

# User's Manual

2.4GHz Color Wireless Camera Kit  
MODEL: Bt502



Please read this manual carefully and thoroughly before any attempt to install and operate this product and retain it for your future reference.

The users manual or instruction manual for an intentional or unintentional radiator shall caution the user that changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. In cases where the manual is provided only in a form other than paper, such as on a computer disk or over the Internet, the information required by this section may be included in the manual in that alternative form, provided the user can reasonably be expected to have the capability to access information in that form.

### **EU Environmental Protection**

Waste electrical products should not be disposed of with household waste. Please recycle where facilities exist. Check with your Local Authority or retailer for recycling advice.



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# INTRODUCTION

Thank you for your interest and support to our product and purchase this wireless camera kit. This product works at ISM-2.4GHz frequency band, which could be legally used worldwide without permission.

We feel confident that you will be pleased with the quality and features of this product.

The camera builds in one CMOS image sensor and one transmitting module transmits the captured image wirelessly.

## Notice

**Notice:** 2.4GHz wireless camera works at ISM band. It may cause interference with other wireless equipment that operates on the same band. Please turn off that equipment to eliminate the interference.

**Product Assurance:** 2.4GHz wireless camera will emit electromagnetic wave, just like other wireless products. But the output power of this products is less than other wireless products such as mobile phones. The 2.4GHz wireless camera meets wireless frequency security standards and recommended indexes while working. These standards and indexes are certificated by academic organization and represent the cogitative research of the scientific workers who continuously explore and annotate the involved fields. So we believe that our products are safe for customers.

## Approval Information

All our products meet the requirements of approval FCC or CE, and obtained the FCC or CE certification. They are authorized to bear FCC or CE mark.

## FCC Information

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 or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the 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
- Changes and modification not expressly approved by the manufacturer or registrant of this equipment can void your authority to operate this equipment under Federal Communications Commissions rules.

## CE

This product complies with standards including **Low Voltage Device Directive 73/23/EEC**; **EMC Directive 89/336/EEC** and **R&TTE Directive 1999/5/EC**. It passed the subject tests by the authority concerned and is authorized to bear **CE** mark.

## **Restrictions**

1. DO NOT use this product to violate one's privacy. Monitoring one's activities without consent is illegal and this product is not designed and manufactured for such purpose;
2. DO NOT put this product near any medical equipment. Radio waves might potentially cause breakdown of electrical medical equipment. So this product should be placed at least 1 feet away from any heart pacemaker. Radio waves might potentially influence heart pacemaker and lead to respiratory disturbance;
3. DO NOT use this product for any illegal activities. AEE Technology shall not be responsible for any consequences of illegal acts committed by the user.

## **Maintenance**

1. Ensure the sufficient ventilation space is available;
2. Do not shake or strike the product;
3. Keep it dry and dustless and avoid exposing it to direct sunlight;
4. Do not place product near any magnetic objects;
5. Avoid putting the product in places where the constantly changed temperature or humidity occurs;
6. Keep product away from heat sources such as electric heater;
7. Do not use the camera near aggressive chemicals;
8. Do not use this camera near water, for example, near a bath tub, wash bowl, kitchen sink or laundry tub, in a wet basement or near a swimming pool and the like;
9. Do not use the camera in the places which are enclosed by metal. The surrounding metal like lifter, cabin, may shield the electromagnetic wave, and result in failure of signal reception;
10. Please obey the local government's environment protection policy;
11. Please turn off the power when left unused;
12. Do not disassemble or repair the camera or receiver; doing so might cause damages to the product.

# PRODUCT

## Package Contents

This package comes with the following items. Please check whether they are all included in the packaging box, if one or some is missing, contact the retailer for replacement.

