to send data in the form of message units between computers over the Internet. While IP takes care of handling the actual delivery of the data, TCP takes care of keeping track of the individual units of data (called packets) that a message is divided into for efficient routing through the Internet.

*DNS(Domain Name System) is service that locates various Internet domain names, and translates them into Internet Protocol address. DNS service may increase the responding speed and accuracy of specified web site.

To choose the IP allocation methods:

1. Go to the “Advanced” page and click the menu “Network” → “Network” → “TCP/IP”.
2. Select either DHCP, static IP or PPPoE:
 - If the device adopts dynamic IP, check “Obtain IP via DHCP” radio button, and your device will be assigned with any idle IP address in your organization’s network.
 - If the device uses static IP, check “Use the following IP” radio button, and fill in the blanks of IP address, subnet mask and Gateway.
 - If the device uses PPPoE, check “Dial-Up xDSL (PPPoE)” radio button, and enter the “User Name”, “Password”, and “Confirm Password”.
3. Enter the HTTP port if needed. The default port is 80.

To enter the DNS address if needed:

You may check “Obtain a DNS address automatically” radio button to obtain the DNS address automatically. If you want the device to use a host name, you’ll need to enter at least one (Primary) DNS address.

1. Enter the IP address of the “Primary DNS Address” provided by your ISP.

2. Enter the IP address of the “Secondary DNS Address” provided by your ISP.

DDNS

DDNS ▼	
The device acts as DDNS Service	<input type="checkbox"/> Enable
DDNS Server	<input type="text" value="members.dyndns.org"/>
User Name	<input type="text"/>
Password	<input type="text"/>
Host Name	<input type="text"/>
Status	
<input type="button" value="Submit"/>	

To configure DDNS settings:

1. Go to the “Advanced” page and click the menu “Network” → “Network” → “DDNS”.
2. If you want the device to act as DDNS Service, click “Enable”.
3. Enter the “DDNS Server”, “User Name”, “Password” and “Host Name”.
4. Click “Submit” to save the setting.

SMTP

SMTP ▼				
Priority		Name	Sender Address	Mail Server
1	<input checked="" type="radio"/>	Mary Lo	marylo@123.com	smtp.123.com
2	<input type="radio"/>			
3	<input type="radio"/>			
4	<input type="radio"/>			
<input type="button" value="Add"/> <input type="button" value="Edit"/> <input type="button" value="Delete"/>			<input type="button" value="UP"/> <input type="button" value="DOWN"/>	
<small>*SMTP(Simple Mail Transfer Protocol) is a TCP/IP Protocol used in sending and receiving e-mail. However, since it is limited in its ability to queue messages at the receiving end, it is usually used with one of two other Protocol, POP3 or IMAP, that let the user save messages in server mailbox and download them periodically from the server. In other words, users typically use a program that uses SMTP for sending email and either POP3 or IMAP for receiving e-mail.</small>				

Go to the “Advanced” page and click the menu “Network” → “Network” → “SMTP”. In this menu you can configure several email addresses. The device can automatically send alarm messages by using the configured email addresses when an event is triggered. (See [Event Settings](#) for more information about automated email alert.)

To add email addresses:

1. Go to the “Advanced” page and click the menu “Network” → “Network” → “SMTP”.
2. Click the “Add” button and enter the SMTP information in this page.

SMTP	
Name	Mary Lo
Sender Address	marylo@123.com
Mail Server	smtp.123.com
User Name	marylo
Password	••••••••
Confirm Password	••••••••
<input type="button" value="Submit"/> <input type="button" value="Cancel"/>	

1. Enter the “Name”, “Sender Address”, “Mail Server”, “User Name” and “Password” of the email account. Enter the password again in “Confirm Password”.
2. Click “Submit” to save the setting.

To set the priority for the email addresses:

1. Go to the “Advanced” page and click the menu “Network”→ “Network” → ”SMTP”.
2. When more than one email address has been added, you may click on the radio button in front of a sender address and click “UP” or “DOWN” button to move the email address’s priority in the list.

FTP

FTP				
Priority		Name	Server	Directory Path
1	<input checked="" type="radio"/>	FTP	ftp.xyz.org	Device
2	<input type="radio"/>			
3	<input type="radio"/>			
4	<input type="radio"/>			
<input type="button" value="Add"/> <input type="button" value="Edit"/> <input type="button" value="Delete"/>			<input type="button" value="UP"/> <input type="button" value="DOWN"/>	

In this page you can configure several FTP servers. The device can automatically send images to the configured FTP server when an event is triggered. (See [Event Settings](#) for more information about automated uploading images to the FTP server.)

To add an FTP Server:

1. Go to the “Advanced” page and click the menu “Network” → “Network” → ”FTP”.
2. Click “Add” button and enter the FTP server information in this page.

