RN-606W-600C RN RN RN-621B-636E

IP Camera 2 megapixel H.264 compression

RN-6901

Video server H.264 compression D1

Introduction

The RN series consists of cameras and video servers over IP with H.264 compression. The units are connected to a LAN via RJ45 port as any PC or other device and the images are displayed on the PC on the network using a standard Internet browser or special registration programs. The megapixel resolution allows image detail not possible with analog systems. The video servers are used to integrate analog sources into an IP system.

The RN series of network equipment using H.264 compression, the latest evolution in digital video compression that allows fidelity and bandwidth economy.

Technical data

	RN-606W	RN-621B	RN-600C	RN-636E	RN-6901
Camera Type	IP camera	IP camera	IP camera	IP camera	IP video servers
Sensor	1/3 "progressive scan CMOS 2mpx	1/3 "progressive scan CMOS 2mpx	1/3 "progressive scan CMOS 2mpx	1/3 "progressive scan CMOS 2mpx	-
Color or black / white	colors	colors	colors	colors	colors
Resolution	UXGA: 1600x1200 HD720: 1280 x 720 SVGA: 800 x 600 VGA: 640 x 480 QVGA: 320 x 240	UXGA: 1600x1200 HD720: 1280 x 720 SVGA: 800 x 600 VGA: 640 x 480 QVGA: 320 x 240	UXGA: 1600x1200 HD720: 1280 x 720 SVGA: 800 x 600 VGA: 640 x 480 QVGA: 320 x 240	UXGA: 1600x1200 SVGA 800 x 600 VGA: 640 x 480	D1: 720x576 PAL (720x480 NTSC)
Frame rate	30 f / sec up to 1280x720 15 f / sec to 1600x1200	30 f / sec up to 1280x720 15 f / sec to 1600x1200	30 f / sec up to 1280x720 15 f / sec to 1600x1200	30 f / sec up to 800x600 15 f / sec to 1600x1200	25 f / sec (PAL) 30 f / sec (NTSC)
video Compression	H264 / MJPEG	H264 / MJPEG	H264 / MJPEG	H264 / MJPEG	H264 / MJPEG
Audio compression u-Law PCM 8Khz	u-Law PCM 8Khz	u-Law PCM 8Khz	u-Law PCM 8Khz		
Lan	RJ45	RJ45	RJ45	RJ45	RJ45
Wifi connection	802.11b / g	-	-	-	-
Power over Ethernet	-	IEEE802.3af	IEEE802.3af	IEEE802.3af	-
audio Input	Microphone	minijack input	Microphone	+ Microphone input minijack input minijack	
Audio output for two-way dialogue	minijack	minijack	minijack	minijack	minijack
Alarm inputs	-	1	2	4	1
Alarm outputs	-	1	1	1	1
Day / Night	Yes	Yes	Yes	Yes	-
Lighting Infrared compatible 840nm ... 1100nm	840nm ... 1100nm	840nm ... 1100nm			-

