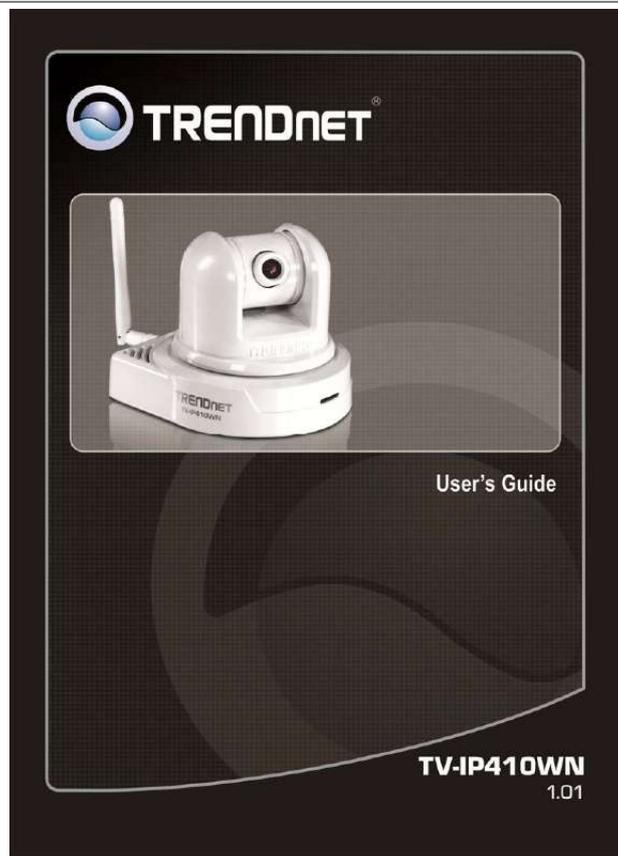




# Your PDF Guides

You can read the recommendations in the user guide, the technical guide or the installation guide for TRENDNET TV-IP410WN. You'll find the answers to all your questions on the TRENDNET TV-IP410WN in the user manual (information, specifications, safety advice, size, accessories, etc.). Detailed instructions for use are in the User's Guide.

**User manual TRENDNET TV-IP410WN**  
**User guide TRENDNET TV-IP410WN**  
**Operating instructions TRENDNET TV-IP410WN**  
**Instructions for use TRENDNET TV-IP410WN**  
**Instruction manual TRENDNET TV-IP410WN**



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**Manual abstract:**

You will also know the components and functions of the camera. Hardware Installation helps you install the camera according to your application environment. You can use this camera at home, at work, at any where you want. Accessing the Camera lets you start using your camera without problem. The camera can be set up easily and work within your network environment instantly. Configuring the Camera guides you through the configuration of the camera using the Web browser on your PC. Appendix provides the specification of the camera and some useful information for using your camera. Chapter 2 Chapter 3 Chapter 4 Chapter 5 NOTE The illustrations and configuration values in this guide are for reference only. The actual settings depend on your practical application of the camera. -I- Contents P R E F A C E .

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.98. -3- CHAPTER 1 INTRODUCTION TO YOUR CAMERA 1.1 Checking the Package Contents Check the items contained in the package carefully. You should have the following: One TVIP410WN One Power Adapter One External Antenna One Camera Stand/Mounting Kit One GPIO Connector One Network Cable One CDROM (Utility & User's Guide) One MultiLanguage Quick Installation Guide NOTE Once any item contained is damaged or missing, contact the authorized dealer of your locale.

-4- 1.2 Getting to Know Your Camera Lens Front View -5Power LED indicates the camera is powered on with the steady amber light. Link LED indicates the camera's network connectivity with the flashing green light. External Antenna Connector connects the external antenna. Ethernet Cable Connector connects the network cable.

DC Power Connector connects the AC power adapter, in order to supply power to the camera. WPS Button\* is used to protect your wireless network and for easy wireless connection setup. GPIO Connectors is used to connect the external devices. Reset Button will restart the camera when it is pressed quickly; when it is pressed and held for five seconds, the camera will resume the factory default settings. Rear View \* For more information of the WPS button, refer to the instruction of the Web Configuration, Network >> Wireless >> WPS Setting. -6- 1.3 Features and Benefits MJPEG codec Supported The camera provides you with excellent images by the MJPEG codec technology, allowing you to adjust image size and quality, and bit rate according to the networking environment. Optimal Viewing With the pan/tilt functions, you can easily monitor everywhere via the camera by moving the camera lens to the left/right (310 degrees) or up/down (105 degrees). In addition, you can assign up to eight positions for the camera, enabling you to move the camera lens to the desired position quickly. I/O Connectors Provided The camera provides the I/O connectors on the rear panel (IN/OUT), which provide the physical interface to send and receive digital signals to a variety of external alarm devices.

You can connect a special featured device, and then configure the settings and control the device from the GPIO Trigger window of Web Configuration. Remote Control Supported By using a standard Web browser or the bundled SecurView™ Pro software application, the administrator can easily change the configuration of the camera via Intranet or Internet. In addition, the camera can be upgraded remotely when a new firmware is available. The users are also allowed to monitor the image and take snapshots via the network. -7- Multiple Platforms Supported The camera supports multiple network protocols, including TCP/IP, SMTP email, HTTP, and other Internet related protocols. Therefore, you can use the camera in a mixed operating system environment, such as Windows Vista and Windows 7. Multiple Applications Supported Through the remote access technology, you can use the cameras to monitor various objects and places for your own purposes. For example, babies at home, patients in the hospital, offices and banks, and more. The camera can capture both still images and video clips, so that you can keep the archives and restore them at any time. WPS Supported WPS (WiFi Protected Setup) standard is a new solution that simplifies the process of configuring WiFi security settings, allowing you to establish a secure wireless network by simply pressing a button. -8- 1.4 System Requirement Networking LAN: 10BaseT Ethernet or 100BaseTX Fast Ethernet. WLAN: IEEE 802.11b/g, Based on IEEE 802.11n Technology. Accessing the Camera using Web Browser Platform: Microsoft® Windows® XP/Vista/Win7 CPU: Intel Pentium III 800MHz or above RAM: 512MB Resolution: 800x600 or above User Interface: Microsoft® Internet Explorer 6.