FTP Server	
Connection Name	<input type="text" value="FTP"/>
Server	<input type="text" value="ftp.xyz.org"/>
User Name	<input type="text" value="Mary Lo"/>
Password	<input type="password" value="•••••"/>
Confirm Password	<input type="password" value="•••••"/>
Server Directory	<input type="text" value="Device"/>
<input type="button" value="Submit"/> <input type="button" value="Cancel"/>	

3. Enter the following information:
 - Connection Name: Enter the name for this FTP Server, e.g. FTP.
 - Server: Enter the address of this FTP Server, e.g. <ftp.xyz.org> or 10.1.100.62.
 - User Name: Enter your user name to log in with, e.g. Mary Lo.
 - Password: Enter the password to log in with, e.g. 157639.
 - Confirm Password: Enter the password again.
 - Server Directory: Enter the directory path on the FTP server to save the files in, e.g. Device.
4. Click “Submit” to save the settings.

To set the priority for the FTP Servers:

1. Go to the “Advanced” page and click the menu “Network”→ “Network”→ ”FTP”.
2. When more than one FTP Server has been added, you may click on the radio button in front of a FTP Server Name and use “UP” “DOWN” button to change the FTP Server’s priority in the list.

TCP

TCP			
Priority		Name	Receiver Address
1	<input checked="" type="radio"/>	TCP	192.168.100.100
2	<input type="radio"/>		
3	<input type="radio"/>		
4	<input type="radio"/>		
<input type="button" value="Add"/> <input type="button" value="Edit"/> <input type="button" value="Delete"/>			<input type="button" value="UP"/> <input type="button" value="DOWN"/>

In this page you can configure several TCP IP addresses. The device can automatically send message to the configured TCP IP address when an event is triggered. (See [Event Settings](#) for more information.)

To add a TCP server:

1. Go to the “Advanced” page and click the menu “Network” → “Network” → ”TCP”.
2. Click “Add” button and enter the TCP server information in this page.

TCP	
Name	<input type="text" value="TCP"/>
IP	<input type="text" value="192.168.100.100"/>
User Name	<input type="text" value="Mary Lo"/>
Password	<input type="password" value="•••••"/>
Confirm Password	<input type="password" value="•••••"/>
<input type="button" value="Submit"/> <input type="button" value="Cancel"/>	

3. Enter the following information:
 - Name: Enter the name for this TCP server, e.g. TCP.
 - IP: Enter the address of this TCP server, e.g. 192.168.100.100.
 - User Name: Enter your user name to log in with, e.g. Mary Lo.
 - Password: Enter the password to log in with, e.g. 157639.
 - Confirm Password: Enter the password again.
4. Click “Submit” to save the settings.

To set the priority for the TCP server:

1. Go to the “Advanced” page and click the menu “Network”→ “Network”→ ”TCP”.
2. When more than one TCP server has been added, you may click on the radio button in front of a TCP server Name and use “UP” “DOWN” button to change the TCP’s priority in the list.

Video Settings

In this menu, you can configure the setting for the cameras connected to your device.

Video Settings

Channel 1 <input type="button" value="v"/>	
Image Appearance	
Video format	H264 <input type="button" value="v"/>
Resolution	D1 <input type="button" value="v"/>
Quality	High <input type="button" value="v"/>
Brightness	0 <input type="button" value="v"/>
Contrast	0 <input type="button" value="v"/>
Hue	0 <input type="button" value="v"/>
Saturation	0 <input type="button" value="v"/>
Sharpness	0 <input type="button" value="v"/>
Overlay Settings	
<input checked="" type="checkbox"/> Include date / time / text	CAM 1 <input type="text"/>
Place text/date/time at	top <input type="button" value="v"/> of image
Frame rate	30 <input type="button" value="v"/> fps
<input type="button" value="Submit"/> <input type="button" value="Preview"/>	

To set video display:

1. Go to the “Advanced” page and click the menu “Video Settings” → “Video Settings”.
2. Select the camera you want to adjust the video settings for from the drop-down list.
3. In “Image Appearance” section, you may adjust the Video format, Resolution, Quality, Brightness, Contrast, Hue, Saturation, and Sharpness for the video image displayed by the camera.
4. In the “Overlay Settings” section, you can add some text information to the video image, such as Date/time and a text title. You may choose Top or Bottom from the drop-down list to display the information at the top or bottom of the image. The text information will be shown in live view.
5. Enter the camera frame rates. The frame rates may range from 1 to 30 fps.
6. Click “Submit” to save the settings.
7. Click “Preview” to preview the video settings you have made.