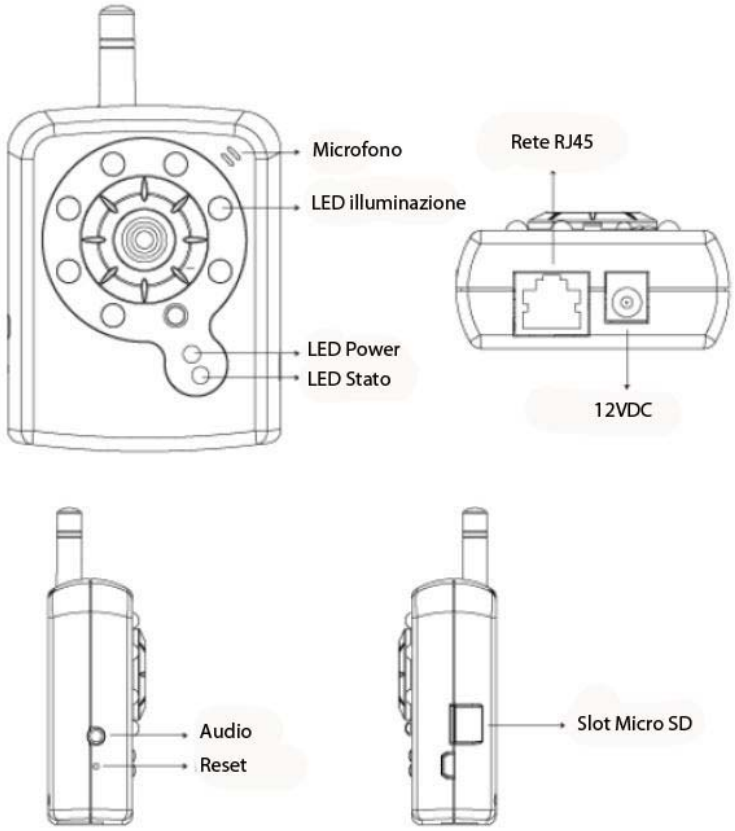
integrated LED	5 m.	15 m.	-	-	-
IR filter automatic removal (ICR)	-	Yes	Yes	Yes	-
AWB	5 options	5 options	5 options	5 options	-
Analog Video Output	-	Composite BNC	Composite BNC	-	Composite BNC
memory slots	microSD	-	SD	microSD	2 USB 2.0 ports
Supply	5..12V DC	12V DC or PoE	12V DC or PoE	12V DC or PoE	DC 12V
Absorption	Max. 5W	Max. 5W	Max. 5W	Max. 5W	Max. 5W
230VAC power supply	Yes	No	No	No	Yes
Support bracket	Yes	Yes	Yes	No	No
Attaching the	S	CS	CS	S	-
Objective Standard	4.9 mm. pin-hole	6 mm.	6 mm.	1.25 mm.	-
Target interchangeable	-	Yes	Yes	-	-
Operating temperature	0 ° ... + 50 ° C	- 30 ° ... + 50 ° C	0 ° ... + 50 ° C	0 ° ... + 50 ° C	0 ° ... + 50 ° C
Degree of protection	IP40	IP66	IP40	IP40	IP40
External dimensions (mm.)	60x76x26	85x70x78	77x80x160	180 (diameter) x55	135x40x85
Weight	90 gr.	370 gr.	700 gr.	380 gr.	570 gr.
PPPoE protocol	Yes	Yes	Yes	Yes	Yes
DHCP Protocol	Yes	Yes	Yes	Yes	Yes
SMTP Protocol	Yes	Yes	Yes	Yes	Yes
FTP protocol	Yes	Yes	Yes	Yes	Yes
UPnP Protocol	Yes	Yes	Yes	Yes	Yes
RTSP protocol	Yes	Yes	Yes	Yes	Yes
Protocol 3GPP / ISMA	Yes	Yes	Yes	Yes	Yes
HTTPS protocol	Yes	Yes	Yes	Yes	Yes
Other protocols supported	TCP / IP, ARP, ICMP, NTP, RTP, HTTP, TCP, UDP, Bonjour	TCP / IP, ARP, ICMP, NTP, RTP, HTTP, TCP, UDP, Bonjour	TCP / IP, ARP, ICMP, NTP, RTP, HTTP, TCP, UDP, Bonjour	TCP / IP, ARP, ICMP, NTP, RTP, HTTP, TCP, UDP, Bonjour	TCP / IP, ARP, ICMP, NTP, RTP, HTTP, TCP, UDP, Bonjour
DDNS Support	Yes	Yes	Yes	Yes	Yes
Disable ping response	Yes	Yes	Yes	Yes	Yes

supported browsers	PC (IE) Mac (Safari)	PC (IE) Mac (Safari)	PC (IE) Mac (Safari)	PC (IE) Mac (Safari)	PC (IE) Mac (Safari)
Access Password Protection	20 3 users access levels	20 3 users access levels	20 3 users access levels	20 3 users access levels	20 3 users access levels
Motion detection	Yes	Yes	Yes	Yes	Yes
alarm Sending video	E-mail / FTP	E-mail / FTP	E-mail / FTP	E-mail / FTP	E-mail / FTP
FTP Upload timed	Yes	Yes	Yes	Yes	Yes
Videoconferencing Terminal function	Yes (10 'stations max.)	Yes (max 10' stations.)	Yes (max 10 'stations.)	Yes (max 10' stations.)	Yes (max 10 'stations.)
Recording on memory programmable timer	Yes	-	Yes	Yes	Yes
Explorer interface customizable	Yes (colors and logo)	Yes (colors and logo)	Yes (colors and logo)	Yes (colors and logo)	Yes (colors and logo)

Installation

Product Overview

RN-606W



MIC IN - The camera is equipped with built-in microphone

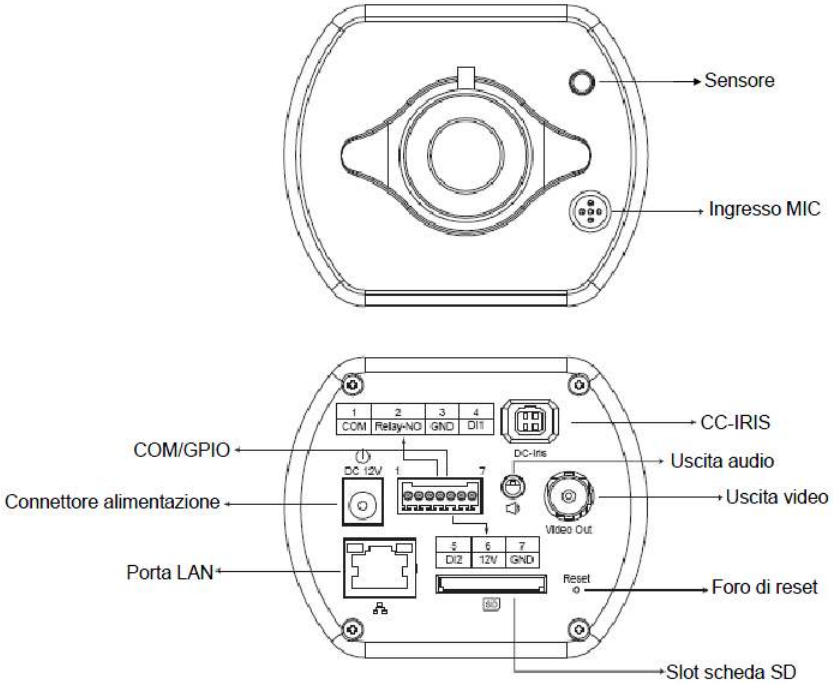
AUDIO OUTPUT - This 3.5 mm jack allows you to connect the local speakers. This feature allows you to create a two-way audio conversation between the person in front of the camera and the operator in front of the client PC.

