User's Guide

Network Video Recorder

- Setup
- Configuration
- Technical Guides
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 NVR device is intended to be used in a lawful manner. Certain uses of the NVR device may be prohibited by local laws in some countries of 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 Vista or 2000, your screens will look somewhat different but function the same.
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Introduction

Thank you for choosing us as your NVR supplier. Like all of our products, your new NVR 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 NVR. This guide assumes the user is familiar with Microsoft Windows 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 NVR.

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

Chapter I describes how to set up basic NVR and IP Camera system in the network environment.

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

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

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 NVR you purchased.

Appendix C contains our 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 use the AC adapter that comes with this device. 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 NVR case.

8. Please contact your distributor to obtain compatible IP camera list.

9. Damaged wire could cause fire or electrical shock. Keep the power cord straight and without being twisted, bended, or scraped.

10. 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.

11. Do not install NVR where the temperature is less than 0°C (+32°F) or greater than +40°C (+104°F). Avoid excessive smoke, mechanical, dust, or direct sunlight.

Main NVR Features

- Real-time live view supervision
- Scheduled Recording, Manual Recording and Event Triggered Recording
- Record Playback
- Motion Detection
- TCP/IP / SMTP / DNS / DDNS / UPnP Support
- PTZ camera control
**Minimum System Requirements**

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

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

**Box Contents**

Before you start installing your NVR, 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 NVR or our customer service directly.

1. NVR
2. Power Cable
3. AC Adapter
4. Reset Pin
5. User’s Guide
6. Installation CD

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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 NVR in the future. The product packaging can be recycled.
Overview

1. Power Indicator
2. HDD Indicator
3. WAN Indicator
4. LAN Indicator

5. 4 LAN Ports
6. WAN Port
7. Console
8. Power Hole
9. DC Jack

10. Reset Hole
Chapter I. Setup the NVR

Before you setup the NVR (Network Video Recorder), please make sure all components 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 NVR or our customer service directly.

Set up the NVR System

To set up the NVR system in your LAN environment:

1. Plug the RJ-45 connector into LAN port of NVR and IP camera RJ-45 port.
2. Plug the RJ-45 connector into WAN port with Router’s LAN port.
3. Turn on the Router (Router with UPnP on/off function is recommended).
4. Plug the AC adapter into the DC-jack of the NVR. Attach the power cable to the AC adapter. Plug the other end of the power cable into a standard AC power outlet.
5. Connect PC or Laptop with Router LAN port.
6. Insert the Installation CD, included with your NVR, into your CD-ROM drive.
7. Double click the “vcredist_x86.exe” file in your language on the CD-ROM to install the Microsoft Visual C++ 2005 SP1 Redistributable Package (x86).

8. Run the “Network Device Search Tool” application on the CD-ROM.

9. When the NVR lists in the Network Device Search Tool window, your NVR works properly.
Chapter II. NVR Live View

ActiveX Viewer

When you log in your NVR for the first time, please configure the ActiveX Viewer before logging in.
1. Start up the Internet Explorer, and click “Tools” to choose “Internet Options” from the drop-down menu.
2. Click “Security” tab in the “Internet Options” window.
3. Click “Custom Level…” button to open the “Security Settings” window.
4. Check “Prompt” under the options “Download signed ActiveX controls” and “Download unsigned ActiveX controls”.
5. Check “Enable” under the options “Initialize and script ActiveX controls not marked as safe”, “Run ActiveX controls and plug-ins”, and “Script ActiveX controls marked safe for scripting”.
6. Click “OK” to accept the changes.
7. A warning message prompts out for your confirmation. Click “Yes” to apply the changed security settings.
When you are using the NVR in a corporation environment, you may need to consult your network administrator or ISP.

Log in the NVR

Method I. Network Device Search Tool Application

Network Device Search Tool is an application that can detect the network camera(s) and NVR(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 opens.
4. Select and double click on the NVR you are to use.
5. The System Login page displays in Internet Explorer.
When you use Internet Explorer to browse websites, ActiveX controls may assure the normal displaying of images.

6. When you log in your NVR for the first time, enter “admin” as your username and “admin” as your password.
7. Click “OK” to send the identification information for recognition.

- The “admin” and “admin” are the default username and password for your first login of the NVR as Administrator. Please change the default password as soon as possible. To change the password, please refer to the section “System”.
- After you have made proper ActiveX Viewer configuration, you may encounter the “Internet Explorer – Security Warning” prompt as below, requesting you to install ActiveX Control. Please click the “Install” button to install it.