- ① 2.4GHz wireless camera × 1
- ② Antenna for camera × 2
- ③ 2.4GHz wireless receiver × 1
- ④ Adapter for camera × 1
- ⑤ USB cable × 1
- ⑥ Mounting hardware × 1
- ⑦ CD-ROM
- ⑧ User's Manual × 1



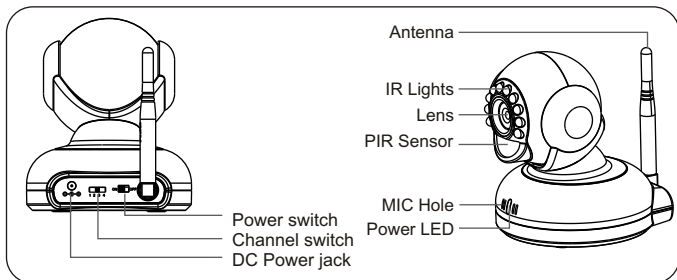
**Note:**

*The pictures may vary from the actual objects.*

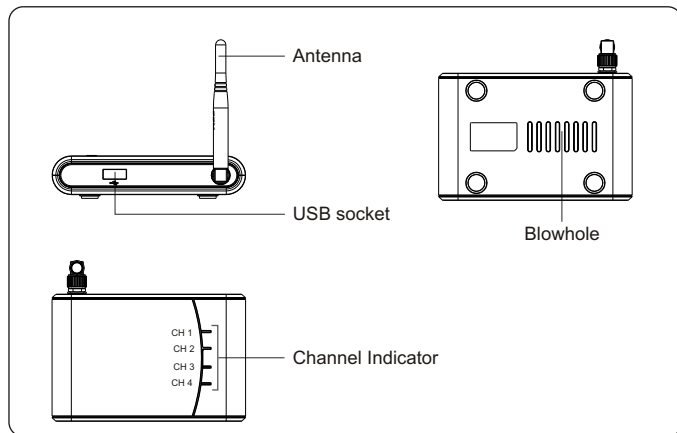


# Feature Locations

## 1. Camera



## 2. Receiver



## Adapter

This product always conforms to the authenticated AC adapter. The adapter should be marked one of the following:



### UL Mark

American power  
supply authentication



### SAA Mark

Australia power  
supply authentication



### CE Mark

European Union power  
supply authentication



### PSE Mark

Japan power  
supply authentication



### GS Mark

German power  
supply authentication



### CCC Mark

China power  
supply authentication

**Note:** When using the power adapter, make sure the rating voltage on it is compatible with that of the device to avoid potential damages resulting from incorrect usage of power supply.

## PC System Requirement

The PC must meet the following technical specifications for the devices to work properly.

1. CPU: 2.0 GHz or higher
2. RAM: 256MB or more
3. Color Monitor: Suggest at least 1024 \* 768
4. OS(Operating System): Windows XP
5. Hardware disk: 30G or more
6. USB interface: Support USB 2.0 interface
7. Audio/Video card: Support DirectX 9.0 or later
8. DirectX 9.0

**Note:** The wireless camera kit comes with setup CD-ROM, suggest the CD-ROM drive available to install the **CameraViewer**.

## Main Functions

### Instant Watch

The 502UA does instant watch for what is happening. It is easy to install and operate **CameraViewer**, an application program for surveillance. You can record movie and capture still pictures with software **CameraViewer** after easy configuration.

### Alarm Function

It refers to the alarm against PIR Motion and Sound. Both can trigger the alarm. The monitoring image can be displayed on **CameraViewer**.

### Night Vision

The built-in Infra-red lights in camera provide night vision for 24hours surveillance. The Infra-red lights will be automatically activated in dark places. The picture will turn to Black & White (monochrome) in Night Vision status.

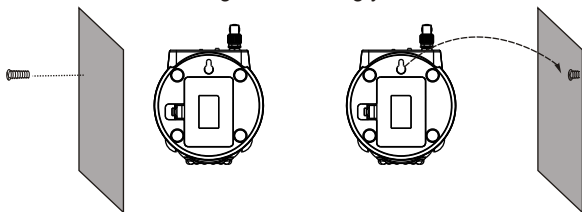


# PREPARATION

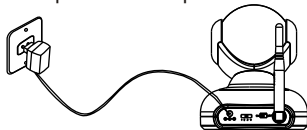
## Fix the Camera

The camera can stand on table, it also can be mounted onto the wall. The steps of installation are as follows:

1. Drive one hole in the wall. Insert one mounting anchor firmly. Insert a screw into the mounting anchor. Hang your camera on the screw.



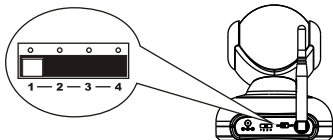
2. Connect the camera to the adapter. Turn on the camera by sliding the power switch to **ON** position. The power indicator lights up.



