User's Guide





Wireless Cloud Camera
Wireless Day/Night Cloud Camera

TV-IP751WC / TV-IP751WIC

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# **Product Overview**





TV-IP751WC

TV-IP751WIC

# **Package Contents**

In addition to your camera, the package includes:

- Muti-Language Quick Installation Guide
- CD-ROM (Utility, software & User's Guide)
- Network cable (1.5m / 5ft)
- Power adapter (5V DC, 1.2A)
- Camera mounting kit

If any package contents are missing or damaged, please contact the retail store, online retailer, or reseller/distributor that the item was purchased.

# **Features**

#### TV-IP751WC

The Wireless Cloud Camera, model TV-IP751WC, transmits real-time video over the Internet. Wireless n technology provides unsurpassed wireless coverage and improved streaming video quality. Add this camera to your wireless network at the touch of a button with Wi-Fi Protected Setup (WPS).

Record 640 x 480 (VGA) video at up to 20 frames per second (fps). Manage up to 32 TRENDnet cameras with the included complimentary camera management software. Advanced features include adjustable motion detection recording areas, email alerts, scheduled recording sessions, one-way audio, an adjustable lens, and four times digital zoom. A wall/ceiling mounting kit is included and the camera's off white housing blends into most environments.

#### TV-IP751WIC

The Wireless Day/Night Cloud Camera, model TV- IP751WIC, transmits real-time video over the Internet. Record crisp video in complete darkness for distances of up to 7.5 meters. Wireless n technology provides unsurpassed wireless coverage and improved streaming video quality. Add this camera to your wireless network at the touch of a button with Wi-Fi Protected Setup (WPS).

Record 640 x 480 (VGA) video at up to 20 frames per second (fps). Manage up to 32 TRENDnet cameras with the included complimentary camera management software. Advanced features include adjustable motion detection recording areas, email alerts, scheduled recording sessions, one-way audio, an adjustable lens, and four times digital zoom. A wall/ceiling mounting kit is included and the camera's off white housing blends into most environment.

# **Product Hardware Features**

#### **Rear Panel View**



- LAN Port Connect Ethernet cables to your wired network devices.
- **Power Port** Connect the included power adapter from your camera to an available power outlet.

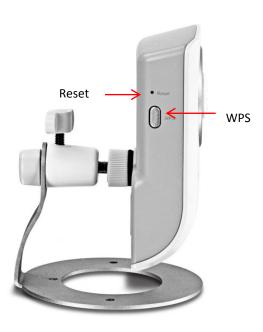
**Note:** Use only the adapter that came with your camera.

#### **Front Panel View**



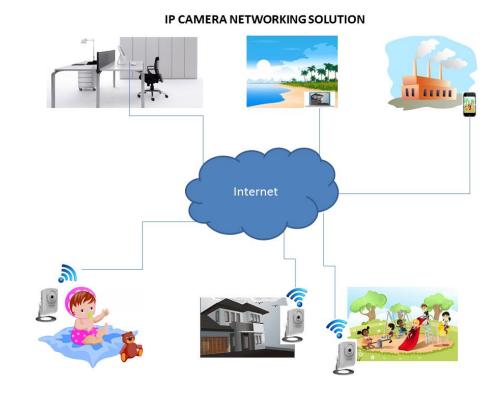
- IR LED Built-in 4 IR LED for night vision uses. (for TV-IP751WIC)
- Light Sensor Detects the light source to turn IR on or off.
- Focus ring turn to adjust the focus of the camera.
- Microphone Built-in microphone for audio can be turn on or off.
- **Power** This LED indicator is solid blue when your camera is powered on. Otherwise if this LED indicator is off, there is no power to your camera.
- **Link** This LED indicator is blinking orange when there is connection/data to your camera.

#### **Side Panel View**



- Reset Button Use an item such as a paperclip to push and hold this button for 3 seconds and release to reset your camera to its factory defaults.
- **WPS (Wi-Fi Protected Setup)** Push and hold this button for 3 seconds to activate WPS. The button LED is blinking green when WPS is activated.

# **Application Diagram**

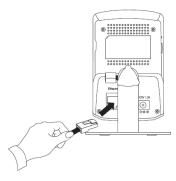


# **Installation Option Description\***

#### **Wired Connection**

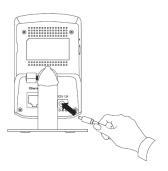
1. Connect the Ethernet Cable

If you intend to use the network camera as a wired device, connect one end of the included Ethernet cable into the **Ethernet** port on the rear panel of the camera and connect the other end to an available port on your network. If you prefer to use the camera on a wireless network, see below for instructions on connecting the power adapter.



2. Attach the Power Supply

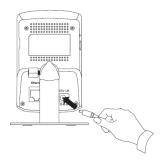
Attach the included power supply to the **DC 5V 1.2A** receptor on the rear panel of the camera and then connect it to a wall outlet or power strip. A blue LED will light up under the lens indicating that the camera has power.



#### **WPS Connection**

An alternative method of connecting your camera to your network is by using WPS. WPS is a quick, simple and secure method of adding devices to a network. If you have a router which supports WPS follow the steps below, otherwise, please use the wired mode of setting up the camera.

1. Attach the Power Supply



2. Press the WPS button on your wireless device then press the WPS button on the camera.





\*The Install wizard CD inside the package box will guide you step-by-step of wired or wireless options with the TRENDnet Cloud Service of installation; please refer to the page 7.

### **TRENDnet Cloud Service**

Note: (Before beginning, make sure you are connected to the internet and the camera is accessible to the web).

- 1. Take a look for a similar **URL** to this (**11223344.cam.trendnetcloud.com**) at the label on the back of the camera.
- 2. Connect the power cable to the camera.



There are two methods to connect to the internet, **wired** and **wireless**. For wireless, follow the instructions from **Image A** below. For wired, follow the instructions from **Image B** below.

# **Image A (connecting using WPS)**



# **Image B (wired connection)**



3. Open your browser, type the URL listed at the back of your camera and hit Enter to connect to the camera's live stream. Please note: you can also use this URL to connect to the camera from any location or computer.

There are three modes when connecting your TV-IP751WC/TV-IP751WIC to the web. This is visible through the "cloud" at the top right side of the web interface.

# **Blue Mode**

The Blue Mode indicates the camera is connecting directly to the internet or local network. This mode offers configuration and management options.



# **Green Mode**

The Green Mode indicates the camera is connecting to media in a peer-to-peer fashion to the internet or local network. This mode doesn't offer configuration and management options – only live streaming.



# **Red Mode**

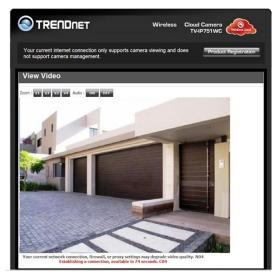
The Red Mode indicates the camera is connecting to the internet or local network through a firewall. This mode doesn't offer configuration and management options – just live streaming for 180 seconds.