System

Users

User ID	User Name	Password	Re-type Password
Administrator	<input type="text" value="admin"/>	<input type="password" value="*****"/>	<input type="password" value="*****"/>
1 <input type="button" value="Operator"/> ▾	<input type="text" value="operator"/>	<input type="password" value="*****"/>	<input type="password" value="*****"/>
2 <input type="button" value="General User"/> ▾	<input type="text" value="user"/>	<input type="password" value="*****"/>	<input type="password" value="*****"/>
3 <input type="button" value="Top User"/> ▾	<input type="text" value="topuser"/>	<input type="password" value="*****"/>	<input type="password" value="*****"/>
4 <input type="button" value="Operator"/> ▾	<input type="text"/>	<input type="password"/>	<input type="password"/>
5 <input type="button" value="Operator"/> ▾	<input type="text"/>	<input type="password"/>	<input type="password"/>
6 <input type="button" value="Operator"/> ▾	<input type="text"/>	<input type="password"/>	<input type="password"/>
7 <input type="button" value="Operator"/> ▾	<input type="text"/>	<input type="password"/>	<input type="password"/>
8 <input type="button" value="Operator"/> ▾	<input type="text"/>	<input type="password"/>	<input type="password"/>
9 <input type="button" value="Operator"/> ▾	<input type="text"/>	<input type="password"/>	<input type="password"/>
<input type="button" value="Submit"/>			

Go to the “Advanced” page and click the menu “System” → “Users” to display the Users page. We offer an Administrator account with the User Name “admin” and default Password “admin”. Please change the administrator’s password to avoid unauthorized usage.

The “administrator” can add several “General Users”, “Operators” or “Top Users”. A “General User” is only authorized to view the live video of the cameras in the “Home” page. An “Operator” is authorized to view the video of the cameras in the “Home” page and is also allowed to view the settings in “Advanced” pages, but is not allowed to change settings. A “Top User” is authorized to view the video of the cameras in the “Home” page and is also allowed to control the camera viewer. The “Administrator” has access right to all the functions of the device in the “Home” and “Advanced” pages.

The following table lists the privilege right of different user accounts:

User Privilege	General User	Operator	Top User	Administrator
View “Home” page	O	O	O	O
Modify “Home” page	X	X	X	O
Select “Language”	O	O	O	O
Control camera viewer	X	X	O	O
View “Advanced” page	X	O	X	O
Modify “Advanced” page	X	X	X	O

Maintenance

Current Version : 2.0.5.8 (2011/09/19 18:21:42)	
Update firmware	
Specify the firmware to upgrade to : <input type="text"/> <input type="button" value="Browse"/>	<input type="button" value="Upgrade"/>
Note : Do not disconnect power to unit during the upgrade . The unit restarts automatically after the upgrade has completed .	
Backup settings	
Save all parameters and user-defind scripts to backup file .	<input type="button" value="Backup"/>
Restore settings	
Use a saved backup file to return the unit to a previous configuration specify the backup file to use : <input type="text"/> <input type="button" value="Browse"/>	<input type="button" value="Restore"/>
Reset to default	
Reset all parameters to the original factory settings <input checked="" type="checkbox"/> Except network settings (By ticking this check box, the preset network settings will not be changed.)	<input type="button" value="Default"/>
System restart	
Restart	<input type="button" value="Restart"/>

Go to the “Advanced” page and click the menu “System” → “Maintenance” to display the Maintenance page. In the Maintenance page, you may update firmware, backup and restore settings, reset, restart, or turn off the system.

Update firmware

To update the device firmware:

1. Click on the “Browse” button to find the latest firmware you have downloaded.
2. Click on the “Upgrade” button to load the firmware in your device and the upgrade will start automatically.
3. The system will automatically restart after the update is complete.

Backup settings

To backup the current settings:

Click on the “Backup” button to backup all the settings you’ve made in the system, and a window will pop up asking you to save the backup file. You may choose a saving folder for the backup file.

Restore settings

To restore previous settings:

You may restore the device to previous settings by loading a saved backup file. (See the above [Backup settings](#) section for more information on how to backup system settings.)

1. Click on the “Browse” button to find the backup file you have saved.
2. Click the “Restore” button and the restoration will start automatically.
3. The system will restart after the restoration is complete.

Reset to default

Click the “Default” button and you will reset the device to the default factory settings. If the “Except network settings” option is checked, the settings in the [TCP/IP](#) pages will not be changed to default settings after you reset the device.

System restart

Click the “Restart” button to restart the device.

Log

Time	Information
2010/01/13 15:39:44	admin : Login
2010/01/13 15:39:25	admin : Logout
2010/01/13 15:32:07	admin : Login
2010/01/13 15:24:37	admin : Logout
2010/01/13 15:13:10	admin : Login
2010/01/13 15:13:05	admin : Logout
2010/01/13 14:55:03	guest : Login
2010/01/13 14:55:01	guest : Logout
2010/01/13 14:53:03	admin : Login
2010/01/13 14:52:58	admin : Logout
2010/01/13 14:52:52	admin : Login
2010/01/13 11:59:31	System Boot
2010/01/13 11:56:58	admin : Login
2010/01/13 11:56:52	admin : Logout
2010/01/13 11:51:28	admin : Login
2010/01/13 11:48:47	admin : Logout

Page 1 2 3 4 5 6 7 8 9 10 >|

Go to the “Advanced” page and click the menu “System” → “Log” to display the Log page. The Log page keeps a record on the settings or change made in the system.