## Camera Channel Setup

The channel switch is marked with **1-2-3-4**. Any one of them can be selected to meet the purpose of the multi-camera working and possible interference avoidance.

CH1=2,414MHz  
CH2=2,432MHz  
CH3=2,450MHz  
CH4=2,468MHz



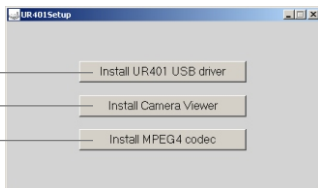
# Software Installation

Insert the software CD into the CD-ROM drive of the PC. This will launch the **UR401 Setup** installation wizard.

1. Install **UR401 USB driver**

2. Install **Camera Viewer**

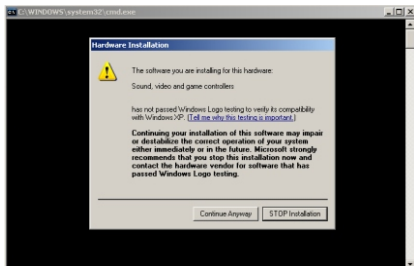
3. Install **MPEG4 codec**



## 1. Install UR401 USB driver

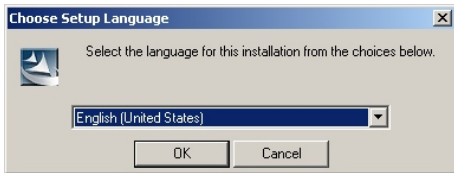
1.1 Click on **Install UR401 USB driver** to install the driver.

1.2 Click **Continue Anyway** to install driver.

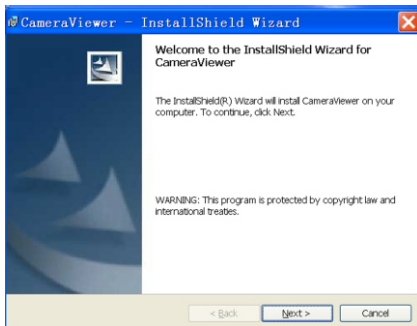


## 2. Install CameraViewer

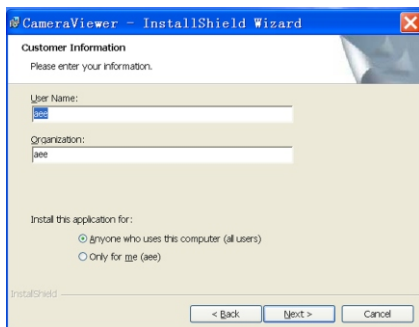
2.1 Select language per your request from the down-list box. And then click **OK**.



2.2 Click **Next** to continue.

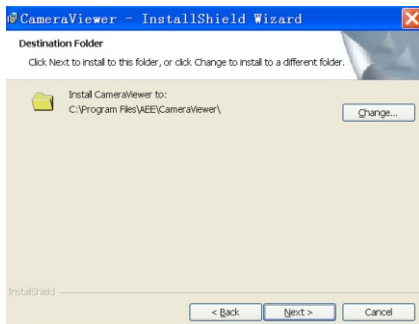


2.3 Fill in the boxes with your personal or public information. Click **Next** to continue.

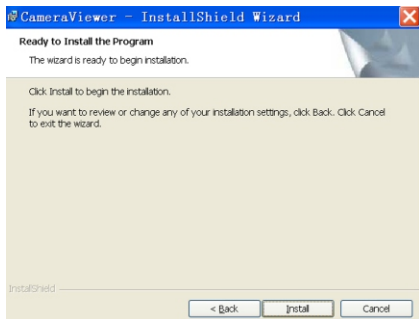


2.4 Click **Next** to continue.

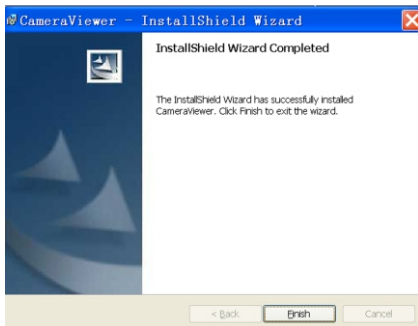
You can click **Change...** to select a destination folder to install **CameraViewer** software per your request, and then click **Next** to continue.