Micro SD CARD SLOT - Slot to insert a Micro SD card to save aboard the same camera images.

12VDC - plug which connect the power supply 220VAC / 12VDC supplied.

NETWORK RJ45 - RJ45 connector to connect the network

RN-600C



IRIS - The 4-pole black connector allows you to connect an auto-iris lens control cable type DC Drive

VIDEO - The camera provides a video output of the analog type with BNC connector that can be connected to a monitor or a VCR

AUDIO OUTPUT - This 3.5 mm jack allows you to connect the local speakers. This feature allows you to create a two-way audio conversation between the person in front of the camera and the operator in front of the client PC.

SD CARD SLOT - slot to insert an SD card (also SDHC) to save aboard the same camera images.

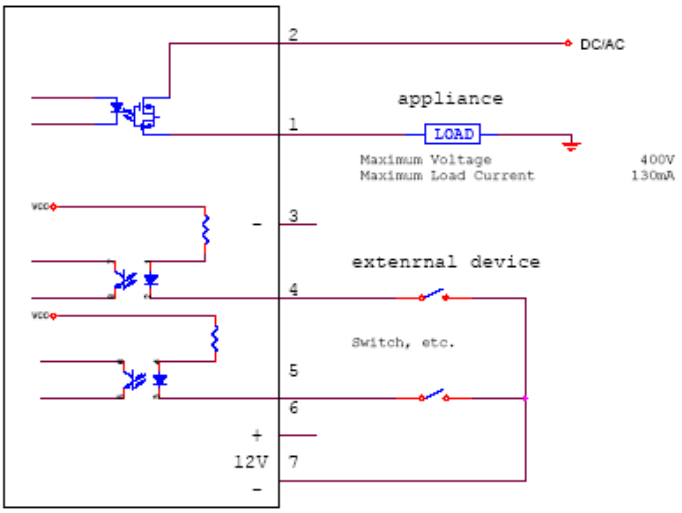
SUPPLY - plug which connect the power supply 220VAC / 12VDC supplied.

LAN PORT - RJ45 connector to connect the network

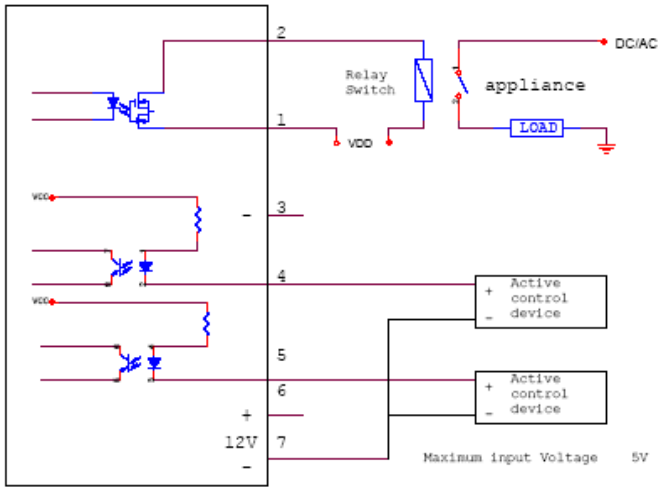
COM / GPIO - This terminal is used to connect the inputs and outputs to control local alarm and signaling contacts. The terminal functions are as follows: PIN

	RIFER.	DESCRIPTION
1	COM	Alarm output normally open (NO). It is a relay contact able to control an external device. The max. drivable current is 130mA
2	Relay NO	

3	GND	2 alarm inputs for connecting sensors or external contacts. The ON / OFF type contacts are
4	5 DI1	connected between the input terminal and the GND
	DI2 6	
	12V	If you use the 12VDC power jack with the external power supply 2 these terminals serve to be able
7	GND	to provide 12VDC power to any external equipment (eg IR illuminator). If the plug is not used 12VDC is possible to use these two terminals as a 12VDC power supply input.