System Settings

Device Name	<input type="text" value="DVS"/>
Video Mode	<input type="text" value="NTSC"/> ▼
UPnP	
The device acts as UPnP Service	<input checked="" type="checkbox"/> Enable
Set Time Zone	
Time Zone	<input type="text" value="(GMT-08:00) Pacific Time (US & Canada); Tijuana"/> ▼
<input checked="" type="checkbox"/> Automatically adjust for daylight saving time changes.	
<input type="button" value="Submit"/>	

Go to the “Advanced” page and click the menu “System” → “System Settings” to display the page of System Settings. You may define the “Device Name” for the device you use. Select “Video Mode” from the drop-down list.

To enable UPnP:

Check “Enable” if you want the device to act as UPnP service. And you’ll be able to visit the device from “My Network Places”.

To set Time Zone:

1. Select Time Zone from the drop-down list.
2. Check the “Automatically adjust for daylight saving time changes” option if needed.

Click “Submit” to save the settings.

Date & Time

System Time	2012/01/13 15:47:33	
Time Zone	(GMT+08:00) Taipei	
Time Synchronization Method		
<input checked="" type="radio"/> NTP Time		
<input checked="" type="radio"/> NTP Server	time.stdtime.gov.tw	
<input type="radio"/> NTP Server	<input type="text"/> (host name or IP address)	
<input type="radio"/> Computer Time	Date : 2012 / 1 / 13	Time : 15:47:36
<input type="radio"/> Set manually	Date : <input type="text"/> / <input type="text"/> / <input type="text"/>	Time : <input type="text"/> : <input type="text"/> : <input type="text"/>
<input type="button" value="Submit"/>		

Go to the “Advanced” page and click the menu “System” → “Date & Time” to display the page of Date & Time. You may set the date and time of the device. When the time is set, the connected cameras will automatically synchronize the time with the device and will show in channel interface.

To set device Date & Time:

1. You may set the device date and time by any of the following three ways:
 - a. Synchronize the device date and time with NTP (Network Time Protocol) time. Select the NTP Server you want to use.
 - b. Synchronize the device with the computer time.
 - c. Manually set the Date and Time by entering the Date and Time in the blanks.
2. Click the “Submit” button to save the setting.

Security

Event Settings

In the Event Settings menu, you may configure the event the camera responds to and the output reaction the camera will trigger.

To add an event

Add Event Settings	
<input checked="" type="checkbox"/> Enable	
Name	Event
Priority	Normal
Triggered Source	
<input checked="" type="radio"/> Motion Detection	
In	Motion 1
When motion detection	starts
When Triggered	
<input checked="" type="checkbox"/> Send e-mail notification.	
Subject	subject
Send to	<input type="text"/> Add
	<input type="text"/> Delete
<input checked="" type="checkbox"/> Send Image to FTP Server	
File Name Prefix	image
Upload for	3 second(s)
Desired image frequency :	
<input checked="" type="radio"/> Maximum possible	
<input type="radio"/> 1 frame per second	
<input checked="" type="checkbox"/> Send to TCP	
Message	<input type="text"/>
<input checked="" type="checkbox"/> Preset Position	
Go To Preset	Home
Next	Cancel

1. Go to the “Advanced” page and click the menu “Security” → “Event Settings” to enter the Event Settings window.
2. Click the “Add” button to enter “Add Event Settings” page.
3. Check “Enable” to make the Event Settings effective.
4. Define a name for the event setting, and choose the event’s “Priority” from the drop-down list.

5. Choose the “Triggered Source” you want to respond to by clicking the radio button of Motion Detection.



This function is available only when the connected camera is built with related functions.

Attention

- For “Motion Detection” event, you’ll need to configure Motion Detection settings for the camera (Please refer to [To set motion detection](#) for more information). Choose the Motion Detection window from the drop-down list and the motion detection event as “starts”, “stops” or “starts-stops”.
6. If you want to send an alert email to your desired email address when an event is triggered, check the “Send e-mail notification” option.
 - a. Type in the “Subject” of the email.
 - b. Enter the email address you want to send notice in the “Send to” blank and click the “Add” button to add the address into the mailing list. A sender’s email address should be pre-set in the SMTP menu to make the auto-mailing effective. (Please refer to the [SMTP](#) section for more information.)
 7. If you want to send images to the desired FTP server when an event is triggered, check the “Send Image to FTP Server” option. A FTP server should be pre-set in the FTP list to enable this feature. (Please refer to the [FTP](#) section for more information.)
 - a. File Name Prefix: Enter the prefix for the image files, e.g. image-.
 - b. Upload seconds: The default value is 3 seconds. For example, if you set 3 seconds in this field, the device uploads the images within the 3 seconds to the selected FTP server.
 - c. Desired image frequency:
 - (i) **Maximum possible**: When an event is triggered, the number of the image frames that the device uploads to the FTP Server is determined by the “Frame rate” setting in the “Video Settings” page. (Please refer to [Video Settings](#) for more information). The device is able to upload up to **15** image frames.