The firewall settings limits live streaming for each user.



The "red" notification at the bottom of the viewing area warns users of the limited time



Refresh this screen continuously if you wish to view your camera's live stream.

### Install the Camera

Insert the included CD-ROM into your CD/DVD drive. The **Install Wizard** program will run automatically.

**Note:** If the Install Wizard does not run, you may have **autorun** disabled on your machine. In this case, browse to the CD drive and run **InstallWizard.exe** to begin the installation wizard.

Begin by selecting a language from the drop-down menu. Currently, the TV-IP751 supports the following languages: English, French, German, Russian and Spanish. Then click **Install Camera** and follow the on-screen steps to continue the installation.



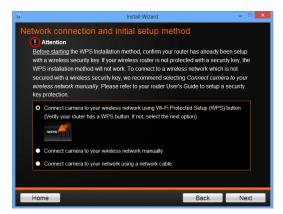
1. This is TRENDnet's Terms of Use. Click Agree to continue.



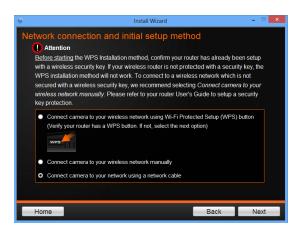
2. The next step references information on the camera itself. Go to your camera and check the details at the back of the device. Click **Next** to continue, **Back** to go to the previous screen or Home to return to the **Main Menu**.



- 3. The most important part of the setup process is the network connection type. There are three options:
  - a. Connect camera to your wireless network using Wi-Fi Protected Setup (WPS) button (Verify your router has a WPS button. If not, select the next option).
  - b. Connect camera to your wireless network manually
  - c. Connect camera to your network using a network cable.



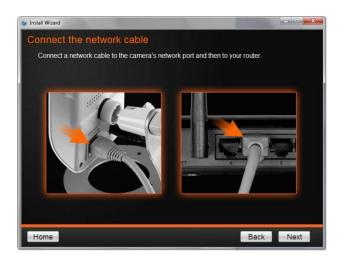
4. The basic connection type is "C" using a network cable. Let's begin the installation process using the network cable connection first. Click this radio button and click Next to continue, Back to go to the previous screen or Home to return to the Main Menu.



 Follow the instructions in the next screen to Power up the Camera. Click Next to continue, Back to go to the previous screen or Home to return to the Main Menu.



 Connect one end of the network cable to your camera and the other end to your router. Click **Next** to continue, **Back** to go to the previous screen or **Home** to return to the **Main Menu**.



7. The wizard searches the network for your camera.



8. If you only have one camera on your network, the wizard will automatically select it (as shown below). Otherwise, if you have more than one camera, it provides several options from the list. The wizard provides the **Model Number** and **MAC Address** of the camera. If you do not see any of your camera(s) in the wizard, click **Retry** to scan for the camera again. Click **Next** to continue, **Back** to go to the previous screen or **Home** to return to the **Main Menu**.



Password Settings. Follow the instructions on the screen. The **Default**username is **admin**. Click the Change Password checkbox to enter the new
password details. Click **Next** to continue, **Back** to go to the previous screen or
Home to return to the **Main Menu**.



10. The wizard configures your parameters.



11. The initial setup is complete. The main feature is the Cloud Access accessibility feature. Click the **link(s)** or icon below to create a shortcut on your desktop. Also, below the icon is a warning. This warning is only shown when the internet connection is inactive or the Cloud server cannot be found. Make sure the internet connection is active, click Retry. When the Cloud server isn't found, the server may be busy or under maintenance. Under these circumstances, click Retry later again. If there is no warning, click Next.



12. The mobile option allows the user to download the **TRENDnet CloudView App** in either Apple or Google android format. To use this feature, the user must have a **QR Scanner App** on their mobile device. This is also available from the **Apple App Store** or **Google's Play store**. Click **Next** to continue, or **Home** to go to the main menu.

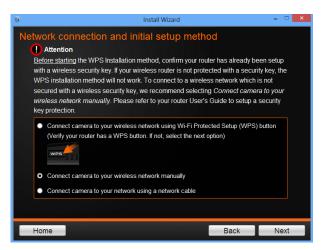


You are now ready to use your camera. Click **Finish** to exit.

# Connecting to your TV-IP751WC/TV-IP751WIC with a Mobile App

Please refer to the page 15 for mobile apps download through the QR code option.

# **Configure Manual Wireless settings (without WPS)**



Under Network connection and initial setup method, read the instructional warning on router wireless settings. Provided you are familiar with these optional settings, select the method that best suits your needs otherwise select the easier method, Connect camera to your wireless network manually. This preferred setup requires no security and is much easier to configure. Use, Connect camera to your wireless network using Wi-Fi Protected Setup (WPS) only if you know where your WPS button is and have a good knowledge of how it works.

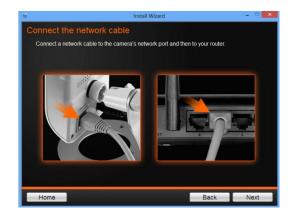
Click **Next** to continue, **Back** to go to the previous screen or **Home** to return to the **Main Menu**.

Please read the next steps carefully as it pertains to the wireless manual settings feature on your router and camera.

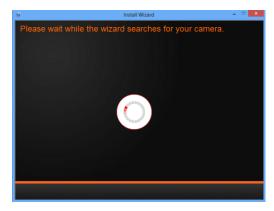
Power Up the Camera. Follow the instructions and click Next to continue. If you
wish to go to the previous screen, click Back or Home to return to the main
menu.



2. Connect the network cable. Click Next to continue.



3. Please wait while the wizard searches for your camera.



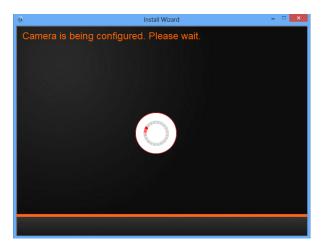
4. Once your camera has been detected, the wizard displays the Model number and MAC address. If you have more than one camera then select the one you want to activate. Click Next to continue.



5. Change the password settings here or leave it at default. Click Next to continue.



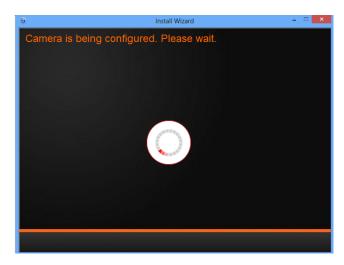
6. Wait while the camera is configured with the new settings.



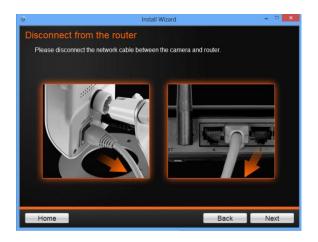
 Once the wizard has found your Access Point, you will be prompted to enter an 8-16 bit password depending on your router configuration. Click Next to continue, Back to go to the previous screen or Home to return to the Main Menu.