You can connect a special featured device, and then configure the settings and control the device from the GPIO Trigger window of Web Configuration. Remote Control Supported By using a standard Web browser or the bundled SecurView™ Pro software application, the administrator can easily change the configuration of the camera via Intranet or Internet. In addition, the camera can be upgraded remotely when a new firmware is available. The users are also allowed to monitor the image and take snapshots via the network. -7- Multiple Platforms Supported The camera supports multiple network protocols, including TCP/IP, SMTP email, HTTP, and other Internet related protocols. Therefore, you can use the camera in a mixed operating system environment, such as Windows Vista and Windows 7. Multiple Applications Supported Through the remote access technology, you can use the cameras to monitor various objects and places for your own purposes. For example, babies at home, patients in the hospital, offices and banks, and more. The camera can capture both still images and video clips, so that you can keep the archives and restore them at any time. WPS Supported WPS (WiFi Protected Setup) standard is a new solution that simplifies the process of configuring WiFi security settings, allowing you to establish a secure wireless network by simply pressing a button. -8- 1.4 System Requirement Networking LAN: 10BaseT Ethernet or 100BaseTX Fast Ethernet. WLAN: IEEE 802.11b/g, Based on IEEE 802.11n Technology. Accessing the Camera using Web Browser Platform: Microsoft® Windows® XP/Vista/Win7 CPU: Intel Pentium III 800MHz or above RAM: 512MB Resolution: 800x600 or above User Interface: Microsoft® Internet Explorer 6.



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0 or above Apple Safari 2 or above Mozilla Firefox 2.00 or above Google Chrome Accessing the Camera using SucurView Pro Platform: Microsoft® Windows® XP/Vista/Win7 Resolution: 1024x768 or above Hardware Requirement: 1~8 cameras: Intel Core 2 Duo 2GB RAM 9~32 cameras: Intel Core 2 Quad 4GB RAM NOTE If you connect multiple cameras to monitor various places simultaneously, you are recommended to use a computer with higher performance. -9- CHAPTER 2 HARDWARE INSTALLATION 2.1 Installing the Wall Mount Kit The camera comes with a Wall Mount Kit, which allows you to place your camera anywhere by mounting the camera through the three screw holes located in the base of the Wall Mount Kit.

Screw Screw Screw - 10 - 2.2 Connecting the Camera to LAN/WLAN Use the provided Ethernet cable to connect the camera to your local area network (LAN). When you connect the AC power adapter, the camera is powered on automatically. You can verify the power status from the Power LED on the front panel of the camera. Once connected, the Link LED starts flashing green light and the camera is on standby and ready for use now. If you use a wireless network in your application environment, you need to attach the included external antenna to the camera. When the camera is powered on, the camera will automatically search any access point with "default" SSID. Connecting the Ethernet Cable NOTE If the camera cannot to your wireless network, you need to install the camera in LAN and proceed with WLAN settings. - 11 Connecting the External Antenna 2.3 Applications of the Camera The camera can be applied in multiple applications, including: Monitor local and remote places and objects via Internet or Intranet.

Capture still images and video clips remotely. Upload images or send email messages with the still images attached. The following diagram explains one of the typical applications for your camera and provides a basic example for installing the camera. Home Applications - 12 - CHAPTER 3 ACCESSING THE CAMERA 3.1 Using IPSetup The camera comes with a conveniently utility, IPSetup, which is included in the Installation CDROM, allowing you to search the camera on your network easily. nrol the video, and trigger functions. - 16 - Manual Record allows you to record and save a video clip. Snapshot allows you to capture and save a still image. Browse allows you to assign the destination folder to store the video clips and still images. Trigger Out allows you to trigger on/off the GPIO output manually.

NOTE If your PC use Microsoft Vista platform. Maybe you can't find these recorded files what stored by Snapshot or Manual Record. That you need to disable the protected mode of Security in the IE Browser. Please follow as below Steps: 1. 2.

3. 4. Open IE Browser Select Tools Internet Options Select Security Disable the "Enable Protected Mode" then press OK - 17 - 3.3 Configuring the IP Address of the PC If you are failed to access to the camera, please check the IP address of your computer. When you connect the camera to your computer directly to proceed with configuration of the camera, you need to set up the IP addresses to be in the same segment for the two devices to communicate.

1. 2. 3. 4. 5. 6. On your computer, click Start > Control Panel to open the Control Panel window. Doubleclick Network Connection to open the Network Connection window. Rightclick Local Area Connection and then click Properties from the shortcut menu. When the Local Area Connection Properties window appears, select the General tab.

Select Internet Protocol [TCP/IP] and then click Properties to bring up the Internet Protocol [TCP/IP] Properties window. To configure a fixed IP address that is within the segment of the camera, select the Use the following IP address option. Then, enter an IP address into the empty field. The suggested IP address is 192.168.10.x (x is 1~254 except 30), and the suggested Subnet mask is 255.255.255.0.

When you are finished, click OK. 7. - 18 - CHAPTER 4 CONFIGURING THE CAMERA 4.1 Using the Web Configuration You can access and manage the camera through the Web browser and the provided software application SucurView Pro. This chapter describes the Web Configuration, and guides you through the configuration of the camera by using the Web browser.

To configure the camera, click Setup on the main page of Web Configuration. The Web Configuration will start from the Basic page. The Web Configuration contains the settings that are required for the camera in the left menu bar, including Smart Wizard, Basic, Network, Video, Event Server, Motion detect, Event Config, Tools, and Information. - 19 - 4.2 Using Smart Wizard The camera's Smart Wizard lets you configure your camera easily and quickly.

The wizard will guide you through the necessary settings with detailed instructions on each step. To start the wizard, click Smart Wizard in the left menu bar. Step 1. Camera Settings Enter the name for the camera and place. Enter the administrator password. Step 2. IP Settings Select the IP setting according to your network: DHCP, Static IP, or PPPoE. - 20 - Step 3. Email Settings Enter the required information to be able to send email with image. Step 4.

Wireless Networking Complete the required settings for wireless networking. - 21 - Step 5. Confirm Settings This step shows the configuration of your camera. When you confirm the settings, click Apply to finish the wizard and reboot the camera. Otherwise, click Prev to go back to the previous step(s) and change the settings; or click Cancel to end the wizard and discard the changes. - 22 - 4.3 Basic Setup The Basic menu contains three submenus that provide the system settings for the camera, such as the Camera Name, Location, Date & Time, and User management. Basic >> System Basic - Camera Name: Enter a descriptive name for the camera. - Location: Enter a descriptive name for the location used by the camera. Indication LED This item allows you to set the LED illumination as desired.