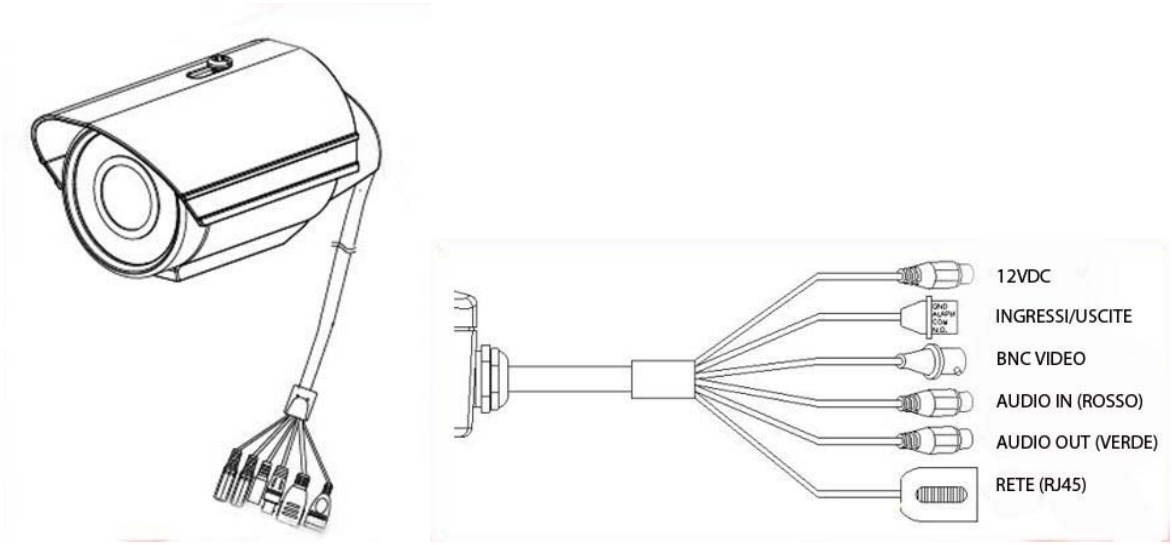


Application 1



Application 2

RN-621B



12VDC - plug which connect the power supply 220VAC / 12VDC supplied.

BNC VIDEO - The camera provides a video output of the analog type with BNC connector that can be connected to a monitor or a VCR

AUDIO - This 3.5 mm jack Pink allows you to connect a microphone for sound environmental recovery

AUDIO OUTPUT - This 3.5 mm jack lets you connect green local speakers. This feature allows you to create a two-way audio conversation between the person in front of the camera and the operator in front of the client PC.

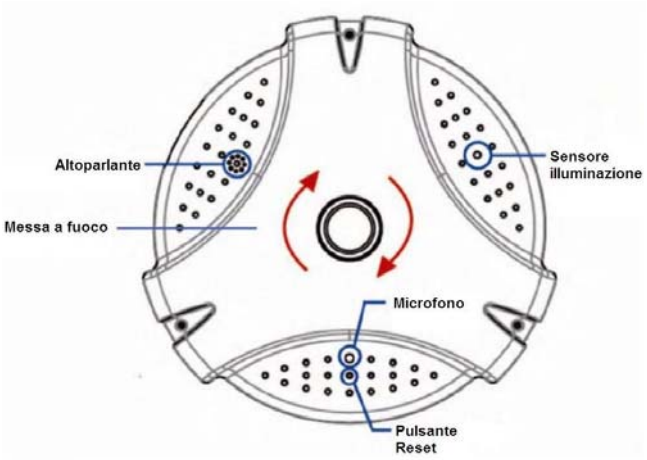
NETWORK - RJ45 connector to connect the network

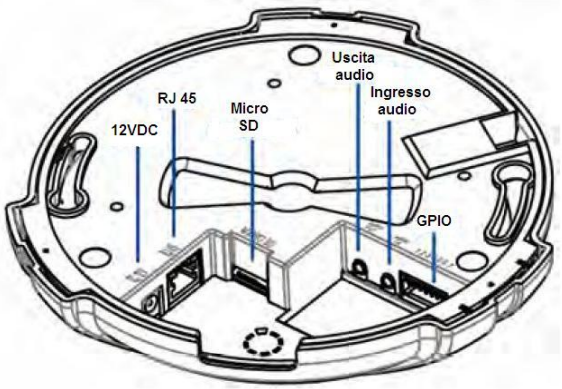
INPUT / OUTPUT - This terminal is used to connect the inputs and outputs to control local alarm and signaling contacts. The terminal functions are as follows: PIN

	RIFER.	DESCRIPTION
1	COM	Alarm output normally open (NO). It is a relay contact able to control an external device. The max. drivable current is 130mA
2	Relay NO 3	
	GND	alarm input for connecting sensors or external contacts. The ON / OFF type contact connects between the input terminal and the GND
4	Digital IN 5	
	GND	These two terminals running the hardware reset of the camera and restore the factory settings. Should proceed as follows: 1 - Disconnect the power 2 - connect together with a cable terminals 5 and 6 3 - connect the power supply the POWER LED will flash.
6	DEFAULT	

		4 - when the LED starts to flash quickly break the connection between the two terminals. Wait until the camera is reset.