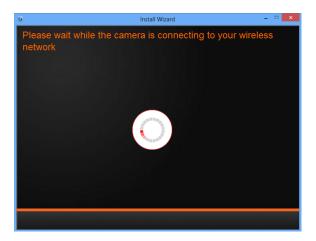
8. The camera once again configures the settings.



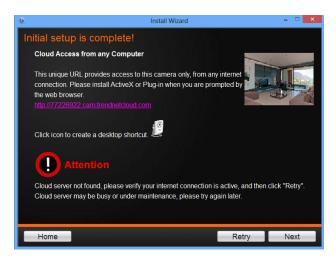
9. Disconnect the cable from the camera and click Next to continue.



The camera connects to the wireless router. Make sure your router has wireless activated.



10. The initial setup is complete. The main feature is the Cloud Access accessibility feature. Click the link(s) or icon below to create a shortcut on your desktop. Also, below the icon is a warning. This warning is only shown when the internet connection is inactive or the Cloud server cannot be found. Make sure the internet connection is active, click Retry. When the Cloud server isn't found, the server may be busy or under maintenance. Under these circumstances, click Retry later again. If there is no warning, click Next.



11. The mobile option allows the user to download the **TRENDnet CloudView App** in either Apple or Google android format. To use this feature, the user must have a **QR Scanner App** on their mobile device. This is also available from the **Apple App Store** or **Google's Play store**. The QR codes of Apple and Android are presented on the last page of the autorun wizard.



Use the **links** to access the camera or **QR codes** on your desired mobile device. Click **Next** to continue or **Home** to return to the main menu.

Click Finish to exit the wizard and start using your TRENDnet camera.

Please refer to the page 15 for mobile apps download through the QR code option.

# Connect to your TV-IP751WC/TV-IP751WIC with a Mobile App

TRENDnet Cloud Services also offers mobile connectivity. Access the iPhone App by going to the Apple™ App Store and downloading "TRENDnet CloudView" App. Alternatively, if you are using the Google™ Android service, go to the Google Play™ Store and download the app from there. Currently, TRENDnet does not support Blackberry™ or the Windows™ App stores.

# Mobile Apps, QR code Download Option

The mobile option allows the user to download the **TRENDnet CloudView App** in either Apple or Google android format. To use this feature, the user must have a **QR Scanner App** on their mobile device. This is also available from the **Apple App Store** or **Google's Play store**. The QR codes of Apple and Android are presented on the last page of the Install wizard.



#### **Mobile Apps**

Using your mobile device, in this example it is an **Android** phone, touch the **Bar Code** scanning app on your phone (You need to download a bar code scan APP prior to QR code scan). Hold it up to the **QR Code** on the wizard that reads, **Android**, and snap to scan the image. The **Bar Code** app will read the QR Code and record it.



The app copies the QR link and provides a HTML link to the TRENDnet app. Click on the link.



You will be directed to the **Google Play Storefront** to download the app.



Download the app, install it and use the app on your mobile device to view the TRENDnet camera.

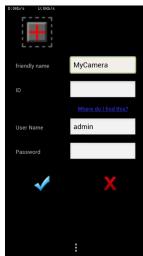
The TRENDnet icon will appear on your android device screen.



Touch the icon to activate it.



Enter the settings and touch the check icon. You are now able to have a live view from your camera.



Here is Apple iTunes version



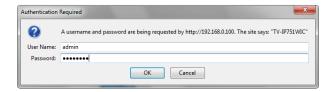
Scan the QR Code using one of iOS's QR Code apps. The app automatically creates an HTML link to the iTunes App Store. Link the link.



You are immediately directed to the iTunes App Store. Click the link to download.

# **Configuration**

After completing the Setup Wizard, you are ready to use your camera. The camera's built-in Web configuration utility is designed to allow you to easily access and configure your TV-IP751WC and TV-IP751WIC camera. Open a web browser such as Internet Explorer® and enter the IP address of your camera. To log in, use the Username "admin" and the Password created in the Setup Wizard. If you did not create a password, the default Password is admin. You will then be prompted to change the default password, admin. After entering your password, click OK.



The home page for the TV-IP751WC and TV-IP751WIC appears.



# **Viewing Video**

Click **VIEW VIDEO | ACTIVEX** or **VIEW VIDEO | JAVA** to begin viewing live video from your camera.

#### **VIEW VIDEO | ACTIVEX**

Windows users who do not have Java installed can choose ActiveX mode to view video. Internet Explorer will prompt you to install ActiveX when you click on the **VIEW VIDEO** | **ACTIVEX** link. Mac users must use the Java mode to view video.



#### VIEW VIDEO | JAVA

Please make sure that you have the latest version of Java installed on your machine to ensure proper operation when viewing video in Java mode. The Java application can be downloaded from Sun's website free of charge (<a href="http://www.java.com">http://www.java.com</a>)



# **Viewing Camera Settings**

To view camera settings:

- 1. Login to the camera
- 2. Click **ADMINISTRATION.** The system status screen appears.

From the menu on the left side of the screen, select an option under the **STATUS** heading.



#### System

This screen shows the Camera Name, Location, Model, Firmware Version, MAC Address, IP Address, Ethernet Link Status, Speed and Full Duplex type.

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Wireless Day/Night Cloud Camera TV4P75TWIC

Status

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- Configuration

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Wireless Day/Night Cloud Camera Tv4P75TWIC

View Video Java Product Registration

Power Valen

Tv4P75TWIC

Location

Model TV4P75TWIC

Firmware Version 1.00.01 (2012-08-10)

MAC Address 00 14.0 17.0 5.4 0F

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Thermostatus

Link Yes

Speed 100M tops

Deplex Full Duples

Robresh

#### Video

This screen shows the details of the video capture settings including **Video Resolution**, **Compression Rate**, **Frame Rate**, **Frame Size** and **Light Frequency**.



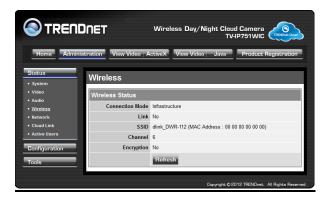
#### **Audio**

This screen shows audio as enabled/disabled and the audio volume level.



#### Wireless

This screen shows the **connection mode**, **link status**, **SSID** name, **Channel** and **encryption** status.



#### Network

This screen shows various network statistics related to your camera including IP Address, Subnet Mask and Default Gateway.



#### **Cloud Link**

This screen shows the Cloud server URL and its status.



#### **Active Users**

This screen shows the current active users viewing live camera video.



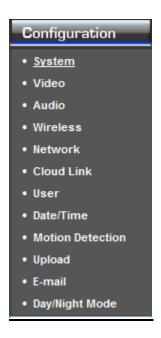
# **Configuring Camera Settings**

The **TV-IP751WC/WIC** allows you to make configuration changes from anywhere by connecting to the camera using a standard web browser.