Attention

Method II. IE Address Bar

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

If you are provided with dynamic IP address in an organization’s network, please refer to the “Use the NVR from Dynamic Domain Name System” section for more instructions.

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

2. The System Login page displays.
3. Enter “admin” as your username, “admin” as your password and click “OK”.

- The “admin” and “admin” are the default username and password for your first login of the NVR as Administrator. Please change the default password as soon as possible. To change the password, please refer to the section “System”.
- After you have made proper ActiveX Viewer configuration, you may encounter the “Internet Explorer – Security Warning” prompt as below, requesting you to install ActiveX Control. Please click the “Install” button to install it.

LiveView

After logging in, the “Live View” page will show four camera screens, displaying the live video stream captured by the cameras. Surrounding the camera screens, there’re a few buttons and sliding bars for you to control the functions of the camera and NVR.
To Start or Stop the Live View

By default, the screen will start the Live View when one logs into the NVR page. You may click “STOP” button to stop the Live View. And you may click “START” button to start the Live View again.

To Take a Snapshot

1. Click the “Snapshot” button to capture the image shown in current viewer.
2. A note will pop out telling you the saving folder and filename of the snapshot. You may go to the folder and find the snapshot picture.

To Manually Record a Video

1. Press down on the “Record” button to start the recording process.
2. Press up on the “Record” button again to stop the recording process.
3. The recorded video will be saved in the window, and you may play the video by entering the “Record View” menu item from the “Database” menu.
To Control the PTZ of the camera

If you are using a PTZ network 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 network camera to a desired position.

- Drag the mouse on “Pan Bar”, and you may rotate the camera horizontally.
- Drag the mouse on “Tilt Bar”, and you may rotate the camera vertically.
- Click the “Home” button, and you may reset the camera to its home position.

Log out the NVR

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

Attention

Please do NOT click on the button on the Internet Explorer window to quit the NVR. Clicking on the button will not change the logged-in status of the user.
Chapter III. Advanced NVR Configuration

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

To enter the Advanced setting 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 7 menus available: “Status”, “Network”, “IPCam”, “Hard Disk”, “System”, “Database”, and “Scheduled Settings”.

2. Click on the menu item to enter the submenus, and the related information or options will show on the right. You may make configurations according to your special need.

The following describes the menus individually and the related settings.

**Status**

NVR Status
To view the current NVR status

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

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

IPCam Status

<table>
<thead>
<tr>
<th>IPCam</th>
<th>Channel 1</th>
<th>Channel 2</th>
<th>Channel 3</th>
<th>Channel 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>AXIS 207</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IP Address</td>
<td>192.168.10.4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Port</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Record</td>
<td>On</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Status</td>
<td>Connected</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

To view the current IPCam status

Go to the “Advanced” page then click the menu “Status”→ “IPCam”, and you'll see the current status of the IP Camera(s) connected to your NVR. The NVR provides up to four channels to connect up to four IP Cameras. The list shows the information of the IP Cameras connected to respective channels.

Network

WAN

In the WAN menu, you may configure the NVR’s WAN settings according to the network connection conditions and your special needs.
TCP/IP

To choose the IP allocation methods:

1. Go to the “Advanced” page then click the menu “Network” → “WAN” → “TCP/IP”.
2. Select either DHCP or static IP:
   - If the NVR adopts dynamic IP, check “Obtain IP via DHCP” radio button, and your NVR will be assigned with any idle IP address in your organization’s network.
   - If the NVR uses static IP, check “Use the following IP” radio button, and fill in the blanks of IP address, subnet mask and Default router.
3. Enter the WAN port if needed. The default port is 80.

To enter the DNS address if needed:

If you want the NVR to use 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

**TCP/IP**

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. DDNS (Dynamic 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 specified web site.

**To choose the IP allocation methods:**

1. Go to the “Advanced” page then click the menu “Network” → “WAN” → “TCP/IP”.
2. Select either DHCP or static IP:
   - If the NVR adopts dynamic IP, check “Obtain IP via DHCP” radio button, and your NVR will be assigned with any idle IP address in your organization’s network.
   - If the NVR uses static IP, check “Use the following IP” radio button, and fill in the blanks of IP address, subnet mask and Default router.
3. Enter the WAN port if needed. The default port is 80.

**To enter the DNS address if needed:**

If you want the NVR to use 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**
To make DDNS settings:

1. Go to the “Advanced” page then click the menu “Network”→“WAN”→“DDNS”.
2. If you want the NVR to act as DDNS Service, check “Enable”.
3. Enter the address of “DDNS Server”, “User Name”, “Password”, and “Host Name”.
4. Click “Update” to save the setting.