There are two options: Normal and OFF. - 23 - Basic >> Date & Time - TimeZone: Select the proper time zone for the region from the pull down menu. - Synchronize with PC: Select this option and the date & time settings of the camera will be synchronized with the connected computer. - Synchronize with NTP Server: Select this option and the time will be synchronized with the NTP Server. You need to enter the IP address of the server and select the update interval in the following two boxes.



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- Manual: Select this option to set the date and time manually. - 24 - Basic >> User Administrator To prevent unauthorized access to the camera's Web Configuration, you are strongly recommend to change the default administrator password. Type the administrator password twice to set and confirm the password. General User - User Name: Enter the user's name you want to add to use the camera. - Password: Enter the password for the new user. - 25 - When you are finished, click Add/Modify to add the new user to the camera. To modify the user's information, select the one you want to modify from UserList and click Add/Modify. - UserList: Display the existing users of the camera. To delete a user, select the one you want to delete and click Delete. Guest - User Name: Enter the guest's name you want to add to use the camera. - Password: Enter the password for the new guest. - UserList: Display the existing guests of the camera. To delete a user, select the one you want to delete and click Delete. NOTE The "General User" can access the camera and control the Function buttons of the camera's Web Configuration; the "Guest" can only view the live view image from the main page of the Web Configuration while accessing the camera. Only the "Administrator" is allowed to configure the camera through the Web Configuration.

- 26 - Direct Video Stream Authentication To stream the video directly without going through the configuration page, you can access it via <http://cameraIP/jpgview.htm> (eg. <http://192.168.10.30/jpgview.htm>) - Enable: User needs to enter user name and password to stream the camera. - Disable: User can stream the camera without entering the user name and password. NOTE This feature is enabled by default, and for security reason, it is recommended to have the feature enabled at all time. - 27 - 4.

4 Network Settings The Network menu contains three submenus that provide the network settings for the camera, such as the IP Setting, DDNS Setting, IP Filter, and Wireless network. Network >> Network - 28 - IP Setting This item allows you to select the IP address mode and set up the related configuration. The default setting is DHCP mode enabled. - DHCP: Select this option when your network uses the DHCP server. When the camera starts up, it will be assigned an IP address from the DHCP server automatically.

- Static IP: Select this option to assign the IP address for the camera directly. You can use IPSetup to obtain the related setting values. IP Subnet Mask Default Gateway Enter the IP address of the camera. The default setting is 192.168.10.30. Enter the Subnet Mask of the camera. The default setting is 255.255.255.0. Enter the Default Gateway of the camera. The default setting is 192.168.

10.1. In most cases, this would be your router's IP address. DNS (Domain Name System) translates domain names into IP addresses. Enter the Primary DNS and Secondary DNS that are provided by ISP. Primary/ Secondary DNS - PPPoE: Select this option when you use a direct connection via the ADSL modem. You should have a PPPoE account from your Internet service provider. Enter the User Name and Password. The camera will get an IP address from the ISP as starting up. NOTE Once the camera get an IP address from the ISP as starting up, it automatically sends a notification email to you.

Therefore, when you select PPPoE as your connecting type, you have to set up the email or DDNS configuration in advance. - 29 - DDNS Setting With the Dynamic DNS feature, you can assign a fixed host and domain name to a dynamic Internet IP address. Select the Enable option to enable this feature. Then, select the Provider from the pull down list and enter the required information in the Host Name, User Name, and Password boxes. Please note that you have to sign up for DDNS service with the service provider first.

UPnP The camera supports UPnP (Universal Plug and Play), which is a set of computer network protocols that enable the device-to-device interoperability. In addition, it supports port auto mapping function so that you can access the camera if it is behind an NAT router or firewall. Select the Enable option to enable this feature. Ports Number - HTTP Port: The default HTTP port is 80. - 30 - Network >> IP Filter The IP Filter setting allows the administrator of the camera to limit the users within a certain range of IP addresses to access the camera.

Start/End IP Address Assign a range of IP addresses that are not allowed to access the camera by entering the Start IP address and End IP address. When you are finished, click Add to save the range setting. You can repeat the action to assign multiple ranges for the camera. For example, when you enter 192.168.10.50 in Start IP Address and 192.168.10.80 in End IP Address, the user whose IP address located within 192.

168.10.50 ~ 192.168.10.80 will not be allowed to access the camera. Deny IP List The list displays the range setting(s) of IP addresses that are not allowed to access the camera. To clear the setting, select a range of IP addresses from the list and click Delete. - 31 - Network >> Wireless Setting The camera supports WLAN while you use the wireless network. Select the Enable option to enable this feature.

- Network ID (SSID): Keep the default setting of this option to connect the camera to any access point under the infrastructure network mode. To connect the camera to a specified access point, set a SSID for the camera to correspond with the access point's ESS ID. To connect the camera to an AdHoc wireless workgroup, set the same wireless channel and SSID to match with the computer's configuration. Click Site Survey to display the available wireless networks, so that you can easily connect to one of the listed wireless networks. - 32 - List of searching results - Wireless Mode: Select the type of wireless communication for the camera: Infrastructure or AdHoc.

- Channel: Select the appropriate channel from the list. - Authentication: Select the authentication method to secure the camera from being used by unauthorized user: Open, Sharedkey, WPAPSK, and WPA2PSK. The following table explains the four options: Open Sharedkey WPAPSK/ WPA2PSK The default setting of Authentication mode, which communicates the key across the network. Allow communication only with other devices with identical WEP settings. WPAPSK/WPA2PSK is specially designed for the users who do not have access to network authentication servers.



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The user has to manually enter the starting password in their access point or gateway, as well as in each PC on the wireless network. If you select Open or Sharedkey as the Authentication mode, you need to complete the following settings: - 33 - Encryption: Select the WEP option to enable the data encryption feature to secure the camera within the wireless network. Format: Once you enable the Encryption feature, you need to determine the encryption format by selecting ASCII or HEX. ASCII format causes each character you type to be interpreted as an eight bit value. Hex format causes each pair of characters you type to be interpreted as an eightbit value in hexadecimal (base 16) notation. Key Length: Select the WEP key length you use: 64 bits or 128 bits. WEP Key 1/2/3/4: Enter the WEP key(s) in the following boxes. If you select WPAPSK or WPA2PSK as the Authentication mode, you need to complete the following settings: Encryption: Select TKIP or AES. TKIP (Temporal Key Integrity Protocol) changes the temporal key every 10,000 packets to insure much greater security than the standard WEP security. AES (Advanced Encryption Standard) is used to ensure the highest degree of security and authenticity for digital information.