To configure camera settings:

- 1. Login to the camera as described in the section Using the web-based configuration interface.
- 2. Click **ADMINISTRATION**. The system status screen appears.

 Click CONFIGURATION from the menu on the left side of the screen. The System configuration screen is displayed. You can then click on any of the menu items on the left of the screen under the Configuration menu to modify settings.



#### System

- **Camera Name:** This is the name used to identify your camera on your network.
- Location: You can enter a description of the place where the camera is.
- Admin: In this field you can change the administrator user name and password.
   (max. password length is 8 characters)
- **LED Control:** Setting this to **Normal** will display the lights on the front of the camera indicating power and network activity. Setting this to **OFF** will turn off both lights on the front of the camera.



#### Video

- **Video Resolution:** Select from one of the three resolutions. Higher values provide better quality but at the expense of higher bandwidth requirements on your network or internet connection.
- **Compression Rate:** Select a compression rate. Higher rates of compression will reduce network load at the expense of lower image quality.
- Frame Rate (Frames/Sec.): Select the number of frames per second you would like for your video. Higher rates provide smoother video but require more bandwidth on your network or internet connection.
- **Brightness Control:** Allows you to control the brightness level. Enter a value between 1 and 128.
- **Contrast Control:** Allows you to control the contrast level. Enter a value between 1 and 128.
- **Saturation Control:** Allows you to control the saturation level. Enter a value between 1 and 128.
- **Light Frequency:** Select the correct frequency (50Hz/60Hz) to reduce the amount of flicker.
- Mirror: Choose whether to mirror the image horizontally or vertically.
- Anti-Flicker: Check the box to enable anti-flicker.



#### **Audio**

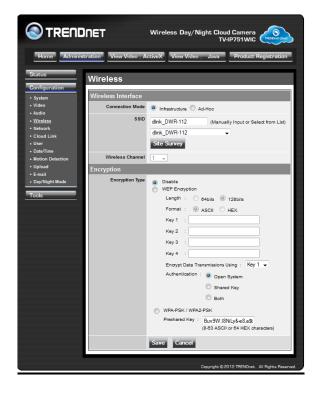
- Audio: Choose whether to **Enable** or **Disable** the camera audio feed.
- **Volume:** Select the volume percentage level.



#### Wireless

Connection Mode: Infrastructure is a wireless connection using an access point
as a transmission point of all wireless devices. Ad-Hoc is a wireless connection
used without an access point, where your TV-IP751WC or TV-IP751WIC is
directly connected to your PC. This is done using the on-board wireless

- adapter on the TV-IP751WC or TV-IP751WIC connected to a wireless adapter on the PC.
- **SSID**: Service Set Identifier. This is an identifier for your network. Manually enter the SSID of your wireless network or select it from the drop down menu. You can click Site Survey to see a list of wireless networks within range and further details of their settings.
- Wireless Channel: When using Infrastructure mode, the channel is specified by
  the access point and the channel will not be selectable on this menu. When
  using Ad-Hoc mode, you can specify on which channel you want to
  communicate with the camera.
- Encryption Type: It is highly recommended that you encrypt the connection. In Infrastructure mode, select an encryption type and enter details where applicable as you have specified on the access point. If you intend to use Ad Hoc mode, you can specify here the encryption type and pre-shared key that you want to use to connect from the PC.



#### Network

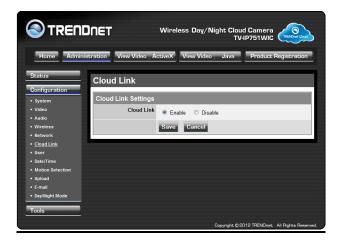
- IP Address Mode: Choose a method to assign an IP address to your camera.
  - Fixed IP If you want to assign a static or fixed IP address to the camera, you may do so here. Your network administrator should be able to provide you with the necessary details to complete this section.
  - Dynamic IP (DHCP) Allows a DHCP server to automatically assign the camera a network address.
  - PPPoE If you are using a PPPoE connection, enter your user name and password here
- **Dynamic IP:** Enter the Domain Name Server addresses which translate names to IP addresses.

- Dynamic DNS: The Dynamic DNS feature allows you to host a server (e.g. web server, FTP or Game server) using a domain that you own with a dynamically assigned IP address. Many ISPs assign IP addresses dynamically i.e. the IP address changes each time you connect and disconnect. Using a Dynamic DNS service provider, you can connect to your camera no matter what your IP address. Enter the details of your dynamic DNS service provider here.
- HTTP Port: You may configure a second HTTP port that will allow you to connect to the camera using a standard web browser. The port can be set to a number other than the default TCP ports 80. A corresponding port must be opened on the router. For example, if the port is changed to 1010, users must type "http://192.168.0.100:1010" instead of only "http://192.168.0.100".
- **uPnP & uPnP Port Forwarding:** Enable these to set your camera as a universal plug n play device on your network.



#### **Cloud Link Settings**

• Cloud Link: Click the radio button to Enable or Disable cloud server syncing.



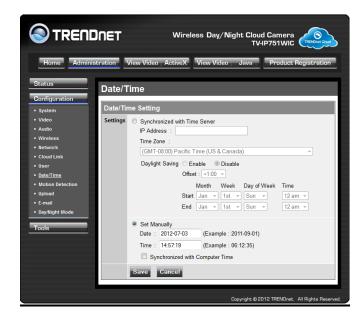
#### User

- User Access Control: Enable this to allow user accounts to connect to the camera. This option also enable/disable the authentication for direct view. For Java mode: <a href="http://camera\_ip\_address/tvjview.htm">http://camera\_ip\_address/tvjview.htm</a>
   For ActiveX mode: <a href="http://camera\_ip\_address/tvaview.htm">http://camera\_ip\_address/tvaview.htm</a>
   (eg. <a href="http://192.168.10.30/tvaview.htm">http://192.168.10.30/tvaview.htm</a> to view the camera live image directly)
- **Define Users:** You can create new user accounts here. Enter a user name and password and select whether the user is allowed to upload or email an image from the camera.
- **Delete User:** Select a user from the drop down menu and click the **Delete** button to remove a user account from the camera.



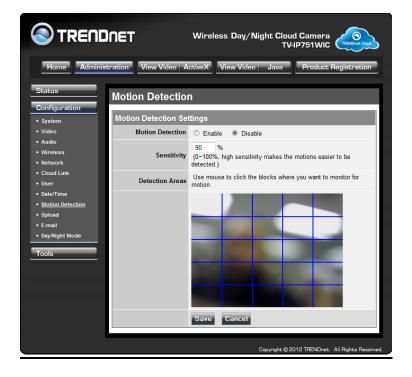
#### Date/Time

- Synchronized with Time Server: If you have an internet time server or have an NTP server designated on your network, you can specify the IP address of it here. Ensure that you select the correct time zone for the camera also.
- **Set Manually:** If you prefer to manually set the time for the camera, select this mode. You can check the box **Synchronized with Computer Time** to set the time on the camera to be the same as the computer you are on.