SMTP

In this menu you can configure up to 4 email addresses. The NVR can automatically send alarm messages from 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 then click the menu “Network”→“WAN”→“SMTP”.
2. Click “Add” button and enter the SMTP information in this page.

3. Enter the “Name”, “Sender Address”, “Mail Server”, “User Name” and “Password” of the email account.
4. Click “Submit” to save the setting.

To set the priority for the email addresses:
1. Go to the “Advanced” page then click the menu “Network”→“WAN”→“SMTP”.

2. When more than one email addresses have been added, you may click on the radio button in front of a sender address and use “UP” “DOWN” button to move the email address’s priority in the list.

**UPnP**

<table>
<thead>
<tr>
<th>UPnP</th>
</tr>
</thead>
<tbody>
<tr>
<td>The NVR acts as UPnP Service:</td>
</tr>
</tbody>
</table>

To enable UPnP:

1. Go to the “Advanced” page then click the menu “Network”→“WAN”→“UPnP”.

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

**LAN**

<table>
<thead>
<tr>
<th>LAN Setting</th>
</tr>
</thead>
<tbody>
<tr>
<td>IP Address:</td>
</tr>
<tr>
<td>Subnet Mask:</td>
</tr>
</tbody>
</table>

**DHCP Settings**

<table>
<thead>
<tr>
<th>DHCP Settings</th>
</tr>
</thead>
<tbody>
<tr>
<td>The NVR acts as DHCP Server:</td>
</tr>
</tbody>
</table>

*You can enable DHCP to dynamically allocate IP addresses to your client IPCam.*

| IP Pool Starting Address: | 192.168.10.2 |
| IP Pool Ending Address: | 192.168.10.254 |
| Lease Time: | Two hours |
| Local Domain Name: | NVR-4000 (optional) |

*DHCP (Dynamic Host Configuration Protocol) is communications that lets network administrators manage centrally and automate the assignment of Internet Protocol (IP) address in an organization’s network.

To enable NVR as DHCP Server:

1. Go to the “Advanced” page then click the menu “Network”→“LAN”.

2. Check “Enable” if you want the NVR to serve as a DHCP Server and dynamically allocate IP addresses to the IP Camera(s) connected.

3. Enter the Starting and Ending IP Pool Addresses to define the IP Address range the IP Camera(s) can fall into.
4. Enter the “lease time”.
5. Enter the “Local Domain Name” for the NVR if you want to visit the NVR by its Local Domain Name within the LAN.

**IPCam**

In this menu, you can configure the setting for the IP Cameras connected to your NVR.

**Device Management**

### Device Management

<table>
<thead>
<tr>
<th>Channel</th>
<th>Name</th>
<th>Device Name</th>
<th>IP Address</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>AXIS 207</td>
<td>AXIS 207</td>
<td>192.168.10.4</td>
<td>Connect</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **New**
- **Edit**
- **Delete**
- **Save**
- **Reset**

**To add a new IP Camera**

1. Connect the AC adapter to the DC-IN Jack of the network camera and plug the AC adapter into a standard wall outlet.
2. Insert the RJ-45 connector into the Ethernet port of the network camera, and connect the Ethernet cable to the PC’s Ethernet port.
3. If the LED indicator keeps flashing, the network camera is successfully connected.
4. Go to the “Advanced” page then click the menu “IPCam” “Device Management”.
5. Click “New” button to enter the “Device Information” window, and the NVR will automatically detect the IP Camera connected with its “Device Name”, “IP Address” and “Port”.

### Device Information

<table>
<thead>
<tr>
<th>Device Name</th>
<th>IP Address</th>
<th>Port</th>
</tr>
</thead>
<tbody>
<tr>
<td>AXIS 207</td>
<td>192.168.10.4</td>
<td>80</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

- **Back**
- **Next**
- **Cancel**
- **Delete**

6. Click “New” button in the “Device Information” window to enter the “Add Device” window.
7. Enter the “Name” for the device and the name will show at the live view screen banner on “Live View” page; enter the “Device Name”, “IP Address” and “WEB Port” of the IP Camera you’ve seen on the “Device Information” page; enter the User Name and Password of the IP Camera.

8. Click “Submit” to add the IP Camera information, and the “Connection Status” window will show the status of the IP Camera you just added.