## 2.5 Click on **Install** to install **CameraViewer**.



## 2.6 Click on **Finish** to finish the installation.

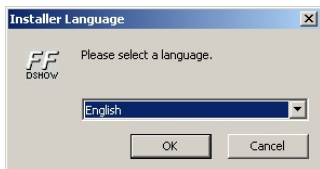


The icon  **CameraViewer** will be created on the desktop.



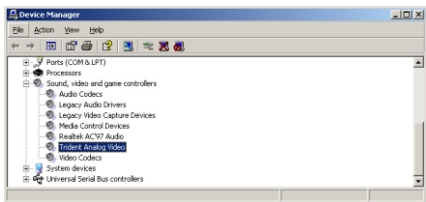
### 3. Install MPEG4 codec

- 3.1 Click on **Install MPEG4 codec** to install the MPEG4 codec. The following interface will pop up. Select a language per your request from the down-list box. Then click **OK**.



- 3.2 Follow the installation wizard to install MPEG4 codec. Finally click **Finish**.

Connect the receiver to your computer with USB cable. Refer to **[My Computer]/[Hardware]/[Device Manager]/ [Sound,video and game controllers]** to check if the **Trident Analog Video** correctly installed. If you cannot find this device or there is a yellow "!" before the device, please unplug the receiver and re-plug it.

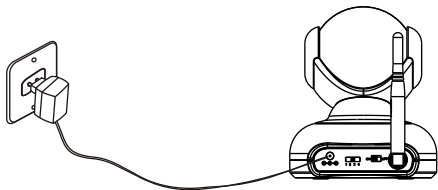


Congratulations! Now you can use the application program to monitor what you want.

# ACCESS YOUR CAMERA VIA PC

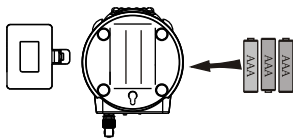
## Access Your Camera

1. Connect the camera to the adapter (DC 8V 300mA). Turn on the camera by sliding the power switch to **ON** position. The power indicator lights up.



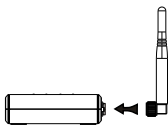
### Notes:

- This camera can also work on dry battery, please load three AAA batteries to the battery compartment at the bottom of camera with their polarities matched, and then slide the power switch to **ON** position, the power indicator lights up.

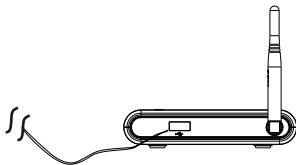


- The DC adapter will work instead of batteries after it is plugged. If the camera is left unused for a long period of time, please unplug the adapter and remove the batteries.

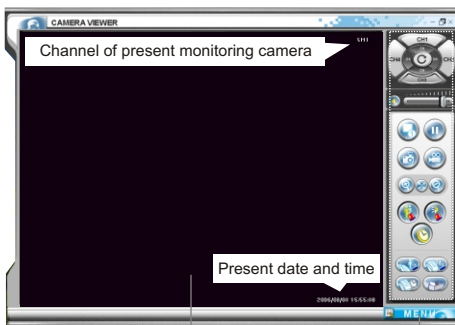
2. Connect the antenna to the receiver.



3. Connect the receiver and your PC with USB cable. One of the channel LED lights up green. Now you can watch on your PC with the **CameraViewer** .