PreShared Key: This is used to identify each other in the network. Enter the name in the box, and this name must match the Pre shared key value in the remote device. - 34 - Network >> Wireless >> WPS Setting WPS (WiFi Protected Setup) sets a new standard of WiFi security, providing a simplified secure network setup solution for the end users. WPS can be enabled by the following two options: 1. 2. PIN Mode PBC Mode (or WPS button on the device, depending on hardware design) PROTECTED SETUP Press the Reset To Unconfigured button to reset the WPS configuration of the camera. WPS - PIN Mode: The PIN (Personal Information Number) mode builds the connection by entering the PIN Code directly. a. Click the PIN Mode option. b.

Click Site Survey button to select the router (or access point) you want to connect. c. Click the Connect button to start WPS function of the camera. - 35 - d. You need to enter the PIN Code displayed on the camera to the router (or access point) within 120 seconds to complete the setup.

- PBC Mode: The PBC (PushButtonConfiguration) mode builds the connection by simply pressing a button on the device. a. Click the PBC Mode option. b. Click the Connect button to start WPS function of the camera.

TIP Instead of clicking the Connect button of Configuration Utility, you can press the WPS button if the camera is designed with a hardware button of WPS function. c. You need to press the WPS button on the router (or access point) within 120 seconds to complete the setup. Device Status Display the WPS configuration of the camera. TIP The Power LED indicates the WPS connection status by: - blinking 3 times when the connection is built successfully. - repeating 3 times of shortshortlong blink when the connection is failed. - 36 - 4.5 Pan/Tilt Settings The Pan/Tilt menu allows you to configure the pan/tilt functions of the camera. Pan/Tilt >> Pan & Tilt Settings - Pan/Tilt Calibration: Click Calibration to calibrate the position of the camera lens. - Pan Steps: Set the changing range (1~20 degrees) when you click the Left/Right button.

- Tilt Steps: Set the changing range (1~20 degrees) when you click the Up/Down button. - Auto Patrol Stay Time: Set the stay time (1~999 seconds) of each preset positions when the camera is patrolling. - Startup Preset: Set the position (1~8, or None) to start patrolling. - 37 - 4.6 Setting up Video The Video menu contains three submenus that provide the video settings for the camera. Video >> Camera - 38 - Image Setting - Brightness: Adjust the brightness level from 0 ~ 100. - Contrast: Adjust the contrast level from 0 ~ 100. - Saturation: Adjust the colors level from 0 ~ 100. Click Default to restore the default settings of the three options above. - Mirror: Select the Horizontal option to mirror the image horizontally.

Select the Vertical option to mirror the image vertically. - Light Frequency: Select the proper frequency according to the camera's location: 50Hz, 60Hz, or Outdoor. Overlay Setting - Includes Date & Time: Select this option to display the date & time stamp on the live view image. - Enable Opaque: Select this option to set a black background to the displayed date & time stamp. - 39 - Video >> Video MJPEG - Video Resolution: Select the desired video resolution from the three formats: VGA, QVGA and QQVGA.

The higher setting (VGA) obtains better video quality while it uses more resource within your network. - Video Quality: Select the desired image quality from five levels: Lowest, Low, Normal, High, and Highest. - Frame Rate: Select Auto or a proper setting depending on your network status. - 40 - 4.7 Event Server Configuration The Event Server menu contains three sub-menus that allow you to get notification via HTTP when motion triggered, upload images to FTP, send emails that include still images, and store the images to a NAS system.

When you complete the required settings for FTP, Email, or Network Storage, click Test to test the related configuration is correct or not. Once the camera connects to the server successfully, click Apply. Event Server Setting>> HTTP HTTP Notify for Motion Trigger Send the query parameter via an HTTP notification when an event is triggered. Host Address: Enter the IP of the HTTP server Port Number: Enter the Port number of the HTTP server User Name: Enter the username of the HTTP server Password: Enter the password of the HTTP server Query: query address for the HTTP server HTTP Notify for GPIO Trigger Host Address: Enter the IP of the HTTP server Port Number: Enter the Port number of the HTTP server User Name: Enter the username of the HTTP server Password: Enter the password of the HTTP server Query: query address for the HTTP server - 41 - Event Server Setting>> FTP - Host Address: Enter the IP address of the target FTP server. - Port Number: Enter the port number used for the FTP server. - User Name: Enter the user name to login into the FTP server. - Password: Enter the password to login into the FTP server. - Directory Path: Enter the destination folder for uploading the images. For example, Camera1. - Passive Mode: Select the Enable option to enable passive mode.

- 42 - Event Server Setting >> Email - SMTP Server Address: Enter the mail server address.



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For example, mymail.com. - Port number: Assign the SMTP port in the text box. The default SMTP port is 25. - Encryption connection: Select SSL or STARTTLS if your email account uses this type of authentication. (Eg: gmail account) Leave both unchecked if you use regular SMTP email account. - Sender Email Address: Enter the email address of the user who will send the email. For example, John@mymail.com.

- Authentication Mode: Select None or SMTP according to the mail server configuration. - Sender User Name: Enter the user name to login the mail server. - 43 - Sender Password: Enter the password to login the mail server. - Receiver #1 Email Address: Enter the first email address of the user who will receive the email. - Receiver #2 Email Address: Enter the second email address of the user who will receive the email.

4.8 Motion Detect The Motion Detect menu contains the command and option that allow you to enable and set up the motion detection feature of the camera. The camera provides two detecting areas. To enable the detecting area, select Window 1 or 2 from the pulldown list, and then select Enable. When the detecting area is enabled, you can use the mouse to move the detecting area and change the area coverage.