#### **Motion Detection**

- Motion Detection: Select whether to Enable or Disable motion detection. This
  will allow your camera to perform different functions when activity has been
  detected in the parts of the screen that you specify.
- **Sensitivity:** Set a percentage level to determine how sensitive the camera is to activity.
- Detection Areas: From the live image shown on this screen, you can left-click
  on blocks of the grid shown to indicate which parts of the screen you would like
  to monitor for motion.



#### Upload

On this screen you can enter details of an FTP Server that you want to upload images from the camera to.

- **Host Address:** The IP address of the FTP Server
- Port Number: The port number to connect to the FTP on, default port is 21.
- User Name: The user name of the FTP account.
- **Password:** The password for the user account on the FTP.
- **Directory Path:** The path you want the files to be uploaded to on the FTP.
- Passive Mode: If the camera is behind a firewall, you might wish to enable Passive mode to allow the camera to upload the pictures.
- Time Schedule: Check Enable upload image to FTP server to enable the Upload function.
  - Always: Selecting this option allows snapshots to be uploaded to your FTP as soon as you click Save.

- Schedule: Selecting this option allows you to configure specific times when you want the snapshots to be uploaded to your FTP server.
- Motion Detection: Selecting this option sets the camera to upload images upon detection of motion.
- Manual Operation: Selecting this option means the user is responsible for taking a snapshot from the camera to upload.
- Video Frequency: Users can select in frames per second (1, 2, 3 or auto, in auto this could go to 4). The user can also select a duration for each frame from 1 to 65535 seconds.
- **Base File Name**: Enter the prefix for the filename of each snapshot taken by the camera.
- File: If Overwrite is selected, only a few images will be constantly refreshed, depending on how many snapshots you choose to have sent. Select Date/Time Suffix and the pictures will be named with a date and time also. Select a Sequence Number Suffix up to 1024 and all the pictures will be numbered from 1-1024. Up to 1024 pictures can be configured. Picture number 1025 will reset to number 1.



#### E-mail

This section allows you to configure the email notification settings of your camera.

- **SMTP Server Address:** The domain name or IP address of your external mail server.
- **SMTP Port Number:** The port number of your mail server, usually this is port 25.
- Sender's Email Address: The e-mail address of the person sending the camera snapshots.
- **Recipient's E-mail Address:** The e-mail address of the person receiving the camera snapshots.

- **User Name:** The user name of the sender's email account for SMTP authentication.
- **Password:** The password of the sender's account for SMTP authentication.
- Use SSL-TLSS/STARTTLS: If your mail server supports SSL-TLSS or STARTTLS, you
  can select one of these methods to create an encrypted connection to the mail
  server.
- Time Schedule: Check Enable e-mail image to e-mail account to enable the time schedule function.
  - Always: Selecting this option will allow snapshots to be emailed when you click **Save**.
  - Schedule: Selecting this option allows you to configure specific times when you want the snapshots to be emailed.
  - Motion Detection: Selecting this option sets the camera to e-mail images upon detection of motion.
  - **Manual Operation:** Selecting this option means the user is responsible for taking a snapshot from the camera to e-mail.



#### Day/Night Mode

This section allows you to configure the Day/Night Mode Settings. There are various options available:

- Auto: The system automatically configures these settings.
- Manual: Gives you total freedom to set the schedule
- Always Day Mode: Daytime settings
- Always Night Mode: Nighttime settings
- Day Mode Schedule: Set the schedule from Monday-Sunday individually



# **Tools**

#### **FTP Server Test**

When you have set up the FTP Server in the configuration section, you can use this screen to test that the FTP Server settings are correct. Pressing the **Test** button will make a connection to the FTP Server and upload a file called test\_date\_time.jpg to the FTP. If the file is not there, you should check that you have entered the FTP details correctly in the configuration section.



#### E-mail Test

When you have set up an e-mail account in the configuration section, you can use this screen to test that the E-mail settings are correct. Pressing the **Test** button will make the camera send a test e-mail to the address specified in the configuration section. If you do not receive the test e-mail, you should check that you have entered the e-mail details correctly in the configuration section.



#### Restart

If you should need to restart the IP camera, you can do this from this screen. Clicking **Yes** will initiate a reboot sequence on the camera. When you restart the camera you will lose your connection to it. Wait 1 minute before attempting to reconnect to the camera so that it has time to go through its boot up sequence. Restarting the camera will retain the configuration settings you have entered.



#### **Factory Reset**

If you should need to restore the camera to the factory settings, you can do it from this screen. Clicking **Yes** will initiate a reboot sequence on the camera. When the camera restarts, you will lose your connection to it. The username and password will also both be set back to the default **admin**. Wait 1 minute before attempting to reconnect to the camera so that it has time to go through its boot up sequence.

**Note:** Factory reset will erase the current configuration settings on the camera. You should back up the settings first if you wish to keep them. See the Backup and Restore section for more information.



#### Firmware Upgrade

Click the **Browse** button and locate the firmware file you saved on your computer and choose **Open**. When you are ready, click the **Upgrade** button to begin the firmware upgrade.

**Note:** Upgrading the firmware is a sensitive process. Be sure that you have the correct firmware for your model of camera and do not disconnect the power during the upgrade process.



#### **Backup and Restore**

When you have set up the camera and you are satisfied with the settings, you can backup the settings to a file for future reference. If you should change the settings and want to revert back to the previous settings, you can do so on this page. To backup the configuration, click **Backup** and select a location to save the file, then choose **Save**. To restore settings from a configuration file, click **Browse** and locate the backup configuration file on your hard drive then click **OK**. Click **Restore** to complete the process.



# How to setup/access the camera remotely

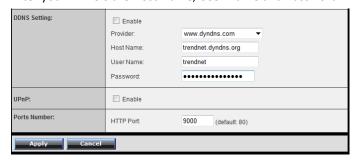
You can either setup the Dynamic DNS connection via camera itself or your home router. An account from any of the listed DDNS providers is required prior to this operation.

#### **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.



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.

4. Open another web browser and go to your Router's Web Configuration page. (In the example, TRENDnet's TEW-651BR Wireless N router is used)



5. Go to Virtual Server\* section and create a new entry.

Enable: Click Enable

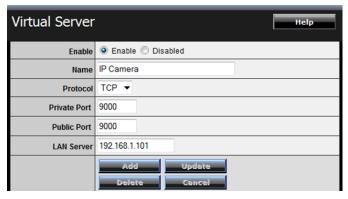
Name: Enter the application name (eg. CameraName)

**Protocol**: Select **TCP** 

**Private Port:** The HTTP port that you assign on your Camera.

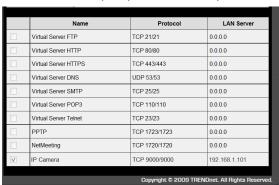
**Public Port:** The port used on remote side to access to your Camera.