4. After the connection, double-click on **CameraViewer** icon on your desktop. The following interface will be shown.

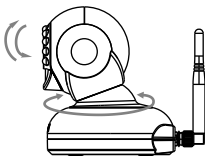


Operation Bar

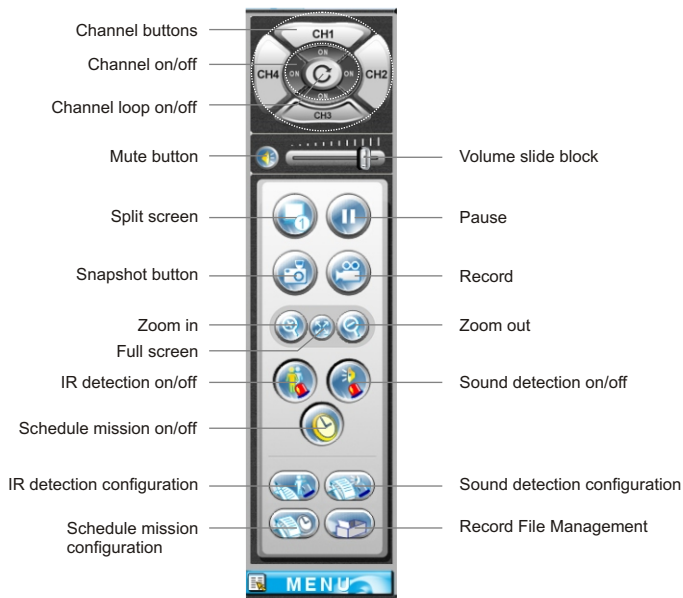
Setup MENU

Image Field

5. Rotate the camera to a suitable angle for surveillance.



# Operation Bar



**Channel buttons: CH1,CH2,CH3,CH4**

Click the right channel button to monitor image transmitted from the corresponding channel camera.

**Note:** *You can also press space key on your keyboard to select channel from CH1~CH4 in turn.*

Four channels to avoid interference: CH1=2,414MHz, CH2=2,432MHz, CH3=2,450MHz, CH4=2,468MHz

**Channel loop button**

Click the channel loop button to start looping available channels. Click channel loop button again to stop looping.

**Channel on/off buttons**

Click the channel on/off button to enable/disable the channel.

**Mute button**

Click the Mute button to turn off the sound.

When the sound is on, slide the volume slide block horizontally to adjust the volume.

**Split screen button**

Click the split screen button to switch between single window and four windows display.

The single window for one channel and four windows for four channels.

**Snapshot button**

Click the snapshot button to take a snapshot.

Refer to page 24 for more details.

**Record button**

Click the record button to start recording.

Refer to page 23 for more details.

**Zoom in/Zoom out**

Click zoom in button to magnify the image and zoom out to return to the normal size.

Zoom in 2×, 3×, 4×

### Full screen button

Click full screen button to display image in full screen. Double-click on the image field to return display to the normal size.

***Note:** you can double-click on the image display area to switch between full screen and normal view.*

## Alarm settings

### PIR alarm

Motion detected by the camera will trigger the alarm. The effective distance is 7~10m depending on different temperature. Click the **IR detection** button to enable the PIR alarm trigger. Click again to disable the alarm.

Refer to page 22 for more details.

### Sound alarm

Sound above 50dB detected by the camera will trigger the alarm. 3m is the effective distance for surveillance.

Click the **Sound detection** button to enable the sound alarm trigger. Click again to disable the alarm.

Refer to page 22 for more details.

### Schedule mission

Click the schedule mission button to enable schedule mission. The plan task starts to execute assignment according your settings. Click again to disable the schedule mission.

Refer to page 25 for more details.

You can set up configuration for the three alarm trigger by clicking the following three buttons: **IR detection configuration**, **Sound detection configuration**, **Schedule mission configuration**.

The recording files can be found by clicking **Record File Management**.

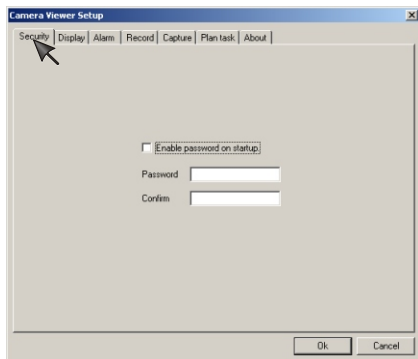
# PARAMETERS SETUP WINDOW

Click MENU button, the follow interface is shown. Click any item to enter the parameters setup window.

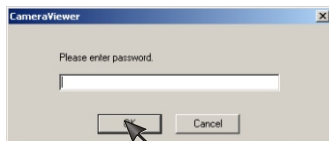


## Security Setup

1. Check the "Enable password on startup", and then type a password in the Password box. Re-type the password to confirm it.
2. Click OK to confirm your setting.

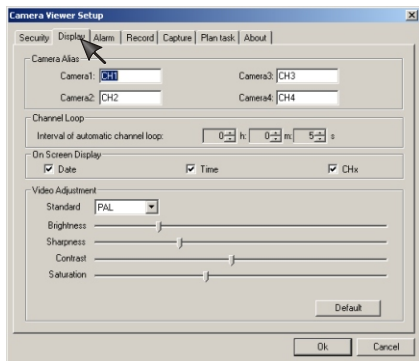


3. If you exit the CameraViewer window and re-enter, the following interface will pop up. Type the password you set in step 1, you can enter the CameraViewer window.