For example:

You set the device to upload the images for **3** seconds, set the “Frame rate” as **15** fps in the “Video Settings” page, and click the “Maximum possible” option. When an event is triggered, the device maximum uploads 45 image frames to the FTP server within the 3 seconds.
 - (ii) **1 frame per second**: This option sets the device to upload one image to the selected FTP server per second within the pre-set time period.

For example:

You set the device to upload the images for **3** seconds and click the “1 frame per second” option. When an event is triggered, the device transmits an image frame to the FTP server per second. After the 3 seconds ends, a total of 3 image frames are transmitted to the FTP server.

8. If you want to send message to the desired TCP IP address when an event is triggered, check the “Send to TCP” option. A TCP IP address should be pre-set in the TCP list to enable this feature. (Please refer to the [TCP](#) section for more information.) Enter the desired message in the blank, the message is for English only and the maximum length is 64 characters.
9. Check “Preset Position” to set the camera to go to the selected preset position when event is triggered. Choose the desired preset position from the drop-down list.

To edit or delete an event

In the Event Settings window, select an existing event and click the “Edit” button to edit the event or click the “Delete” button to delete the event.

Event List				
Channel 1 <input type="button" value="v"/>				
		Name	Triggered Source	When Triggered
1	<input checked="" type="radio"/>	Event	Motion 1	"Mail"
2	<input type="radio"/>			
3	<input type="radio"/>			

Chapter IV. Technical Guides

This chapter covers plenty of useful technical information on using the device, which will help you get more familiar with this network device. For further information about network, you may read their definition or explanation in [Appendix A: Glossary](#) of this guide.

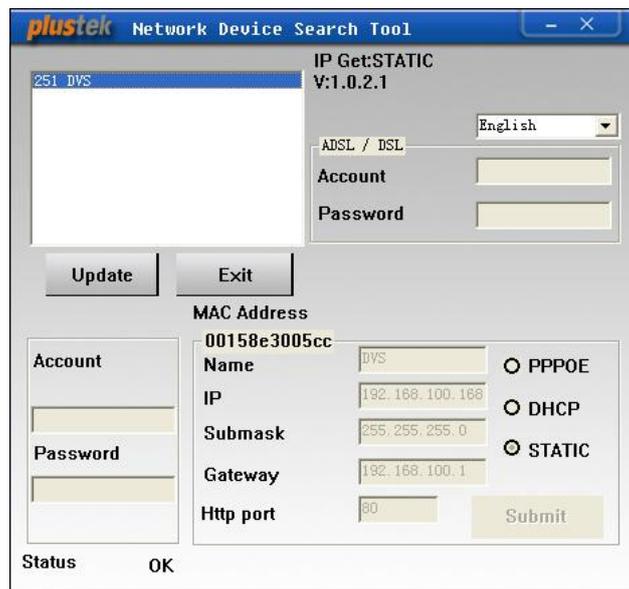
LED Indicators⁷

The LED indicators at the front of the device indicate the status of the device, as described below:

LED	Status	Indications
Power	On	The device is powered on.
	Off	The device is powered off.
Status	On	The system is ready.
	Off	The system is not ready.

Search Tool

Search Tool is an application that can detect Plustek device(s) that you connect to a company network.



Search Tool application may detect all the Plustek devices that you have connected successfully to your company network or community network. The device list is displayed in the white pane of the window. You may select one of the devices to configure for your surveillance needs if you are the authorized user of that device.

1. Enter the administrator's "Account" and "Password" of the selected device. Only the administrator is allowed to configure settings.
2. Name the selected device in "Name" section.

⁷ This function may or may not be available depending on the DEVICE model you purchase.

3. Type the correct IP address of the device if you have “STATIC” checked. If you have “DHCP” checked, please jump to Step 5.



Information

The device should have the same IP configuration information of your PC except IP address. Please refer to “[IP Configuration Information](#)” section to get the correct subnet mask and gateway of your PC.

4. Type the subnet mask of your network in Submask option.
5. Type in the Gateway of your network.
6. Type “80” in Http Port option.
7. Click the “Submit” button to apply the settings.
8. Click the “Update” button to refresh the list in the white pane of this window.

IP Configuration Information

You may get the IP configuration information of your PC by following the steps described as below:

1. Click “Start” → ”All Programs” → ”Accessories” → ”Command Prompt”, and access the Command Prompt window.
2. Type in “ipconfig” after “C:\>”.
3. Write down the information including IP Address, Subnet Mask and Gateway for IP configuration of the device.

```
Microsoft Windows [Version 5.00.2195]
(C) Copyright 1985-2000 Microsoft Corp.

C:\>ipconfig

Windows 2000 IP Configuration

Ethernet adapter Local Area Connection:

    Connection-specific DNS Suffix . : RDchina
    IP Address . . . . . : 10.2.0.106
    Subnet Mask . . . . . : 255.0.0.0
    Default Gateway . . . . . : 10.2.1.2

C:\>_
```



Information

When you connect the device to your community network, the PC IP configuration information is for your reference to revise the last number and specify a unique IP address for the device.