RN-636E





On the front of the camera are present microphone and speaker for audio as well as a light sensor for day / night function and the RESET button. By turning the lens you can adjust the FOCUS. On the back there are the following connections.

12VDC - Jack to which connect a power supply 220VAC / 12VDC min. 2 A (not supplied). The power supply is not necessary if you use the PoE power through the network cable (requires PoE switch or PoE injectors)

RJ45 - RJ45 connector to connect the network. Use CAT5 cable

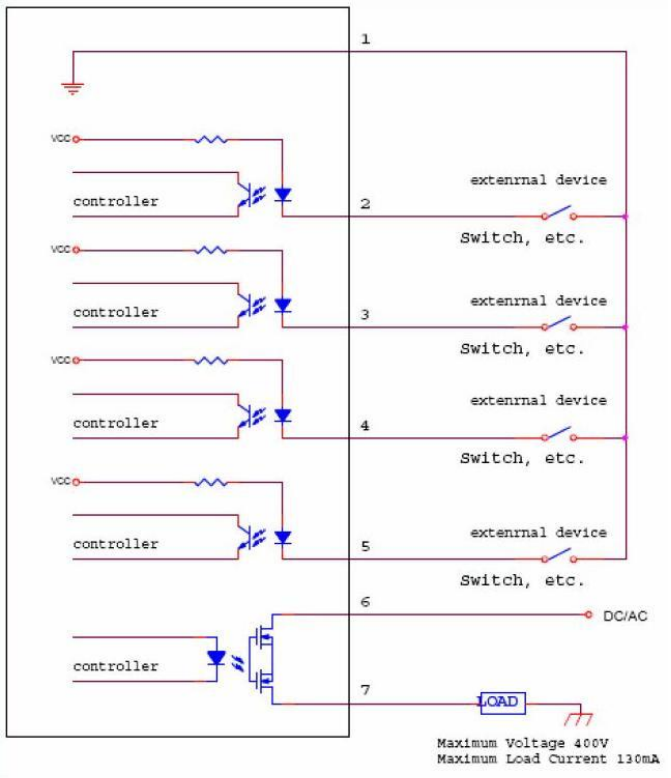
MICRO SD - Slot to insert a MicroSD card to save aboard the same camera images

AUDIO - This 3.5 mm jack lets you connect a microphone for sound environmental recovery. The camera is also equipped with a built-in microphone. The use of incroporato microphone or the external microphone is set in programming.

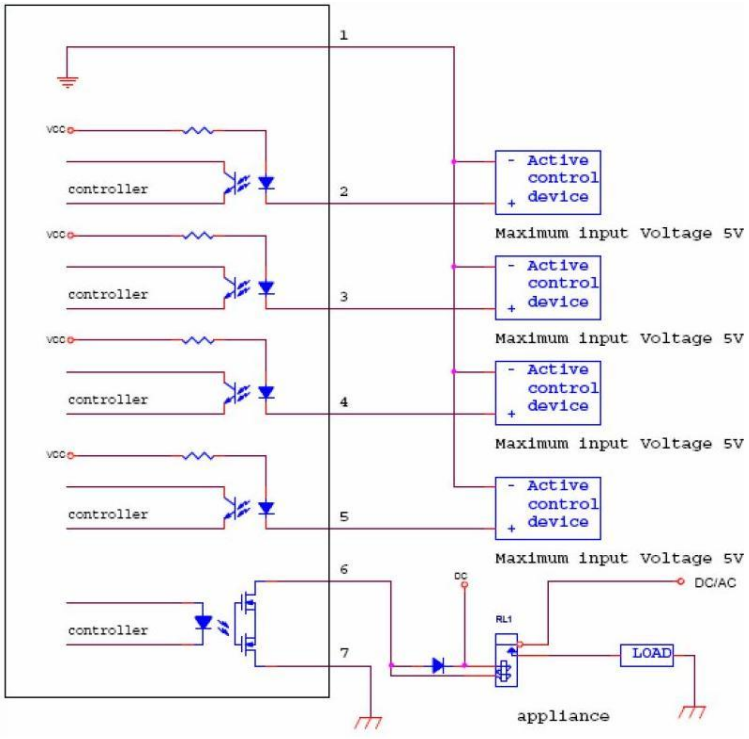
AUDIO OUTPUT - This 3.5 mm jack allows you to connect the local speakers. This feature allows you to create a two-way audio conversation between the person in front of the camera and the operator in front of the client PC.

GPIO - This terminal is used to connect the inputs and outputs to control local alarm and signaling contacts. The terminal functions are as follows PIN

	RIFER.	DESCRIPTION
1	GND	4 the alarm digital inputs for connecting sensors or external contacts.
2	DI4	The ON / OFF type contacts are connected between the input terminal and the GND.
3	4 DI3	
	DI2 5	
	DI1 6	
	GIFT	Alarm output normally open (NO). It is a relay contact able to control an external device. The max.
7	COM	drivable current is 130mA. To drive of greater absorption equipment resorting to an external relay.