To change the IP Camera information

1. In the Device Management window, you may select the IP Camera by clicking the radio button before its name.
2. You may click “Edit” button to edit the Name of the IP Camera.
3. You may click “Delete” button to delete the IP Camera.
4. You may click “Restore” button to restore the IP Camera.
5. You may click “Restart” button to restart the IP Camera.
6. You may click “Up” or “Down” button to move the position of the IP Camera in this list and the display position of the IP Camera in the “Live View” Page.
Motion Detection

To set motion detection conditions for each camera:

1. Go to the “Advanced” page then click the menu “IPCam” → “Motion Detection” to enter the Motion Detection page. The page displays the four camera viewers.

2. Click the Maximize/Restore button at the left top of a camera window to maximize the camera interface, and “Motion Detection” dialog will pop out.

3. From the “Motion Detection” dialog, select a desired Motion Window to configure settings.
   • If you don’t see any motion detection frame in the camera window, click “New” button in the “Motion Detection” dialog, and a red motion detection frame will be created with the name “Untitled-0” and you may configure settings for it.
   • If you see motion detection frames in the camera window, select a “Motion Window” from the dropdown list in the “Motion Detection” dialog, and the motion window will be activated with red borders and you may configure settings for it.

4. Drag the red borders of the active Motion Window to define the window shape, size and position.

5. Enter the “Motion Window Name” in the dialog.

6. In the “Detection Area” drop down list, select “Include” if you want to detect the motion of the area within the frame, or “Exclude” if you want to detect the motion of the area outside the frame.

7. Drag the cursor along the “Sensitivity” sliding bar to define the sensitivity of the motion detection. The higher the sensitivity, the smaller change of view the camera will respond to as a motion.

8. Check “Show all windows” to display all the motion windows in the camera view. Uncheck the option if you only want to see the red motion window activated and ready for setting.

9. Click “Delete” button if you want to delete the active motion window.
10. Please make sure to click “Apply” button in order to save the changes you’ve made.

11. Click “Close” or Maximize/Restore button to exit the setting status.

Information

The Motion Detection settings for a camera won’t take effect until you configure Motion Detection as an Event Trigger for the camera. Please refer to the Event Settings section for more information.

Video Settings

To set video display:

1. Go to the “Advanced” page then click the menu “IPCam” → “Video Settings”.
2. Select the camera you want to adjust the video settings for from the dropdown list.
3. In “Image Appearance” section, you may adjust the Resolution, Quality, Rotation angle, Color saturation, Brightness, 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 Data/time and a text title. You may choose Top or Bottom from the dropdown list to display the information at the top or bottom of the image. The text information will be shown in live view, snapshot and recorded video.
5. Enter the camera LiveView and Record frame rates. The frame rates may range from 1 to 30 fps.

Event Settings

In the Event Settings menu, you may configure the event the IP Camera responds to and the output reaction the IP Camera will trigger.
To add an event

1. Go to the “Advanced” page then click the menu “IPCam” → “Event Settings” to enter the Event Settings window.
2. Click “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 dropdown list.
5. Choose the “Event” you want to respond to by clicking the radio button of Motion Detection or Input Ports.
   - For “Motion Detection” event, you’ll need to make Motion Detection settings for the camera (Please refer to Motion Detection for more information). Choose the Motion Detection window from the dropdown list and the motion detection event as “starts”, “stops” or “starts-stops”.
   - For “Input Ports” event, you’ll need to connect an external sensor or device to the camera in the camera’s input port. Choose the input event from the dropdown list as “active”, “inactive” or “change”.
6. You may activate the Output Port by checking the “Activate Output Port” option. When an event is triggered, the output port will enable the IP Camera to send alarm signal to external sensor or device. (Please refer to the camera’s manual for more information on External Input/Output Interface.) Select the active time period of the output port. The port can be kept activated during the whole event or for a period after the event is triggered.
7. If you want to send an alert email to your desired email address when an event is triggered, check the “Send email 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 “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.)

8. Check “Auto Record” to record the event when triggered. You can enter the record time from 10 to 99 seconds.

To edit or delete an event

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

### Hard Disk

<table>
<thead>
<tr>
<th>Maintain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size</td>
</tr>
<tr>
<td>Status</td>
</tr>
</tbody>
</table>

Go to the “Advanced” page then click the menu “Hard Disk” to check the size and status of the hard disk.

If you want to format the hard disk, you can click on “Format” button, but please note that all the data in the hard disk will be formatted.

### System

#### Users

<table>
<thead>
<tr>
<th>User ID</th>
<th>User Name</th>
<th>Password</th>
<th>Re-type Password</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Administrator</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Guest</td>
<td>******</td>
<td>******</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td>******</td>
<td>******</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>5</td>
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<td>6</td>
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<td>7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Click “Submit” or “Cancel” to save or cancel the changes.
Go to the “Advanced” page then 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 up to 9 users as General Users. A General User is only authorized to view the live video of the cameras in the “Live View” page and starts or stops the live view process. The Administrator has access right to all the functions of the NVR in the “Live View” and “Advanced” pages.