LAN Server: The local IP address of your Camera.



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.



Open another web browser and enter your DDNS domain and camera's port number.

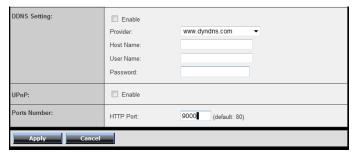
http://yourDomainName:PortNumber



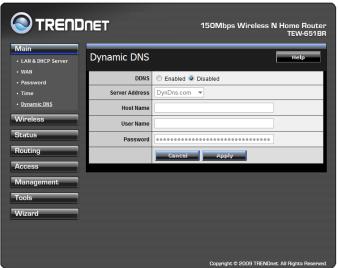
7. Camera's login page will appear.

#### **Configure DDNS on your router**

 Go to Camera's DDNS → Ports Number section, assign a HTTP port for your camera and click Apply.



- 2. Login to your router's web configuration page.
- 3. Find the **Dynamic DNS** configuration section.



4. Enable DDNS, fill out the following information and then click **Apply**.



5. Go to **Virtual Server\*** section and create a new entry.

Enable: Click Enable

Name: Enter the application name (eg. Camera Name)

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.

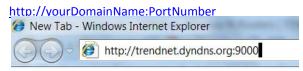
LAN Server: The local IP address of your Camera.



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.

6. Open another web browser and enter your DDNS domain and camera's port number.



7. The camera login page will appear.

# **Technical Specifications**

# TV-IP751WC

Camera	
General	Sensor: 1/5" CMOS Sensor
	Board Lens
	Focal Length: 4 mm
	F/No: 1.5
	Minimum illumination: 1 lux
	Focus Depth: 20 cm ~ infinity
	View:
	Horizontal: 38°
	Vertical: 28.7°
	Diagonal: 46.5°
	Digital Zoom: 4x
Audio	Built-in omni-directional microphone
	Sensitivity: -38dB +/- 3dB (5 meters max.)
	Frequency: 100~20000Hz
	S/N: >60dB
	Format: PCM
Hardware	
Network	IEEE 802.3u 10/100Mbps Fast Ethernet
LED	Power, Link/Act
WPS Button	Enable WPS connection
Reset Button	Reset to factory default
Power	Max. 5 watts
Consumption	

Power	Input: 100~240V 50/60Hz 0.2A
	Output: 5V, 1.2A external power adapter
Dimension	75 x 115 x 30 mm (2.95 x 4.5 x 1.2 in.)
Weight	110 g (3.8 oz)
Temperature	Operating: 0°C ~ 40°C (32°F ~ 104°F)
	Storage: -15°C ~ 70°C (5°F ~ 158°F)
Humidity	Max. 90% (non-condensing)
Certifications	CE, FCC
Requirement	
Management	Internet Explorer 7.0 or higher
Interface	Firefox 3.5 or higher
	Safari 4.0 or higher
	Google Chrome 19.0 or higher
To Run software	Windows 7 (32/64-bit), Vista (32/64-bit), XP (32/64-bit)
	Windows Server 2003, 2008
SecurView Pro	Channel: supports up to 32 cameras
Software	Record/Playback/Motion Detection/Audio
Network	IPv4, ARP, TCP, UDP, ICMP
Protocols	DHCP Client, NTP Client, DNS Client, DDNS Client, SMTP
	Client, FTP Client, HTTP, PPPoE, UPnP
Wireless	
Standard	IEEE 802.11b, 802.11g and 802.11n
Frequency	2.4 ~ 2.497 GHz ISM band
Modulation	DQPSK, DBPSK, DSSS and CCK
Antenna	Built-in 2 dBi antenna

Data Rate	802.11b: up to 11 Mbps
	802.11g: up to 54 Mbps
	802.11n: up to 150 Mbps
Security	64/128-bit WEP, WPA/WPA2-PSK
Output Power	802.11b: 17 dBm (typical)
	802.11g: 14.5 dBm (typical)
	802.11n: 14.5 dBm (typical)
Receiving	802.11b: -89 dBm at 11 Mbps
Sensitivity	802.11g: -74 dBm at 54 Mbps
	802.11n: -71 dBm at 150 Mbps
Channels	1~11 (FCC), 1~13 (ETSI)
Management	
Accounts	Up to 64 user accounts
Remote Login	Remote management supported
Backup / Restore	Save/retrieve configuration files
Cloud Link	Display status and URL, enable / disable, refresh
Settings	
Image	Brightness, contrast, saturation, light frequency, flip, mirror (horizontal/vertical)
Video Setting	Encoding: MJPEG
	<ol> <li>Resolution and frame rate: VGA@20fps, QVGA@30fps,</li> </ol>
	QQVGA@30fps 2. JPEG quality: Very Low, Low, Medium (default), High,
	Very High
Recording	event based (motion detection) and scheduled
Snapshot	Trigger event: motion detection
	Action: send alert email and/or upload to FTP
<u> </u>	

	real time snapshot
Port Settings	HTTP port: 80 (default)
Time	Synchronize with NTP server or PC, or set time/date manually

### TV-IP751WIC

Camera	
General	Sensor: 1/5" CMOS Sensor
	Board Lens
	Focal Length: 4 mm
	F/No: 1.5
	Minimum illumination: 0 lux (with night vision)
	Focus Depth: 20 cm ~ infinity
	View:
	Horizontal: 38.0°
	Vertical: 28.7°
	Diagonal: 46.5°
	Digital Zoom: 4x
Audio	Built-in omni-directional microphone
	Sensitivity: -38dB +/- 3dB (5 meters max.)
	Frequency: 100~20000Hz
	S/N: >60dB
	Format: PCM
Day/Night	Built-in ICR
	Night vision (IR) up to 7.5 meters (indoor)

Hardware	
Network	IEEE 802.3u 10/100Mbps Fast Ethernet
LED	Power, Link/Act
WPS Button	Enable WPS connection
Reset Button	Reset to factory default
Power Consumption	Max. 5 watts
Power	Input: 100~240V 50/60Hz 0.2A
	Output: 5V, 1.2A external power adapter
Dimension	75 x 115 x 30mm (2.95 x 4.5 x 1.2 in.)
Weight	110 g (3.8 oz)
Temperature	Operating: 0°C ~ 40°C (32°F ~ 104°F)
	Storage: -15°C ~ 70°C (5°F ~ 158°F)
Humidity	Max. 90% (non-condensing)
Certifications	CE, FCC
Requirement	
Management	Internet Explorer 7.0 or higher
Interface	Firefox 3.5 or higher
	Safari 4.0 or higher
	Google Chrome 19.0 or higher
To Run software	Windows 7 (32/64-bit), Vista (32/64-bit), XP (32/64-bit)
	Windows Server 2003, 2008
SecurView Pro	Channel: supports up to 32 cameras
Software	Record/Playback/Motion Detection/Audio
Network	IPv4, ARP, TCP, UDP, ICMP