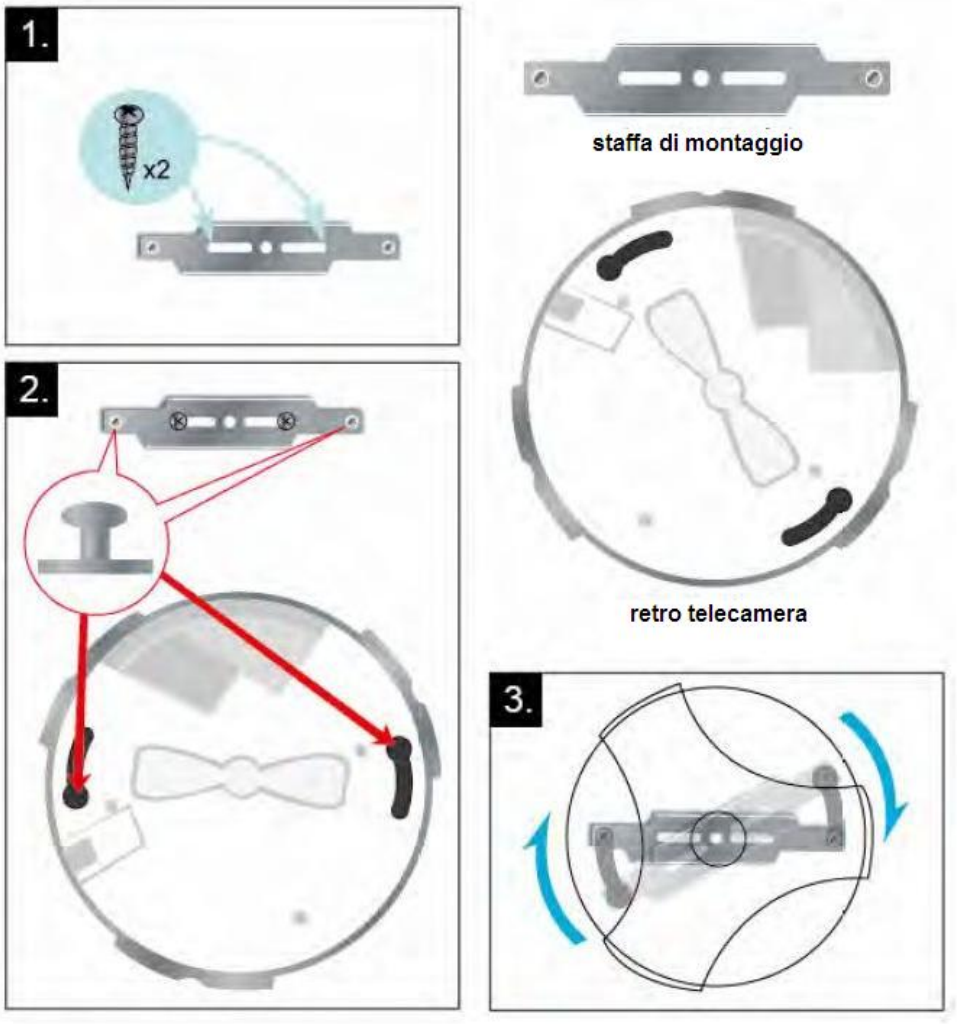
Application 1



Application 2

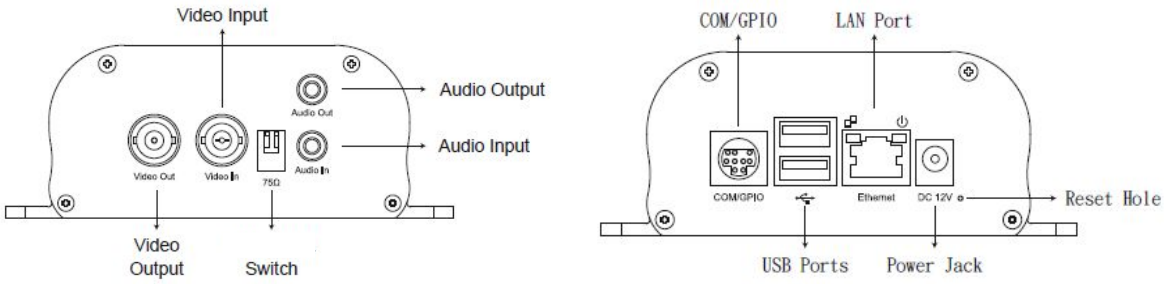
Mounting RN-636E

Carefully follow the three basic steps for mounting the camera.



1. Attach the mounting bracket with the two screws present in the package to the ceiling or wall. The bracket is fastened to the left output cable. The camera connections are in fact accommodated in a recess that allows housing a small cable abundance.
2. Once connected the camera to do enter the two protrusions in the mounting bracket in the slots on the back of the camera
3. Turn the camera clockwise until snug

RN-6901



VIDEO INPUT - BNC female connector to connect the video source (eg. Camera)

VIDEO OUTPUT - E 'available video output analog BNC connector that can connect to a monitor or a VCR

AUDIO - This 3.5 mm jack lets you connect a microphone to the sound recovery

AUDIO OUTPUT - This 3.5 mm jack allows you to connect the local speakers. This feature allows you to create a two-way audio conversation between the person in front of the camera and the operator in front of the client PC.