Maintenance

<table>
<thead>
<tr>
<th>Maintenance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current Version : 1.0.1.17 pl1 (2009/02/21 20:06:02)</td>
</tr>
</tbody>
</table>

Update firmware

Specify the firmware to upgrade to: [Browse] [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-defined scripts to backup file: [Backup]

Restore settings

Use a saved backup file to return the unit to a previous configuration. Specify the backup file to use: [Browse] [Restore]

Reset to default

Reset all parameters to the original factory settings: [Default]

System restart

Restart the NVR: [Restart]

Power off

Shutdown the NVR: [Power off]

Go to the “Advanced” page then 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 NVR system.

Update firmware

To update the NVR 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 NVR and the upgrade will start automatically.
3. The NVR 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 NVR system, and a window will pop up asking you to save the backup file named as “NvrHistory.tar.gz”. You may choose a saving folder for the backup file.
Restore settings

To restore previous settings:
You may restore the NVR 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 NVR to the default factory settings.

System restart

Click “Restart” button to restart the NVR. The NVR will restart in 60 seconds.

Power off

You may turn off the NVR by clicking the “Power off” button.

Log

<table>
<thead>
<tr>
<th>Time</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008/05/07 09:36:52</td>
<td>System Boot</td>
</tr>
</tbody>
</table>

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

Go to the “Advanced” page then click the menu “System” → “System Settings” to display the page of System Settings. You may choose the system language from the drop-down list. You may define the “Host Name” for the NVR you use. Click “Submit” to save the settings.

Date & Time

1. Select Time Zone from the dropdown list.
2. Check the “Daylight Saving” option if needed, and define the daylight saving period by selecting the start date and end date from dropdown lists.
3. You may set the NVR date and time by any of the following three ways:
   a. Synchronize the NVR date and time with NTP (Network Time Protocol) time. Select the NTP Server you want to use.
   b. Synchronize the NVR with the computer time.
   c. Manually set the Date and Time by entering the Date and Time in the blanks.
4. Click the “Submit” button to save the setting.

Go to the “Advanced” page then click the menu “System” → “Date & Time” to display the page of Date & Time. You may set the date and time of the NVR, and when the time is set, the connected network cameras will automatically synchronize the time with the NVR and will show in four channels interface and record videos.

To set NVR Date & Time:

- Select Time Zone from the dropdown list.
- Check the “Daylight Saving” option if needed, and define the daylight saving period by selecting the start date and end date from dropdown lists.
- You may set the NVR date and time by any of the following three ways:
  a. Synchronize the NVR date and time with NTP (Network Time Protocol) time. Select the NTP Server you want to use.
  b. Synchronize the NVR with the computer time.
  c. Manually set the Date and Time by entering the Date and Time in the blanks.
- Click the “Submit” button to save the setting.
Database

Alarm

Go to the “Advanced” page then click the menu “Database” → “Alarm” to display the Alarm page. If you have made effective settings in the Event Settings menu, the Alarm list will keep a record on the events that have been triggered.

<table>
<thead>
<tr>
<th>Time</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008/03/11 05:56:37</td>
<td>Office -&gt; Motion:motion0</td>
</tr>
</tbody>
</table>