Protocols	DHCP Client, NTP Client, DNS Client, DDNS Client, SMTP lient, FTP Client, HTTP, PPPoE, UPnP
Wireless	
Standard	IEEE 802.11b, 802.11g and 802.11n
Frequency	2.4 ~ 2.497 GHz ISM band
Modulation	DQPSK, DBPSK, DSSS, and CCK
Antenna	Built-in 2 dB antenna
Data Rate	802.11b: up to 11 Mbps
	802.11g: up to 54 Mbps
	802.11n: up to 150 Mbps
Security	64/128-bit WEP, WPA/WPA2-PSK
Output Power	802.11b: 17 dBm (typical)
	802.11g: 14.5 dBm (typical)
	802.11n: 14.5 dBm (typical)
Receiving	802.11b: -89 dBm at 11 Mbps
Sensitivity	802.11g: -74 dBm at 54 Mbps 802.11n: -71 dBm at 150 Mbps
Charanala	·
Channels	1~11 (FCC), 1~13(ETSI)
Management	
Accounts	Up to 64 user accounts
Remote Login	Remote management supported
Backup / Restore	Save/retrieve configuration files
Cloud Link	Display status and URL, enable / disable, refresh
Settings	
Image	Brightness, contrast, saturation, light frequency, flip,

	mirror (horizontal/vertical)
Video Setting	Encoding: MJPEG
	<ul> <li>Resolution and frame rate: VGA@20fps,</li> </ul>
	QVGA@30fps, QQVGA@30fps
	<ul> <li>JPEG quality: Very Low, Low, Medium (default),</li> <li>High, Very High</li> </ul>
Recording	event based (motion detection) and scheduled
Snapshot	Trigger event: motion detection
	Action: send alert email and/or upload to FTP
	Real time snapshot
Port Settings	HTTP port: 80 (default)
Time	Synchronize with NTP server or PC, or set time / date manually

# **Troubleshooting**

#### 1. The Power LED and Ethernet Activity LED do not light up.

The power supply or camera might be faulty. Check that the connection to both the power source and the terminal on the back of the camera are secure and that you are using the provided power supply. If the camera is otherwise functioning correctly, the LEDs might have been disabled in the configuration. See the section of this guide on Configuration of System settings.

#### 2. The camera can't be accessed or access is slow

There might be a problem with the network cable. To confirm that the cables are working, ping the address of a known device on the network. If the cabling is OK and your network is reachable, you should receive a reply similar to the following (...bytes = 32 time = 2 ms).

Another possible problem may be that the network device such as a hub or switch utilized by the Network Camera is not functioning properly. Please confirm the power for the devices are well connected and functioning properly.

#### 3. The camera can be accessed locally but not remotely

This might be caused by a firewall. Check the Internet firewall with your system administrator. The firewall may need to have some settings changed in order for the Network Camera to be accessible outside your local LAN. For more information, please refer to the section about installing your camera behind a router.

Make sure that the Network Camera isn't conflicting with any Web server you may have running on your network.

The default router setting might be a possible reason. Check that the configuration of the router settings allow the Network Camera to be accessed outside your local LAN.

#### 4. White vertical lines appear on the image from the camera

It could be that the CMOS sensor (a square panel situated behind the lens that measures the light signals and changes it into a digital format so your computer can present it into an image that you are familiar with) has become overloaded when it has been exposed to bright lights such as direct exposure

to sunlight or halogen lights. Reposition the Network Camera into a more shaded area immediately as prolonged exposure to bright lights will damage the CMOS sensor.

#### 5. The camera images are 'noisy'

Often if the camera is in a low-light environment, the images can contain a lot of noise. Try enabling Night mode and see if that improves the image quality. Otherwise, try to use the camera in a location where there is a bit more light.

#### 6. The camera images are of poor quality.

Make sure that your computer's display properties are set to at least 16-bit color. Using 16 or 256 colors on your computer will produce dithering artifacts in the image, making the image look as if it is of poor quality.

Try also adjusting the brightness, contrast, saturation, light frequency and antiflicker controls on the Video Settings under the Configuration menu. You may also consider adjusting the resolution of the camera and the compression rate to improve the image.

#### 7. Video can't be viewed through the web browser interface.

ActiveX might be disabled. If you are viewing the images from Internet Explorer make sure ActiveX has been enabled in the Internet Options menu. You may also need to change the security settings on your browser to allow the ActiveX plugin to be installed.

If you are using Internet Explorer with a version number lower than 6, then you will need to upgrade your Web browser software in order to view the streaming video transmitted by the Network Camera. Try also viewing the video using Java. Ensure that you have the latest version of Java installed before you do. Go to <a href="https://www.java.com">www.java.com</a> for more information.

#### **Federal Communication Commission Interference Statement**

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. 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 installation. If this equipment does cause harmful interference to radio or 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 of the following measures:

Reorient or relocate the receiving antenna.

Increase the separation between the equipment and receiver.

Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

Consult the dealer or an experienced radio/TV technician for help.

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.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

IEEE 802.11b or 802.11g operation of this product in the U.S.A. is firmware-limited to channels 1 through 11.

#### **IMPORTANT NOTE:**

#### **FCC Radiation Exposure Statement:**

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

#### Europe – EU Declaration of Conformity

This device complies with the essential requirements of the R&TTE Directive 1999/5/EC. The following test methods have been applied in order to prove presumption of conformity with the essential requirements of the R&TTE Directive 1999/5/EC:

EN 60950-1: 2006 +A11:2009 +A1: 2010 +A12: 2011

Safety of Information Technology Equipment

EN 62311: 2008

Assessment of electronic and electrical equipment related to human exposure restrictions for electromagnetic fields (0 Hz-300 GHz)

(IEC 62311:2007 (Modified))

EN 300 328 V1.7.1: (2006-10)

Electromagnetic compatibility and Radio spectrum Matters (ERM); Wideband Transmission systems; Data transmission equipment operating in the 2,4 GHz ISM band and using spread spectrum modulation techniques; Harmonized EN covering essential requirements under article 3.2 of the R&TTE Directive

EN 301 489-1 V1.9.2: 2011

Electromagnetic compatibility and Radio Spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 1: Common technical requirements

EN 301 489-17 V2.1.1 (2009-05)

Electromagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 17: Specific conditions for 2,4 GHz wideband transmission systems

This device is a 2.4 GHz wideband transmission system (transceiver), intended for use in all EU member states and EFTA countries, except in France and Italy where restrictive use applies.

In Italy the end-user should apply for a license at the national spectrum authorities in order to obtain authorization to use the device for setting up outdoor radio links and/or for supplying public access to telecommunications and/or network services.

This device may not be used for setting up outdoor radio links in France and in some areas the RF output power may be limited to 10 mW EIRP in the frequency range of 2454 - 2483.5 MHz. For detailed information the end-user should contact the national spectrum authority in France.