Use the device with Dynamic IP Address

In some organization's network, you may be provided with dynamic IP address. That is, each time your network device is connected to the network, it will be assigned with a different IP address.

When you need to deploy the device in such a network, you need to configure the device before connection.

You may follow the steps described below:

1. Connect the device to the network via Ethernet switching hub.
2. Insert the installation CD into the CD-ROM drive and run Search Tool application by double clicking the "Plustek Network Device Search Tool". The device that you connected to your network will be displayed in the opened window.

The screenshot shows the 'plustek Network Device Search Tool' window. The left pane lists devices, with '251 DVS' selected. The right pane shows configuration options for the selected device. The 'IP Get:STATIC V:1.0.2.1' section is active. The 'ADSL / DSL' section has 'English' selected. The 'Account' and 'Password' fields are empty. The 'MAC Address' section shows '00158e3005cc'. The 'Name' field contains 'DVS'. The 'IP' field contains '192.168.100.168', 'Submask' contains '255.255.255.0', and 'Gateway' contains '192.168.100.1'. The 'Http port' field contains '80'. The 'PPPOE', 'DHCP', and 'STATIC' radio buttons are visible, with 'STATIC' selected. The 'Submit' button is highlighted. The 'Status' field shows 'OK'.

3. If you choose the "STATIC" option, please fill the Submask and Gateway in the Search Tool window, revise the last number of your PC IP address to create a new unique IP address for the device, type "80" in Http Port option, and click the "Submit" button to apply the changes.

 Please refer to the ["IP Configuration Information"](#) section to get IP address, Submask and Gateway of your PC.

4. Click the "Update" button in the Search Tool window to update the information in the left pane of the window and double click the device to log in.
5. You may log in by simply typing the Host Name in the IE address bar after completing the above configuration.

Reset the device⁸

The RESET function of the device allows you to set the device to its factory default settings.

To reset the device, please keep your device connected to your network and follow the steps:

1. Insert the reset pin into the RESET hole of the device.
2. Stab the RESET button with the pin for 5 seconds.
3. All settings are reset to their factory default settings.



Attention

All the settings you've configured in the device will be lost after resetting. Please make sure to [Backup settings](#) you need before resetting.

⁸ This function may or may not be available depending on the DEVICE model you purchase.

Appendix A: Glossary

You may read through the below definitions for better understanding of the network environment, and this may probably help you to deal with the network problems when using any network devices. However, the knowledge covered in the chapter won't fail you to setup and use the device.

For more information about those definitions, you may study them in relevant books on network or network device.

ADSL

ADSL (Asymmetric Digital Subscriber Line) is a technology for transmitting digital information at a high bandwidth on existing phone lines to homes and businesses. Unlike regular dialup phone service, ADSL provides an "always on line" connection.

ActiveX controls

An ActiveX control is a component program object that can be re-used by many application programs within a computer or among computers in a network. The technology for creating ActiveX controls is part of Microsoft's overall ActiveX set of technologies, chief of which is the Component Object Model (COM). When you use Internet Explorer to browse website, ActiveX controls may assure the normal displaying of images.

DHCP

DHCP (Dynamic Host Configuration Protocol) is a communications protocol that lets network administrators manage centrally and automate the assignment of Internet Protocol (IP) addresses in an organization's network.

DNS

DNS (Domain Name System) is a service that locates various Internet domain names and translates them into Internet Protocol addresses. DNS service may increase the responding speed and accuracy of a specified web site.

HTTP

HTTP (Hypertext Transfer Protocol) is a standard protocol used widely on World Wide Web, and all files (text, graphic images, sound, video, and other multimedia files) transferred on WWW follow this protocol. As soon as a Web user opens their Web browser, the user is indirectly making use of HTTP.

FTP

File Transfer Protocol (FTP), a standard Internet protocol, is the simplest way to exchange files between computers on the Internet. FTP is commonly used to download and upload files (the formats includes: *.txt, *.exe, *.pdf, *.doc, *.mp3, *.zip, *.rar and ect.) between two computers. When uploading or downloading, one computer can be regarded as FTP server, the other is client terminal.

Gateway

A gateway is a network point that acts as an entrance to another network. In a network for an enterprise, a computer server acts as a gateway node, and also a proxy server and a firewall server.

IP address

An IP address is a 32-bit number that identifies each sender or receiver of information that is sent in packets across the Internet. An IP address has two parts: the identifier of a particular network on the Internet and an identifier of the particular device (which can be a server or a workstation) within that network.