- 44 - Name: Assign a name to the detecting area. - Threshold: Move the slide bar to adjust the level for detecting motion to record video. NOTE Sliding the Threshold bar to the right will decrease the sensitivity of motion detection; sliding the Threshold bar to the left will increase the sensitivity of motion detection

4.9 Event Config The Event Config menu contains five submenus that provide the commands to configure event profiles. Event Configuration >> General Setting - Snapshot/Recording Subfolder: You can assign a descriptive name for the subfolder to save the captured image/video files. Otherwise, leave this option blank to use the default setting. - GPIO Trigger Out Retention Time Per Event: Limit the retention time of the GPIO Trigger Out function. - 45 - Event Configuration >> Arrange Schedule Profile This submenu displays the scheduled profile(s). To customize the profile, click Add and then enter a descriptive name for the profile in the prompt dialog window. After entering the profile name, click OK and the profile is added to the Schedule Profiles list.

To delete the profile, select the profile in the list and click Delete. - Profile Name: Display the profile name that you select in the Schedule Profiles list. - Weekdays: Select the weekday(s) that you want to separately assign in the schedule profile. The weekday that has been assigned will be displayed with green color. - Time List: Display the time period that you have assigned within the selected weekday. To assign the same time period to every weekday, click Add this to all weekdays; click Delete this from all weekdays to remove the selected time period from every weekday. Click Delete to remove the selected time period. - 46 - Start/End Time: Enter the start and end time and then click Add to assign a time period within in the selected weekday. Event Configuration >> Motion Detect Trigger Select the Enable option to enable the motion detect trigger function of the camera, so that you can set Trigger Out function or send captured images within the detecting area to the FTP server or email receiver. You have to configure corresponding settings, such as FTP server and email server, to enable this feature.

- Schedule Profile: Select a schedule profile from the pulldown list. - Action: Set the Trigger Out function or select the destination of the captured images: Send Email or FTP Upload. - 47 - Event Configuration >> Schedule Trigger You can separately configure the schedule for trigger function of the camera by Email or FTP. Select the Enable option on each item, and then select a Schedule Profile from the pulldown list and set the Interval time. Email/FTP Schedule - Schedule Profile: Select a schedule profile from the pulldown list.

- Interval: Enter a number in this box to setup the time (in second) to send Email or upload to FTP regularly. - 48 - Event Configuration >> GPIO Trigger Select the Enable option to enable the GPIO trigger function of the camera, so that you can set Trigger Out function or send captured images within the detecting area to the FTP server or email receiver. You have to configure corresponding settings, such as FTP server and email server, to enable this feature.

- Schedule Profile: Select a schedule profile from the pulldown list. - Action: Set the Trigger Out function or select the destination of the captured images: Send Email or FTP Upload.

- 49 - 4.10 Tools The Tools menu provides the commands that allow you to restart or reset the camera. You can also backup and restore your configuration, and upgrade the firmware for the camera. - 50 - Factory Reset Click Reset to restore all factory default settings for the camera. System Reboot Click Reboot to restart the camera just like turning the device off and on. The camera configuration will be retained after rebooting. Configuration You can save your camera configuration as a backup file on your computer. Whenever you want to resume the original settings, you can restore them by retrieving the backup file. - Backup: Click Get the backup file to save the current configuration of the camera. - Restore: Click Browse to locate the backup file and then click Restore.

Update Firmware This item displays the current firmware version. You can upgrade the firmware for your camera once you obtained a latest version of firmware. - Select the firmware: Click Browse to locate the backup file and then click Update. NOTE Make sure to keep the camera connected to the power source during the process of upgrading firmware. Otherwise, the camera might be damaged because of failure of upgrading firmware. - 51 - 4.11 Device Info The Information menu displays the current configuration and events log of the camera. Device Info Display the Basic, Video, Network, and Wireless settings of the camera. System Log The Logs table displays the events log recorded by the system. - 52 - CHAPTER 5 SECURVIEWTM PRO SOFTWARE This chapter describes detailed instructions on using SecurView Pro, a customized software application with a userfriendly interface that allows you to access your cameras.

The Software can monitor and record up to 36 cameras. It also let you change some basic settings of the camera, such as schedule profiles and motion detecting areas. The SecurView Pro also supports Pan/Tilt function.



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@@@Restart your computer to validate the setting. @@@ 2.

Click the SecurView Pro from the AutoRun menu screen. @@@@ - 54 - 3. Then SecurView Pro Setup Wizard will appear. Click "Install". 4. Wait until the program finish the installation. @@@@ 6. @@@@ The default User name/Password is admin/admin. If you wish to save the login information, please select Auto Login. @@@@ Display the connected camera(s) in a quad view mode. Display the connected camera(s) in a 3 x 3 grid view mode. @@The first camera is displayed as the major view. @@The first camera is displayed as the major view. @@ Display the live view of the selected camera in full screen mode. Click ESC on the keyboard to return to Main window.

@@Click once to start and click again to stop. \*The autoswitch time is set as 30 seconds by default, which can be changed by clicking the System Setting and then change the value from the pulldown list of the Auto Switch time interval option. System Information displays the system information, including the date and time, and the available storage space of the system. Live View Status provides the status of live view mode, including Camera List and eMap. - 60 - Camera List displays the status of the connected cameras. If multiple cameras are connected, you can switch to the live view of each camera by simply selecting the camera from the list. eMap allows you to select the desired camera to the view from the map easily. Please note that you have to set up the eMap for monitoring in advance. Camera Control Buttons provides the control buttons that allow you to control the selected camera. Buttons Functions Talk On/Off.

Click to enable/disable the speaker function of the connected camera. This option is available only in single camera view mode. Listen On/Off. Click to enable/disable the microphone function of the connected camera. This option is available only in single camera view mode.

For Pan/Tilt cameras, use this control panel to set the preset positions (up to 8 positions). Use Navigation buttons to adjust camera position, and then select the position number (1~8) from the Set button. To move to the preset position, simply select the position number (1~8) from the Go button. Navigation Buttons (Left/Right/Up/Down/Home). If the connected camera has pan/tilt functions, the Navigation buttons allow you to move the camera lens position.

Clicking the Home (center) button will move the camera lens to the assigned home position. The Patrol/Stop buttons are used to enable/disable the patrol function of the camera. Click Patrol to start patrolling through the preset positions once. Click Stop to stop patrolling. / - 61 - 5.2.3 Manage the Cameras Before adding the cameras, please setup the recording setting first. Configure Recording Settings 1. Click the button and then select Record Setting. 2.