## Display Setup



### [Camera Alias]

Aliases can be made to different cameras. For example, make baby room as an alias to camera in channel 1.

### [Channel Loop]

Set the interval of automatic loop.

### [On Screen Display]

Three options can be selected to display on CameraViewer window: Date, Time, channel & name of the camera you are accessing.

### [Video Adjustment]

Standard: Select PAL or NTSC to match your camera standard. The mismatch may cause faulty image display.

Brightness: Slide the slide block to adjust the image brightness

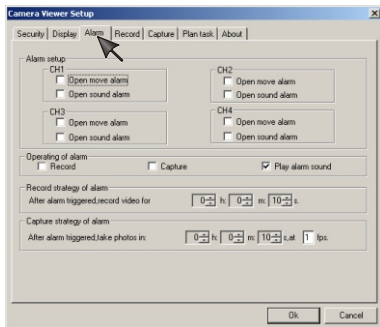
Sharpness: Slide the slide block to adjust the image sharpness

Contrast: Slide the slide block to adjust the image contrast

Saturation: Slide the slide block to adjust the image saturation

**Note:** Clicking Default will reset the Video Adjustment parameter except **Standard** to default settings.

## Alarm Setup



### [Alarm setup]

- 1) Select the camera from which you want to receive alarm.
- 2) Select the alarming type by checking **Open move alarm** or **Open sound alarm** you like.

**Note:** *Open move alarm* will trigger the alarm while *open sound alarm* will trigger the alarm.

### [Operating of alarm]

This is the countermeasure to alarm, warning you something unpleasant happening. When the camera alarms:

**Record:** Enable the recording type when alarm is triggered. Under record mode, CameraViewer will record and store video files for future reference.

**Capture:** Enable the capturing type when alarm is triggered. CameraViewer will take and store still pictures for future reference.

**Play alarm sound:** Play alarming sound type when alarm is triggered.

### [Record strategy of alarm]

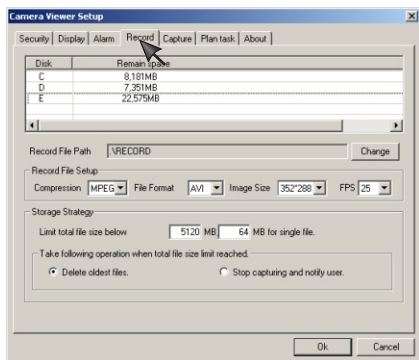
You can set duration and frame rate of the recording files.

**Note:** *For NTSC the max. frame rate is 30fps, while for PAL it is 25fps.*

### [Capture strategy of alarm]

You can set the time when to capture a photo after the alarm is triggered.

## Record setup



### [Record File Path]

Click **Change** to select the location in which you want to save the record file.

### [Record File Setup]

**Compression:** MPEG4

**File Format:** AVI

**Image Size:** Three image size per your request:

720\*576, 352\*576, 352\*288(PAL); 720\*480, 352\*480,  
352\*240 (NTSC).

**Frame rate:** 5,10,15,20,25fps (PAL); 5,10,15,20,25,30fps (NTSC)

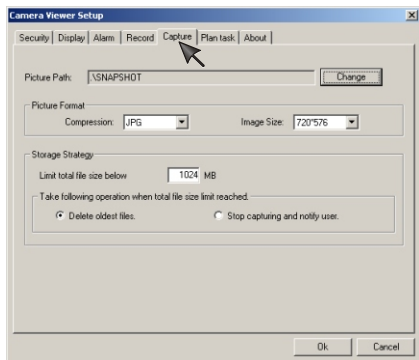
### [Storage Strategy]

Set the limited size for total storage and single file.

### [Take following operation when total file size limit reached]

Set the processing method to the situation of reaching the limitation

## Capture setup



### [Picture Path]

Click **Change** to select the location in which you want to save the captures.

### [Picture Format]

Compression: JPG

Image Size: Three image size per your request:

720\*576, 352\*576, 352\*288(PAL); 720\*480, 352\*480,  
352\*240 (NTSC).