USB PORTS - Slot to insert USB or USB Hard Disk drives for normal recording

POWER - plug which connect the power supply 220VAC / 12VDC supplied.

PORT LAN - RJ45 connector to connect the network

75 Ohm SWITCH - The left switch is used to connect or not the 75 ohm termination impedance depending on the device connected to the analog video. The majority of DVR monitors have integrated impedance so there is no need to intervene in this selection. The switch to the right does not currently have combined function.

CONNECTOR COM / GPIO

In terms of the RN-6901 is a jack Mini-DIN 9-pin to connect the adapter cable. The following connections are available:

Serial line RS485A and B - for the control of a motorized speed dome camera with Pelco D / P Lilin and protocols Dynacolor

RS232 serial line (RXD TXD) - as above on RS232 BUS

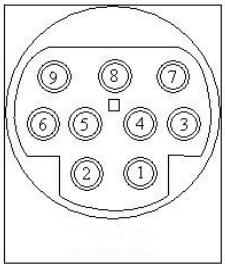
relay input - Alarm input to which it is possible to connect a NO contact and with it being able to generate an alarm condition.

relay output - Can be operated remotely via browser or motion detection / external input.

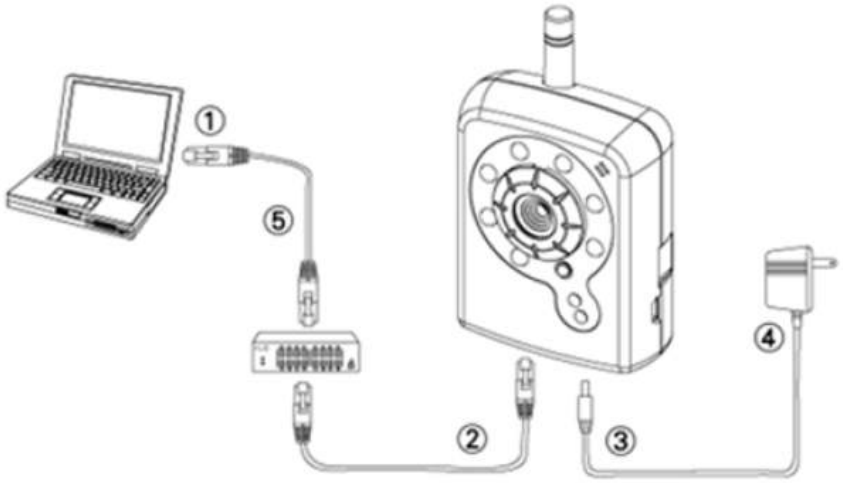
video Output additional available

The following is the rule of the PIN access scheme for those who want to create a custom connector:

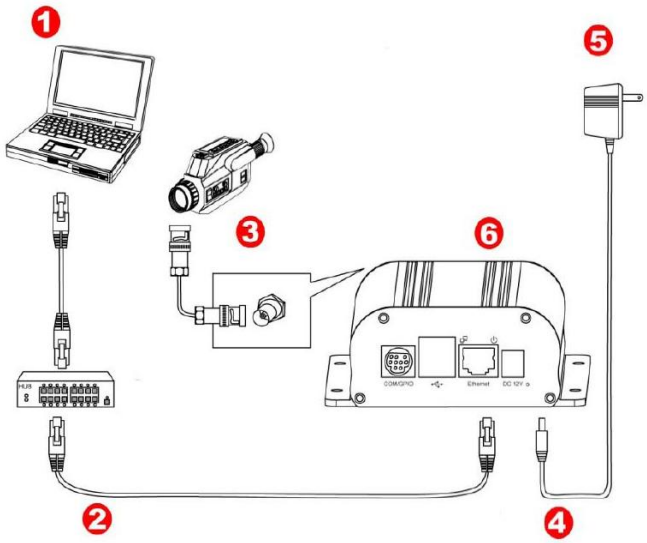
PIN	FUNCTION
1	alarm Input
2	RXD
3	TXD
4	RS485A
5	GND
6	Relay output NO
7	Relay output COM
8	RS485B
9	video Output



Example of connection



1. Preparare un PC con collegamento Ethernet collegandolo alla rete
2. Collegare la porta LAN (RJ45) della fotocamera a uno switch/hub di rete
3. Collegare il connettore di alimentazione
4. Accertarsi che le specifiche del trasformatore corrispondano al sistema di alimentazione (110 V o 220 V) e connettere l'adattatore alla presa
5. Verificare lo stato del LED (Alimentazione/rete)



1. PC connected to the LAN

2. The video server connects to the network swicth with a straight CAT5 cable. To connect to a single PC without a switch using a crossover cable

3. **The camera's video output connects to the VIDEO IN BNC male**
4. **Connect the power supply plug 12VDC**
5. **The power supply 220VAC / 12VDC is supplied with the appliance**
6. **LED on the right is the corrected power 12V LED = left in a proper network connection**

Installing Software

The CD supplied with the camera software is included **IP INSTALLER** which must be installed on a PC connected to the network in which you will connect the camera. The function of this software is to detect the presence of the camera network regardless of the class of addresses used on your network and allow you to configure the network address of the camera so as to be consistent with your network. We recall that because the camera is visible from the other PCs on the network it is necessary that the first 3 address parts are the same as other network PC and is equal also the subnet mask.