Česky [Czech]	TRENDnet tímto prohlašuje, že tento TV-IP751WC/ TV-IP751WIC je ve shodě se základními požadavky a dalšími příslušnými ustanoveními směrnice 1999/5/ES.
da Dansk [Danish]	Undertegnede TRENDnet erklærer herved, at følgende udstyr TV-IP751WC / TV-IP751WIC overholder de væsentlige krav og øvrige relevante krav i direktiv 1999/5/EF.
de Deutsch [German]	Hiermit erklärt TRENDnet, dass sich das Gerät TV-IP751WC / TV-IP751WIC in Übereinstimmung mit den grundlegenden Anforderungen und den übrigen einschlägigen Bestimmungen der Richtlinie 1999/5/EG befindet.
et Eesti [Estonian]	Käesolevaga kinnitab TRENDnet seadme TV-IP751WC / TV-IP751WIC vastavust direktiivi 1999/5/EÜ põhinõuetele ja nimetatud direktiivist tulenevatele teistele asjakohastele sätetele.
en English	Hereby, TRENDnet, declares that this TV-IP751WC / TV-IP751WIC is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.
Español [Spanish]	Por medio de la presente TRENDnet declara que el TV-IP751WC / TV-IP751WIC cumple con los requisitos esenciales y cualesquiera otras disposiciones aplicables o exigibles de la Directiva 1999/5/CE.
el Ελληνική [Greek]	ΜΕ ΤΗΝ ΠΑΡΟΥΣΑ TRENDnet ΔΗΛΩΝΕΙ ΟΤΙ TV-IP751WC / TV-IP751WIC ΣΥΜΜΟΡΦΩΝΕΤΑΙ ΠΡΟΣ ΤΙΣ ΟΥΣΙΩΔΕΙΣ ΑΠΑΙΤΗΣΕΙΣ ΚΑΙ ΤΙΣ ΛΟΙΠΕΣ ΣΧΕΤΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΤΗΣ ΟΔΗΓΙΑΣ 1999/5/ΕΚ.
fr Français [French]	Par la présente TRENDnet déclare que l'appareil TV-IP751WC / TV-IP751WIC est conforme aux exigences essentielles et aux autres dispositions pertinentes de la directive 1999/5/CE.
it Italiano [Italian]	Con la presente TRENDnet dichiara che questo TV-IP751WC / TV-IP751WIC è conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 1999/5/CE.
Latviski [Latvian]	Ar šo TRENDnet deklarē, ka TV-IP751WC / TV-IP751WIC atbilst Direktīvas 1999/5/EK būtiskajām prasībām un citiem ar to saistītajiem noteikumiem.

Lietuvių [Lithuanian]	Šiuo TRENDnet deklaruoja, kad šis TV-IP751WC / TV-IP751WIC atitinka esminius reikalavimus ir kitas 1999/5/EB Direktyvos nuostatas.
nl Nederlands [Dutch]	Hierbij verklaart TRENDnet dat het toestel TV-IP751WC / TV-IP751WIC in overeenstemming is met de essentiële eisen en de andere relevante bepalingen van richtlijn 1999/5/EG.
Mt Malti [Maltese]	Hawnhekk, TRENDnet, jiddikjara li dan TV-IP751WC / TV-IP751WIC jikkonforma mal-ħtiġijiet essenzjali u ma provvedimenti oħrajn relevanti li hemm fid-Dirrettiva 1999/5/EC.
իս Magyar [Hungarian]	Alulírott, TRENDnet nyilatkozom, hogy a TV-IP751WC / TV-IP751WIC megfelel a vonatkozó alapvető követelményeknek és az 1999/5/EC irányelv egyéb előírásainak.
민 Polski [Polish]	Niniejszym TRENDnet oświadcza, że TV-IP751WC / TV-IP751WIC jest zgodny z zasadniczymi wymogami oraz pozostałymi stosownymi postanowieniami Dyrektywy 1999/5/EC.
Português [Portuguese]	TRENDnet declara que este TV-IP751WC / TV-IP751WIC está conforme com os requisitos essenciais e outras disposições da Directiva 1999/5/CE.
র Slovensko [Slovenian]	TRENDnet izjavlja, da je ta TV-IP751WC / TV-IP751WIC v skladu z bistvenimi zahtevami in ostalimi relevantnimi določili direktive 1999/5/ES.
Slovensky [Slovak]	TRENDnet týmto vyhlasuje, že TV-IP751WC / TV-IP751WIC spĺňa základné požiadavky a všetky príslušné ustanovenia Smernice 1999/5/ES.
fi]Suomi [Finnish]	TRENDnet vakuuttaa täten että TV-IP751WC / TV-IP751WICtyyppinen laite on direktiivin 1999/5/EY oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen.
Svenska [Swedish]	Härmed intygar TRENDnet att denna TV-IP751WC / TV-IP751WIC står I överensstämmelse med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av direktiv 1999/5/EG.

TRENDnet User's Guide Limited Warranty

#### **Limited Warranty**

TRENDnet warrants its products against defects in material and workmanship, under normal use and service, for the following lengths of time from the date of purchase.

#### TV-IP751WC / TV-IP751WIC - 3 Years Warranty

AC/DC Power Adapter, Cooling Fan, and Power Supply carry 1 year warranty.

If a product does not operate as warranted during the applicable warranty period, TRENDnet shall reserve the right, at its expense, to repair or replace the defective product or part and deliver an equivalent product or part to the customer. The repair/replacement unit's warranty continues from the original date of purchase. All products that are replaced become the property of TRENDnet. Replacement products may be new or reconditioned. TRENDnet does not issue refunds or credit. Please contact the point-of-purchase for their return policies.

TRENDnet shall not be responsible for any software, firmware, information, or memory data of customer contained in, stored on, or integrated with any products returned to TRENDnet pursuant to any warranty.

There are no user serviceable parts inside the product. Do not remove or attempt to service the product by any unauthorized service center. This warranty is voided if (i) the product has been modified or repaired by any unauthorized service center, (ii) the product was subject to accident, abuse, or improper use (iii) the product was subject to conditions more severe than those specified in the manual.

Warranty service may be obtained by contacting TRENDnet within the applicable warranty period and providing a copy of the dated proof of the purchase. Upon proper submission of required documentation a Return Material Authorization (RMA) number will be issued. An RMA number is required in order to initiate warranty service support for all TRENDnet products. Products that are sent to TRENDnet for RMA service must have the RMA number marked on the outside of return packages and sent to TRENDnet prepaid, insured and packaged appropriately for safe shipment. Customers shipping from outside of the USA and Canada are responsible for return shipping fees. Customers shipping from outside of the USA are responsible for custom charges, including but not limited to, duty, tax, and other fees.

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# Product Warranty Registration

Please take a moment to register your product online. Go to TRENDnet's website at http://www.trendnet.com/register

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