Management

<table>
<thead>
<tr>
<th>Channel</th>
<th>2008</th>
<th>Y</th>
<th>M</th>
<th>D To</th>
<th>2008</th>
<th>Y</th>
<th>M</th>
<th>D</th>
<th>Search</th>
</tr>
</thead>
<tbody>
<tr>
<td>AXIS 207</td>
<td>2008-1-14</td>
<td>:</td>
<td>:</td>
<td>:</td>
<td>2008-1-14</td>
<td>:</td>
<td>:</td>
<td>:</td>
<td></td>
</tr>
<tr>
<td>AXIS 207</td>
<td>2008-1-14</td>
<td>:</td>
<td>:</td>
<td>:</td>
<td>2008-1-14</td>
<td>:</td>
<td>:</td>
<td>:</td>
<td></td>
</tr>
<tr>
<td>AXIS 207</td>
<td>2008-1-14</td>
<td>:</td>
<td>:</td>
<td>:</td>
<td>2008-1-14</td>
<td>:</td>
<td>:</td>
<td>:</td>
<td></td>
</tr>
<tr>
<td>AXIS 207</td>
<td>2008-1-14</td>
<td>:</td>
<td>:</td>
<td>:</td>
<td>2008-1-14</td>
<td>:</td>
<td>:</td>
<td>:</td>
<td></td>
</tr>
<tr>
<td>AXIS 207</td>
<td>2008-1-14</td>
<td>:</td>
<td>:</td>
<td>:</td>
<td>2008-1-14</td>
<td>:</td>
<td>:</td>
<td>:</td>
<td></td>
</tr>
<tr>
<td>AXIS 207</td>
<td>2008-1-14</td>
<td>:</td>
<td>:</td>
<td>:</td>
<td>2008-1-14</td>
<td>:</td>
<td>:</td>
<td>:</td>
<td></td>
</tr>
<tr>
<td>207</td>
<td>2008-1-16</td>
<td>:</td>
<td>:</td>
<td>:</td>
<td>2008-1-16</td>
<td>:</td>
<td>:</td>
<td>:</td>
<td></td>
</tr>
<tr>
<td>207</td>
<td>2008-1-16</td>
<td>:</td>
<td>:</td>
<td>:</td>
<td>2008-1-16</td>
<td>:</td>
<td>:</td>
<td>:</td>
<td></td>
</tr>
<tr>
<td>207</td>
<td>2008-1-16</td>
<td>:</td>
<td>:</td>
<td>:</td>
<td>2008-1-16</td>
<td>:</td>
<td>:</td>
<td>:</td>
<td></td>
</tr>
<tr>
<td>207</td>
<td>2008-1-16</td>
<td>:</td>
<td>:</td>
<td>:</td>
<td>2008-1-16</td>
<td>:</td>
<td>:</td>
<td>:</td>
<td></td>
</tr>
<tr>
<td>207</td>
<td>2008-1-16</td>
<td>:</td>
<td>:</td>
<td>:</td>
<td>2008-1-16</td>
<td>:</td>
<td>:</td>
<td>:</td>
<td></td>
</tr>
<tr>
<td>Delete All</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Delete All</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Page 1
Go to the “Advanced” page then click the menu “Database”→ “Management” to display the Management page.

To view the management records:
The list shows the Management log you have done for a certain channel in a period of time.
1. Select the Channel from the dropdown list.
2. Define the time period by selecting the time period in “Y/M/D to Y/M/D” dropdown lists.
3. Click “Search” button, and the list below will show the Management log you have done for the channel during that period.

Record View

Go to the “Advanced” page then click the menu “Database”→ “Record View” to display the page of Record View.

To select a record to play:

1. Click the “Record picker - Calendar” button to enter the “Record picker - Calendar” window.

2. Click on the date you want to review in the calendar. The dates with video records are displayed in bold fonts.
3. Select the time period from the list on the right.
4. You may check or uncheck the “Play all records after the selected record” option. Click “OK” and the window will play the recorded video one by one.
5. Click “Snapshot” button and you may take a snapshot for the image displayed.
6. Click the buttons at the bottom of the video image to control the play of the videos. The buttons and their respective functions are shown in the following form:

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>![Play]</td>
<td>Play</td>
</tr>
<tr>
<td>![Stop]</td>
<td>Stop</td>
</tr>
<tr>
<td>![Pause]</td>
<td>Pause</td>
</tr>
<tr>
<td>![Move back one image at a time]</td>
<td>Move back one image at a time</td>
</tr>
<tr>
<td>![Jump to the first of the recordings selected]</td>
<td>Jump to the first of the recordings selected</td>
</tr>
<tr>
<td>![Fast Reverse]</td>
<td>Fast Reverse</td>
</tr>
<tr>
<td>![Fast Forward]</td>
<td>Fast Forward</td>
</tr>
<tr>
<td>![Jump to the last of the recordings selected]</td>
<td>Jump to the last of the recordings selected</td>
</tr>
<tr>
<td>![Move forward one image at a time]</td>
<td>Move forward one image at a time</td>
</tr>
</tbody>
</table>
## Schedule Settings

### Record Schedule Settings

Go to the “Advanced” page then click the menu “Schedule Settings” to configure schedule settings.

**To pre-set the record schedule for each individual camera:**

1. Select the camera from the dropdown list.
2. Select the “Start Time” and “End Time” for the NVR to record during one day. Select the day (or days) of the week. For example, you can enable the recording from 6 pm to 12 pm for every day of the week.
3. You may set up to 6 settings from “No 1” to “No 6”.
4. Click “Submit” button to save the settings for the camera.