Default path is C:\, click Browse and select the desire directory then click Save to complete the configuration. To change the time interval for recording, select time from the pulldown menu. NOTE: The system will automatically delete the oldest files (10%) when the size of recorded files is up to 90% of the storage space. - 62 - Add a Camera 1. Click the button and select Device Setting to display the Device Setting window. 2. Click New. - 63 - 3. Click on Device Search, all cameras that's connected to your network would appear. 4.

Select the camera you would like to add and then click Add. - 64 - 5. The information of the camera will display on the screen. It will auto detect the IP address/port number and display the stream type of the camera. Please type in the correct user name and password, then select Preview to view live image. 6. To setup recording style, select Yes on Record option. These four recording types will appear. Select one of the recording type, configure it then click Save. Continuously: Record the stream video continuously - 65 - Schedule: Records stream video by schedule.

You can setup the schedule by click Add Schedule here. Click on New to create a new schedule and select the time to record. Click on Save when finish. Motion: Record video by Motion Detection. Motion detection recording required to setup a motion detection area. If you are adding a new camera, you must save the camera information first before setup the motion detection area. - 66 - To use motion detection record, please enable the detection areas first. Click on Motion detection area to setup Enable motion detection windows, set up the sensitivity and click on Save. Motion by Schedule: same requirement as Motion & Schedule recording. Digital Input: - 67 - Recording triggered when there I/O port is triggered.

After all recording methods are configured, click Save to apply the settings. 7. Camera list will appear with recording type notification. - 68 - 8. Once you added all the cameras, click the close button "x" on the Device Setting windows to return to the main windows. The cameras will display here. NOTE Divx/Xvid codec is required for viewing the image of camera. If the image cannot be displayed in the Live View/Preview window normally, click the following path to download and install the required component: <http://download.divx.com/divx/DivXInstaller.exe>

- 69 - Edit / Delete a Camera 1. To edit a camera: From the Device Setting window, highlight the camera you would like to edit then click on Modify button. 2. To delete a camera: select the desired one and then click Remove. Click Yes to confirm.

- 70 - View Camera Image Since you have added camera(s) to the system, the image of the selected camera(s) will be displayed on the Live View Window automatically. You can view a maximum of 36 cameras simultaneously. Additionally, you can select onecamera or other view mode to display the video from the Camera View Mode buttons. For example, if you use only one camera, select single camera view mode ( ), and the Live View Window will display the view as below. You can select the other modes according to your need.

The Information icon ( ) on the topright corner of the window provides you with the options to connect/disconnect the camera, select a camera to be displayed in the window, capture a still image of the camera live video, or switch to eMap mode. Click the Information icon to pop up the shortcut menu and select the desired option. - 71 - Playback the Recorded Files 1. Click the button to display the Playback window. 2. On the Playback window, select the camera and setup the begin/end date and begin/end time, then click Search.



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The search result will be displayed in the Record File list. - 72 - 3. To playback the video clip, select the desired file and click Play. - 73 - 5.

2.4 eMap Setup & Camera Status Manage eMap Click the button and select View Setting to manage eMap. eMap refers to the geography and device scope in the SecurView Pro, which visually presents the devices in your security system. It uses a background of the area (e.g. a picture or a map) as the interface for monitoring. To add an eMap 1. On the View Setting window, click New. - 74 - 2. Enter an eMap name.

3. Click Browse to select a Picture File from your computer. Picture will display in the Preview window. - 75 - 4. Click Save and click OK to apply the settings.

5. Click Camera Location to assign the camera location. - 76 - 6. The following screen appears. 7.

Select the camera from the list and then click the position on the map. The camera icon will be displayed on map. - 77 - 8. Click Save when complete. To modify/remove an eMap 1. To edit the eMap: In the eMap List, select the map name from eMap list, and click Modify. The map's information will display on the preview windows. After changes the setting information, click Save to save the setting. - 78 - 2. To delete the eMap: In the eMap List, select the desired one and click Remove.

The selected map will be removed from the list. View eMap a. Click the button and select eMap View. - 79 - b. Select the map from the eMap Name list.

Camera Status Click the camera icon, the camera Live Monitor window will display live image on that camera. - 80 - 5.2.5 System Info Account Click the System button and select Account to change the administrator password of the system. Enter the Current password, and then enter the new password twice (in the Type new password and Retype password boxes).

Then click Save. - 81 - Version Click the System button and select Version to view the current firmware version of the system. System Setting Click the System button and select System Setting. Auto Scan period can be set from 30 seconds to 100 seconds. - 82 - 5.

2.6 Event Settings Setting up Event Server Click the button and select Event Server to configure the SMTP settings for email notification use. - 83 - Select the Enable SMTP option and configure the following information correctly to start the email feature. SMTP Server Address: Enter the mail server address. For example, mymail.

com or smtp.gmail.com or smtp.live.com Sender Email Address: Enter the email address of the user who will send the email. For example, John@mailserver.com. Authentication Mode: Select None or SMTP according to the mail server configuration. Sender User Name: Enter the user name to login the mail server. Sender Password: Enter the password to login the mail server.

Port Number: Enter the port number used for the email server. SSL: If the mail server requires an encrypted connection, you should check the SSL option. For example, gmail users, please select this option. When completed, click Save and then select OK. The system will automatically start the Event Service. TIP The status of Event Service is indicated by the icon in the system bar. - 84 - Sending Notification to the User Click the button and select Address Book to assign the user to the Address Book of the camera. The user will receive a realtime notification from the system while triggering out. 1. 2.

3. On the Address Book window, click New. In the Address Book Information field, enter the Name and Email of the user. When completed, click Save. The user will be displayed in the Address Book List.

- 85 - 4. To edit the user: In the Address Book List, select the desired user and click Modify. The user's information will be displayed, where you can change the user's information and then click Save when completed. To delete the user: In the Address Book List, select the desired user and click Remove. The selected user will be removed from the list.

5. Configuring Event Trigger Click the button and select Event Trigger to configure the trigger out function of the camera. - 86 - 1. 2. On the Event Trigger window, select the desired camera from the Camera List. Do one of the following: SMTP: Select this option and enter the Subject and Message, the system will send an email message to the selected user(s) in the Address Book List. Play Sound: Select this option select a sound file from the computer, so that the system will alarm by the sound while triggering out. eMap Popup: Select this option and select the eMap profile from the pulldown menu. The camera view of the eMap will be displayed while triggering out. 5.