Internet Protocol

The Internet Protocol (IP) is the method or protocol by which data is sent from one computer to another on the Internet. When you send or receive data (for example, an e-mail note or a Web page), the message gets divided into little chunks called packets. Each of these packets contains both the sender's Internet address and the receiver's address. The Internet Protocol just delivers them.

IMAP

IMAP (Internet Message Access Protocol) is a standard protocol for accessing e-mail from your local server. IMAP requires continual access to the server during the time that you are working with your mail. IMAP provides the user more capabilities for retaining e-mail on the server and for organizing it in folders on the server. IMAP can be thought of as a remote file server.

MAC address

In a local area network (LAN) or other network, the MAC (Media Access Control) address is your computer's unique hardware number. (On an Ethernet LAN, it's the same as your Ethernet address.)

LAN

A local area network (LAN) is a group of computers and associated devices that share a common communications line or wireless link and typically share the resources of a single processor or server within a small geographic area (for example, within an office building).

JPEG

JPEG (pronounced "jay-peg") is a format that is commonly used for color images displayed on the Internet. JPEG reduces the file size of an image by discarding some of the non-critical data of the image. JPEG retains all of the color information of an image and offers varying degrees of compression.

Network

In information technology, a network is a series of points or nodes interconnected by communication paths. Networks can interconnect with other networks and contain sub networks.

NTP

NTP (Network Time Protocol) is a protocol designed to synchronize the clocks of computers over a network.

POP3

POP3 is a client/server protocol in which e-mail is received and held for you by your Internet server. POP can be thought of as a "store-and-forward" service. POP and IMAP deal with the receiving of email, and SMTP is a protocol for simply transferring email across the Internet.

Port number

In programming, a port (noun) is a "logical connection place" and specifically, using the Internet's protocol, TCP/IP, the way a client program specifies a particular server program on a computer in a network. For the HTTP service, port 80 is defined as a default and it does not have to be specified in the Uniform Resource Locator (URL).

PPPOE

PPPOE (Point-to-Point Protocol over Ethernet) is a specification for connecting multiple computer users on an Ethernet local area network to a remote site through common customer premises equipment, which is the telephone company's term for a modem and similar devices. PPPOE can be used to have an office or building-full of users share a common Digital Subscriber Line (DSL), cable modem, or wireless connection to the Internet. PPPOE combines the Point-to-Point Protocol (PPP), commonly used in dialup connections, with the Ethernet protocol, which supports multiple users in a local area network. The PPP protocol information is encapsulated within an Ethernet frame.

Proxy Server

A proxy server is associated with or part of a gateway server that separates the enterprise network from the outside network and a firewall server that protects the enterprise network from outside intrusion. To the user, the proxy server is invisible.

SMTP

SMTP (Simple Mail Transfer Protocol) is a TCP/IP protocol used in sending and receiving e-mail. However, since it is limited in its ability to queue messages at the receiving end, it is usually used with one of two other protocols, POP3 or IMAP, that let the user save messages in a server mailbox and download them periodically from the server. In other words, users typically use a program that uses SMTP for sending e-mail and either POP3 or IMAP for receiving e-mail.

Subnet Mask

Once a packet has arrived at an organization's gateway or connection point with its unique network number, it can be routed within the organization's internal gateways using the subnet number as well. The subnet mask allows router know whether two IP addresses belong to the same subnet.

TCP/IP

TCP (Transmission Control Protocol) is a set of rules (protocol) used along with the Internet Protocol (IP) to send data in the form of message units between computers over the Internet. While IP takes care of handling the actual delivery of the data, TCP takes care of keeping track of the individual units of data (called packets) that a message is divided into for efficient routing through the Internet.

WEP

WEP is the short form of Wired Equivalent Privacy. It is a security protocol for wireless local area networks (WLANs) defined in the 802.11b standard. With less secure physical structure than LAN, WLANs are more vulnerable to tampering. WEP is to provide security by encrypting data over radio waves from one end point to another.