### Record Schedule Settings

<table>
<thead>
<tr>
<th>Schedule</th>
<th>Time Table (00:00 to 24:00)</th>
</tr>
</thead>
</table>
| No 1     | Start Time: 0 h 0 m - End Time: 24 h 0 m  
☑ Mon ☑ Tue ☑ Wed ☑ Thu ☑ Fri ☑ Sat ☑ Sun |
| No 2     | Start Time: 0 h 7 m - End Time: 24 h 0 m  
☑ Mon ☑ Tue ☑ Wed ☑ Thu ☑ Fri  ☑ Sat ☑ Sun |
| No 3     | Start Time: 0 h 0 m - End Time: 24 h 0 m  
☑ Mon ☑ Tue ☑ Wed ☑ Thu ☑ Fri ☑ Sat ☑ Sun |
| No 4     | Start Time: 0 h 0 m - End Time: 24 h 0 m  
☑ Mon ☑ Tue ☑ Wed ☑ Thu ☑ Fri ☑ Sat ☑ Sun |
| No 5     | Start Time: 0 h 0 m - End Time: 24 h 0 m  
☑ Mon ☑ Tue ☑ Wed ☑ Thu ☑ Fri ☑ Sat ☑ Sun |
| No 6     | Start Time: 0 h 0 m - End Time: 24 h 0 m  
☑ Mon ☑ Tue ☑ Wed ☑ Thu ☑ Fri ☑ Sat ☑ Sun |
Chapter IV. Technical Guides

This chapter covers plenty of useful technical information on using the NVR, 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 B: Glossary of this guide.

LED Indicator

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

<table>
<thead>
<tr>
<th>LED</th>
<th>Status</th>
<th>Indications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power</td>
<td>On</td>
<td>The NVR is powered on.</td>
</tr>
<tr>
<td></td>
<td>Off</td>
<td>The NVR is powered off.</td>
</tr>
<tr>
<td>HDD</td>
<td>Off</td>
<td>No data is being written in NVR Hard Disk.</td>
</tr>
<tr>
<td></td>
<td>Flashing</td>
<td>Data is being written in NVR Hard Disk.</td>
</tr>
<tr>
<td>WAN</td>
<td>Off</td>
<td>The WAN cable is not successfully connected yet.</td>
</tr>
<tr>
<td></td>
<td>On</td>
<td>The WAN cable is successfully connected but the NVR is not being visited.</td>
</tr>
<tr>
<td></td>
<td>Flashing</td>
<td>The WAN cable is successfully connected and the NVR is being visited.</td>
</tr>
<tr>
<td>LAN</td>
<td>Off</td>
<td>The LAN cable is not successfully connected yet.</td>
</tr>
<tr>
<td></td>
<td>On</td>
<td>The LAN cable is successfully connected but the NVR is not being visited.</td>
</tr>
<tr>
<td></td>
<td>Flashing</td>
<td>The LAN cable is successfully connected and the NVR is being visited.</td>
</tr>
</tbody>
</table>

Search Tool

Search Tool is an application that can detect the IP Camera(s) and NVR(s) that you connect to a company network.
The Search Tool application may detect all the NVRs that you have connected successfully to your company network or community network. The NVR list is displayed in the white pane of the window. You may select one of the NVRs to configure for your surveillance needs if you are the authorized user of that NVR.

1. Name the selected NVR in “Name” section.
2. Type the right IP address of the NVR if you have “Static” checked. If you have “DHCP” checked, please jump to Step 5.

Information

The NVR should have the same IP configuration information of your PC except IP address. Please refer to “IP Configuration Information” section to get the right subnet mask and gateway of your PC.

3. Type the subnet mask of your network in Submask option.
4. Type in the Gateway of your network.
5. Type “80” in Http Port option.
6. Click “Submit” button to apply the settings.
7. Click “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”>“Programs”>“Accessories”>“Command Prompt”, and open the Command Prompt window.
2. Type in “ipconfig” after “C:\>”.
3. Write down the information including IP Address, Subnet Mask, Gateway for IP configuration of the NVR.
When you connect the NVR 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 NVR.

Use the NVR from Dynamic Domain Name System

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 NVR in such a network, you need to configure the NVR before connection.

You may follow the steps described below:

1. Connect the NVR 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 NVR that you connected to your network will be displayed in the opened window.
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 NVR, type “80” in Http Port option, and click the “Submit” button to apply the changes.

Attention

Please refer to the “IP configuration information” section to get IP address, Submask and Gateway of your PC.

4. Click “Update” button in the Search Tool window to update the information in the left pane of the window and double click the NVR to log in.