2.7 Close Program When you have finished operating, click the button and select Logout to logout the system or Close to exit the program. - 87 - CHAPTER 6 How to access the camera behind a Router You can either setup the Dynamic DNS connection via camera itself or your home router. An account from any of the listed DDNS providers is required prior to this operation. 6.1 Configure DDNS on your Camera 1. Go to Camera's DDNS Setting page, click Enable to activate the feature. Then select a DDNS provider from the list. 2. Enter your DDNS's the Host Name, User Name and Password.

- 88 - 3. In the Port Number section, assign an HTTP port of the camera. The default HTTP Port on the camera is 80. The example shows above is using port number 9000. Open another web browser and go to your Router's Web Configuration page.

(In the example, TRENDnet's TEW651BR Wireless N router is used) 4. 5. Go to Virtual Server\* section and create a new entry. Enable: Click Enable Name: Enter the application name (eg. CameraName) Protocol: Select TCP - 89 - Private Port: The HTTP port that you assign on your Camera.

Public Port: The port used on remote side to access to your Camera. LAN Server: The local IP address of your Camera. Then click Add to add the application. \* Please refer to your router's user's manual for detail Virtual Server setting. Some router might use Port Forwarding or Special applications for this function. The setup steps should be very similar. - 90 - 6. Open another web browser and enter your DDNS domain and camera's port number. http://yourDomainName:PortNumber 7. Camera's login page will appear.

Go to Camera's DDNS Ports Number section, assign a HTTP port for your camera and click Apply. 6.2 Configure DDNS on your router 1. 2. Login to your router's web configuration page. - 91 - 3. Find the Dynamic DNS configuration section.



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4. Enable DDNS, fill out the following information and then click Apply. - 92 - 8.

Go to Virtual Server\* section and create a new entry. Enable: Click Enable Name: Enter the application name (eg. CameraName) Protocol: Select TCP Private Port: The HTTP port that you assign on your Camera. Public Port: The port used on remote side to access to your Camera. LAN Server: The local IP address of your Camera.

Click Add to add the application. \* Please refer to your router's user's manual for detail Virtual Server setting. Some router might use Port Forwarding or Special applications for this function. The setup steps should be very similar. 9.

Open another web browser and enter your DDNS domain and camera's port number. <http://yourDomainName:PortNumber> 10. The camera login page will appear. - 93 - APPENDIX A.1 Specification Camera General Sensor: 1/4" color CMOS sensor Resolution: 640 x 480 pixels Board lens Focal length: 4.0 mm Aperture (F/No): F1.8 Minimum illumination: 0.5 Lux Diagonal viewing angle: 64 degree Pan: +165~165 degree Tilt: +90 ~ 15 degree Auto Patrol preset positions: 8 positions Compression: MJPEG Exposure/white balance/Gain Control : automatic Resolution: up to 30fps for VGA (640x480), 30fps for QVGA (320x240), 30fps for QQVGA (160x120) IEEE 802.3u 10/100Mbps Fast Ethernet, AutoMDIX Power, Link Restore to factory default Push button for WiFi Protected Setup 9 Watts max. 12 V DC, 1.

5 A external power adapter (3.5 mm plug) 115 x 110 x 105 mm (4.53 x 4.33 x 4.13 in) 340 g (12 oz.) Operating: 0°C ~ 45°C (32°F ~ 113°F) Storage: 15°C ~ 60°C (5°F ~ 140°F) Max. 90% (noncondensing) CE, FCC Pan & Tilt Image & Video Hardware Network LED Reset Button WPS Button Power Consumption Power Dimension Weight Temperature Humidity Certifications Requirement - 94 - Management Interface To Run SecurView Pro SecurView Pro Network Protocols Wireless Standard Frequency Antenna Data Rate (auto fallback) Security Output Power Internet Explorer 6.0 or above Windows 7 (32/64 bit), Vista (32/64 bit), XP (32/64 bit) Channel: supports up to 32 cameras Record/Playback/Motion Detection TCP/IP, UDP, ICMP, DHCP, NTP, DNS, DDNS, SMTP, FTP, PPPoE, UPnP Based on IEEE 802.11n technology IEEE 802.11g/b compliant 2. 4 ~ 2.4835GHz 1 x 2dBi dipole antenna (ReverseSMA connector) 802.11n: up to 150Mbps 802.11g: up to 54Mbps 802.11b: up to 11Mbps 64/128bit WEP, WPA/WPA2PSK 802.

11n: 15 + 1 dBm 802.11b: 15 + 1 dBm 802.11g: 18 + 1 dBm 802.11n HT20: 67dBm 802.11n HT40: 64dBm 802.

11g: 70dBm 802.11b: 87dBm 1~11 (FCC), 1~13 (ETSI) Remote management supported Save/retrieve configuration files Brightness, sharpness, saturation, flip, mirror (horizontal/vertical) Encoding type: Resolution: 640 x 480, 320 x 240, 160 x 120 Frame rate: 1~ 30 fps Compression: 5 levels Receiving Sensitivity Channel Management Remote Backup / Restore Settings Image Video - 95 - Recording Port Settings Digital Zoom Dynamic DNS Time SMTP System Log Recording type: continuous, schedule, or motion detection with software HTTP port: 80 (default) 3x Yes Synchronize with NTP server or set time/date manually SMTP mail supported up to 2 accounts with software 100 items (max.) - 96 - A.2 GPIO Terminal Application Typically used in association with programming scripts for developing applications for motion detection, event triggering, alarm notification via email, and a variety of external control functions. The GPIO connectors are located on the rear panel of the camera, which provide the interface of connecting the sensor device (IN) and controlled device (OUT). Connector Pin Assignment PIN IN OUT SPECIFICATION Active High voltage 9~40V DC; Dropout voltage 0V DC Close circuit current 70mA AC or 100mA DC maximum, Output resistance 30 Ohm; Open circuit voltage 240V AC or 350V DC maximum Interface Schematic - 97 - A.3 Glossary of Terms NUMBERS 10BASET 100BASETX 10BASET is Ethernet over UTP Category III, IV, or V unshielded twistedpair media. The twopair twistedmedia implementation of 100BASET is called 100BASETX. Adaptive Differential Pulse Code Modulation, a new technology improved from PCM, which encodes analog sounds to digital form. Applets are small Java programs that can be embedded in an HTML page.