Appendix B: Specifications⁹

Model	VS 540i
Interface	Giga LAN
Port	1 x RJ-45 for 10/ 100/ 1000 base, 1 x DC Jack for power input, 1 x RCA for Video Out, 1 x RS-485 for PTZ, 4 x BNC (75 ohm) for Video Input, 1 x USB for backup, 1 x Select button (TV channel mode), 1 x Reset button, 1 x Console Ports
LED Indicators	1 x Power, 1 x camera connection status
Compression Format	M-JPEG, H.264 Format Selectable NTSC: D1 (704x480), CIF(352x240), QCIF(176x120) PAL: D1 (704x576), CIF(352x288), QCIF(176x144)
Frames Per Seconds (fps)	Up to 120/ 100 fps
Video Buffer	Pre-and Post Alarm Buffer up to 10-sec
Video Display Mode	1, 2, 3, 4, all, sequence mode (TV-Out Select Button)
Video Streaming	Simultaneous dual streams Video streaming Format: MJPEG/ H.264
Image setting	Compression, Brightness, Contrast
Alarm Event	Intelligent Video, File Upload via FTP and E-mail, Notification via E-mail
Event Log	Detailed record of all Events, error log, Event log (Event occurrence time and details), Network trouble log, UPS event log
Intelligent Video	Video Motion Detection (3 Windows)
Energy-saving Design	Low power consumption
Network Protocol	TCP/ IP, DHCP Client, PPPoE, HTTP, DDNS Client, NTP, FTP, DNS, SMTP, UDP, RTP (TCP, UDP/ uncast), UPnP, IPv4
Power	12 Vdc/ 1.5 A, input: 8 ~ 16 Vdc
Operating Environments	-20°C ~ +65°C (-4°F ~ +149°F) Humidity: 20% ~ 80% RH
Reset	One-touch reset button (reset to manufacture setting)
Automatic Data Protection	Supports automatic system startup after power outage
Dimensions (W x D x H)	170 x 152 x 43 mm
Hardware Net Weight	900 g
Certification	CE, FCC, RoHS (e-Mark: estimate schedule June 2012)
Security	Password Protection, User Access Privilege
Web Browser	Microsoft Internet Explorer 6.0 or Above Firefox, Chrome, Opera, Safari
Language Support	English, German, French, Japanese, Traditional Chinese, Simplified Chinese
PC Support	Pentium 4 CPU 2 GHz or Higher, 512 MB RAM, Client PC Requirement (suggested system requirement for better video performance)
Software AP	Plustek Search Tool, Multimanager
OS	Microsoft Windows XP or above

⁹ Hardware specifications may change at any time without prior notice.

Appendix C: Customer Service and Warranty

If you encounter problems with your device, please review the installation instructions and operation suggestions contained in this guide.

Visit our website www.plusteksecurity.com for more customer service information. For further assistance call our customer support phone number listed on the website. One of our representatives will be happy to assist you from Monday through Friday during office working hours.

To avoid delays, please have the following information available before calling:

- Device name and model number
- Device serial number (Located at the bottom of the device)
- A detailed description of the problem
- Your computer manufacturer and its model number
- The speed of your CPU (Pentium 4, etc.)
- Your current operating system and BIOS (optional)
- Name of software package(s), version or release number and manufacturer of the software
- Other USB devices installed

Statement of Limited Warranty

This Statement of Limited Warranty applies only to the options you originally purchase for your use, and not for resale, from an authorized reseller.

The manufacturer warranty includes all parts and labor, and is not valid without the receipt of original purchase. To obtain warranty service, you may contact the authorized dealer or distributor, or visit our website to check out the available service information, or send a request via E-mail for further help.

If you transfer this product to another user, warranty service is available to that user for the remainder of the warranty period. You should give your proof of purchase and this statement to that user.

We warrant that this machine will be in good working order and will conform to its functional descriptions in the documentation provided. Upon provision of proof of purchase, replacement parts assume the remaining warranty of the parts they replace.

Before presenting this product for warranty service, you must remove all programs, data and removable storage media. Products returned without guides and software will be replaced without guides and software.

This Limited Warranty service does not provide for carry-in exchange when the problem results from accident, disaster, vandalism, misuse, abuse, unsuitable environment, program modification, another machine or non-vendor modification for this product.

If this product is an optional feature, this Limited Warranty applies only when the feature is used in a machine for which it was designed.

If you have any questions about your Limited Warranty, contact the approved retailer from whom you bought the product or the manufacturer.

THIS LIMITED WARRANTY REPLACES ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. HOWEVER, SOME LAWS DO NOT ALLOW THE EXCLUSION OF IMPLIED WARRANTIES. IF THESE LAWS APPLY, THEN ALL EXPRESS AND IMPLIED WARRANTIES ARE LIMITED IN DURATION TO THE WARRANTY PERIOD. NO OTHER WARRANTIES APPLY AFTER THAT PERIOD.

Some jurisdictions do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply.

Under no circumstances are we liable for any of the following:

1. Third party claims against you for losses or damages.
2. Loss of, or damage to, your records or data; or
3. Economic consequential damages (including lost profits or savings) or incidental damages, even if we are informed of their possibility.

Some jurisdictions do not allow the exclusion or limitations of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

This Limited Warranty gives you specific legal rights, and you may also have other rights that vary from jurisdiction to jurisdiction.

FCC Radio Frequency Statement

This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular television reception (which can be determined by turning the equipment off and on), the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment to an outlet on a circuit different from that which the receiver is connected.
- Shielded interconnect cables and shielded power cord which are supplied with this equipment must be employed with this equipment to ensure compliance with the pertinent RF emission limits governing this device.
- Consult the dealer or an experienced radio/TV technician for help if the conditions persist.
- Changes or modifications not expressly approved by the manufacturer or authorized service center could void the user's authority to operate this equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.