5. You may log in by simply typing the Host Name in the IE address bar after completing the above configuration.

Proxy Server

Proxy server is generally used to connect to the Internet directly in order to maintain the security of a network in some corporate environment. When your NVR is connected to such a network, the proxy server may prevent you from accessing the NVR. Please consult your network administrator or ISP for any details on disusing proxy server in your corporate environment.

You may follow the following steps to disuse the proxy server:

1. Start up the Internet Explorer, and click “Tools” to choose “Internet Options” from the drop-down menu.

2. Click “LAN Settings” button in the Connections tab.
3. You may uncheck the “Use a proxy server” option, and click the “OK” button in the window. Or click the “Advanced…” button in the LAN Settings window and follow Step a and Step b.

a. Enter the specified IP of the NVR into the “Exceptions” section.

b. Click “OK” button in the Proxy Setting window to confirm the settings.
**Information**

Please consult your network administrator or ISP for the IP number of your NVR.

---

**Reset the NVR**

The reset function of the NVR allows you to set the NVR to its factory default settings. To reset the NVR, please keep your NVR connected to your network and follow the steps:

1. Insert the reset pin into the reset hole at the side of the NVR.
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 NVR will be lost after resetting. Please make sure to back up the settings you need before resetting.

---

**Turn off the NVR**

To turn off the NVR, please follow the steps:

1. Insert the pin into the Power hole at the rear side of the NVR.
2. Stab the Power hole with the pin for 5 seconds.
3. The NVR will be turned off.
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 NVR.

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 sever, 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.
An alternative protocol is Internet Message Access Protocol (IMAP). 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: Specifications

### Hardware Specifications

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CPU</strong></td>
<td>ARM 9 Based CPU</td>
</tr>
<tr>
<td><strong>Interface</strong></td>
<td>10 / 100 Mbps Ethernet</td>
</tr>
<tr>
<td><strong>Port</strong></td>
<td>4 LAN ports&lt;br&gt;1 WAN port</td>
</tr>
<tr>
<td><strong>Hard Disc</strong></td>
<td>3.5&quot; IDE 320G</td>
</tr>
<tr>
<td><strong>Memory</strong></td>
<td>8MB Flash / 64MB DRAM</td>
</tr>
<tr>
<td><strong>Display</strong></td>
<td>7 LED indicators: 4 for LAN (web cameras connection status)&lt;br&gt;1 for WAN, 1 for HDD, 1 for Power status</td>
</tr>
<tr>
<td><strong>Power</strong></td>
<td>External Power supply 12VDC 5A</td>
</tr>
<tr>
<td><strong>Reset</strong></td>
<td>Reset Hole (Reset to Factory Settings)</td>
</tr>
<tr>
<td><strong>Alarm</strong></td>
<td>Message</td>
</tr>
<tr>
<td><strong>Dimensions</strong></td>
<td>300mm (L) x 152mm (W) x 44mm (H)</td>
</tr>
</tbody>
</table>

### Software Specifications

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>System</strong></td>
<td>Linux</td>
</tr>
<tr>
<td><strong>Communication Protocol</strong></td>
<td>TCP/IP, HTTP (web services), UPnP (only for discovering the IGD and open the virtual server), SNTP (for Time &amp; Date), DHCP server / Fixed IP (for Web cams LAN port), DHCP Client / PPPoe / Fixed (for NVR itself ), TETP (for upgrade), CLI (for console operating, used for debug &amp; factory), SMTP (for alarm notification), FTP client / server (for alarm notification), DDNS (vendor dependent)</td>
</tr>
<tr>
<td><strong>Software AP</strong></td>
<td>Motion Jpeg Complete recording, Timing schedule, System check, Quad mode for simultaneous recording, Playback, Search camera, Backup, Motion detection, Multiple language, Alarm triggered FTP, Pre / Post alarm recording, 4ch View system operation / maximum 60fps per VGA: 640x480 hi-quality / maximum 120fps per CIF:320x240 hi-quality and maximum 120fps per QCIF(QQVGA)160x120 hi-quality .</td>
</tr>
</tbody>
</table>

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5 Hardware specifications may change at any time without prior notice.
Appendix C: Customer Service and Warranty

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

For further assistance call our customer support phone number listed on the last page of this guide. One of our representatives will be happy to assist you from Monday through Friday in office working hours as shown below:

<table>
<thead>
<tr>
<th></th>
<th>Europe</th>
<th>Other Countries or Areas</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>9:00 a.m. – 5:30 p.m. (CET)</td>
<td>9:00 a.m. – 6:00 p.m. Taiwan Time</td>
</tr>
</tbody>
</table>

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

- NVR name and model number
- NVR serial number (Located at the bottom of the NVR)
- 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.
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for more customer service information.