The rule at the moment is that an applet can only make an Internet connection to the computer from that the applet was sent. American Standard Code For Information Interchange, it is the standard method for encoding characters as 8bit sequences of binary numbers, allowing a maximum of 256 characters. Address Resolution Protocol. ARP is a protocol that resides at the TCP/IP Internet layer that delivers data on the same network by translating an IP address to a physical address. Audio Video Interleave, it is a Windows platform audio and video file type, a common format for small movies and videos. Bootstrap Protocol is an Internet protocol that can automatically configure a network device in a diskless workstation to give its own IP address. Communication has four components: sender, receiver, message, and medium. In networks, devices and application A ADPCM Applet ASCII ARP AVI B BOOTP C Communication - 98 - tasks and processes communicate messages to each other over media. They represent the sender and receivers. The data they send is the message.

The cabling or transmission method they use is the medium. Connection In networking, two devices establish a connection to communicate with each other. Developed by Microsoft, DHCP (Dynamic Host Configuration Protocol) is a protocol for assigning dynamic IP addresses to devices on a network. With dynamic addressing, a device can have a different IP address every time it connects to the network. In some systems, the device's IP address can even change while it is still connected.

It also supports a mix of static and dynamic IP addresses. This simplifies the task for network administrators because the software keeps track of IP addresses rather than requiring an administrator to manage the task. A new computer can be added to a network without the hassle of manually assigning it a unique IP address. DHCP allows the specification for the service provided by a router, gateway, or other network device that automatically assigns an IP address to any device that requests one. Domain Name System is an Internet service that translates domain names into IP addresses.

Since domain names are alphabetic, they're easier to remember.



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The Internet however, is really based on IP addresses every time you use a domain name the DNS will translate the name into the corresponding IP address. For example, the domain name *www.network\_camera.com* might translate to *192.167.222.8*. D DHCP DNS E Enterprise network An enterprise network consists of collections of networks connected to each other over a geographically dispersed area. The enterprise network serves the needs of a widely - 99 - distributed company and operates the company's mission critical applications.

Ethernet The most popular LAN communication technology. There are a variety of types of Ethernet, including 10Mbps (traditional Ethernet), 100Mbps (Fast Ethernet), and 1,000Mbps (Gigabit Ethernet). Most Ethernet networks use Category 5 cabling to carry information, in the form of electrical signals, between devices. Ethernet is an implementation of CSMA/CD that operates in a bus or star topology. Fast Ethernet, also called 100BASET, operates at 10 or 100Mbps per second over UTP, STP, or fiberoptic media. Firewall is considered the first line of defense in protecting private information. For better security, data can be encrypted. A system designed to prevent unauthorized access to or from a private network. Firewalls are frequently used to prevent unauthorized Internet users from accessing private networks connected to the Internet, especially Intranets all messages entering or leaving the intranet pass through the firewall, which examines each message and blocks those that do not meet the specified security criteria. A gateway links computers that use different data formats together.

Groups consist of several user machines that have similar characteristics such as being in the same department. Short for hexadecimal refers to the base 16 number system, which consists of 16 unique symbols: the numbers 0 to 9 and the letters A to F. For example, the decimal number 15 is represented as F in the hexadecimal numbering system. The hexadecimal F Fast Ethernet Firewall G Gateway Group H HEX - 100 - system is useful because it can represent every byte (8 bits) as two consecutive hexadecimal digits. It is easier for humans to read hexadecimal numbers than binary numbers.

I Intranet This is a private network, inside an organization or company that uses the same software you will find on the public Internet. The only difference is that an Intranet is used for internal usage only. The Internet is a globally linked system of computers that are logically connected based on the Internet Protocol (IP). The Internet provides different ways to access private and public information worldwide. To participate in Internet communications and on Internet Protocolbased networks, a node must have an Internet address that identifies it to the other nodes.

All Internet addresses are IP addresses Internet Protocol is the standard that describes the layout of the basic unit of information on the Internet (the packet) and also details the numerical addressing format used to route the information. Your Internet service provider controls the IP address of any device it connects to the Internet. The IP addresses in your network must conform to IP addressing rules. In smaller LANs, most people will allow the DHCP function of a router or gateway to assign the IP addresses on internal networks. IP address is a 32binary digit number that identifies each sender or receiver of information that is sent in packets across the Internet. For example *80.80.80.69* is an IP address. When you "call" that number, using any connection methods, you get connected to the computer that "owns" that IP address.

ISP (Internet Service Provider) is a company that maintains a network that is linked to the Internet by way of a dedicated communication line. An ISP offers the use of its dedicated communication lines to companies or individuals who can't afford the high monthly cost for a direct connection. Internet Internet address IP IP address ISP - 101 - J JAVA Java is a programming language that is specially designed for writing programs that can be safely downloaded to your computer through the Internet without the fear of viruses. It is an objectoriented multithread programming best for creating applets and applications for the Internet, Intranet and other complex, distributed network. Local Area Network a computer network that spans a relatively small area sharing common resources. Most LANs are confined to a single building or group of buildings. MJPEG (Motion JPEG) composes a moving image by storing each frame of a moving picture sequence in JPEG compression, and then decompressing and displaying each frame at rapid speed to show the moving picture. Network Address Translator generally applied by a router that makes many different IP addresses on an internal network appear to the Internet as a single address.

For routing messages properly within your network, each device requires a unique IP address. But the addresses may not be valid outside your network. NAT solves the problem. When devices within your network request information from the Internet, the requests are forwarded to the Internet under the router's IP address. NAT distributes the responses to the proper IP addresses within your network. A network consists of a collection of two or more devices, people, or components that communicate with each other over physical or virtual media. The most common types of L LAN M MJPEG N NAT Network - 102 - network are: LAN (local area network): Computers are in close distance to one another.

They are usually in the same office space, room, or building. WAN (wide area network): The computers are in different geographic locations and are connected by telephone lines or radio waves. NWay Protocol A network protocol that can automatically negotiate the highest possible transmission speed between two devices. PCM (Pulse Code Modulation) is a technique for converting analog audio signals into digital form for transmission. Packet Internet Groper, a utility used to determine whether a specific IP address is accessible.

It functions by sending a packet to the specified address and waits for a reply. It is primarily used to troubleshoot Internet connections.



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