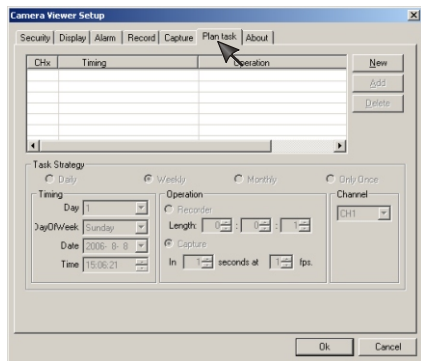
### [Storage Strategy]

Set the limited size for total storage of captured pictures.

### [Take following operation when total file size limit reached]

Set the countermeasure to the situation of reaching the limitation

## Plan task setup



The list of CHx, Timing, Operation displays your setup of plan task.

**[Task Strategy]** Set the alarming frequency: daily alarm, weekly alarm, monthly alarm or alarm only once.

**[Timing]** Scheduled record time

**[Operation]** Set the duration for recorder video or set the duration and frequency of capturing still pictures.

**[Channel]** Apply the above settings to the channel you select.

1. Click **New** to start to set a schedule.
2. Set the **Task Strategy**, **Timing**, **Operation** and **Channel**, then click **Add** to confirm your settings.
3. You can select one task and click **Delete** button to delete it.

Click **OK** to confirm all your settings about security, display, alarm, record, capture, plan task.

# SPECIFICATION

CAMERA	Imaging Sensor	CMOS
	CMOS Total Pixels	628 × 582(PAL); 510 × 492(NTSC)
	View Angle	55°
	Minimum Illumination	5Lux/F1.2(IR OFF) & 0Lux(IR ON)
	Transmission Frequency	ISM 2,400MHz~2,483MHz
	Transmission Power	10mW/CE; 2mW/FCC
	Modulation Type	FM
	Bandwidth	18MHz
	Power Supply	DC 8V 300mA
	Motion Detection Distance	8m
	Motion Detection Angle	Horizontal: 120°; Vertical: -15°~+25°
	Sound Control Sensitivity	>50dB
	Consumption Current	180mA & 230mA(IR ON)
	Unobstructed Effective Range	100m
	Night Vision Range	5m
RECEIVER	Dimensions(W × D × H)	85 × 109 × 111(mm)
	Weight	170g
	Receiving Frequency	ISM 2,400MHz~2,483MHz
	Intermediate Frequency	480MHz
	Demodulation Type	FM
	Receiving Sensitivity	≤ -85dBm
	Transmission Interface	USB 2.0
	Dimensions(W × D × H)	105 × 22 × 69(mm)
	Weight	91g
	Operating Temperature	0°C~+50°C/+32°F~+122°F
	Storage Temperature	-20°C~+60°C/-4°F~+140°F
	Operating Humidity	85%RH

\*Channel Frequency: CH1=2,414MHz; CH2=2,432MHz; CH3=2,450MHz; CH4=2,468MHz.

\*All the specifications are subject to minor change without prior notice.

# TROUBLESHOOTING

If the PC Camera is not working properly, these suggestions might help you eliminate the problem. If it still does not help, take it to your local retailer for assistance.

Problem	Cause and Remedy
Forget the password to access the setting interface.	You need to remove the <b>CameraViewer</b> software and re-install it.
No image displays at present channel.	<ol style="list-style-type: none"><li>1. Make sure at least one channel is <b>ON</b>.</li><li>2. Signal is weak. Relocate the camera or remove the obstacle around it.</li><li>3. It may be interfered by other microwave product such as microwave oven. Turn off the interfering source.</li></ol>
The color of the picture is strange.	Set the color setting of PC as 16 bits or more.
Wireless communication does not work.	Check if your receiver the same channel with that of your camera.
It shows black and white or the image flashes.	Your receiver is not set the same video system as your camera. Refer to page 21 for more details
The alarm does not work.	Make sure the alarm function is set up(Refer to page 22 for more details), and is activated by clicking IR detection button/Sound detection.
The unreadable characters are displayed.	<ol style="list-style-type: none"><li>1. Make sure the language of <b>CameraViewer</b> software is the same as that of your PC operating system.</li><li>2. Set the Encoding or the Character Set of the selected language on the web browser.</li></ol>
The playing time of movie is much shorter than recording time.	Your computer cannot afford that frame rate, please set lower frame rate when you record.