Network Configuration

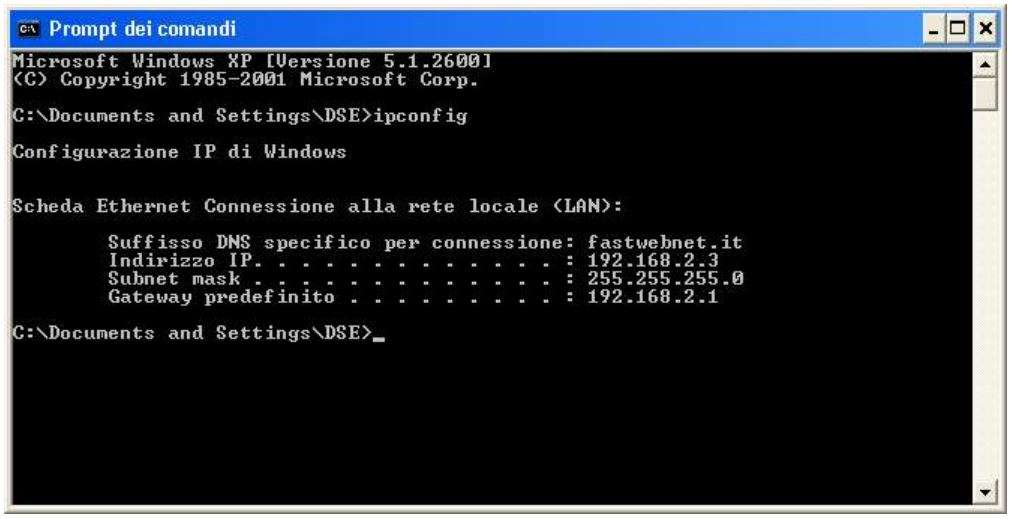
The IP Installer is a program that makes it easy and very efficient configuring IP address and the device's network settings.

Preliminary checks for network configuration

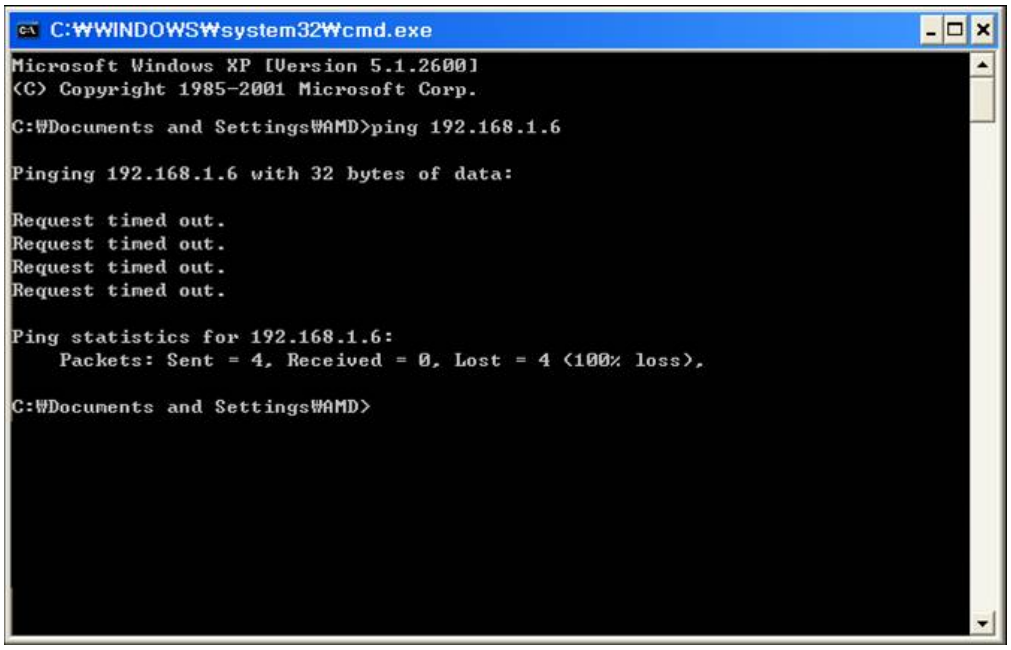
Before you must obtain from your network some information about the management of the IP addresses used on your network. E 'need to know an IP address can be assigned to the camera that is not equal to any other device already present in the network. At this point it is possible to feed the camera and connect the network cable. The wired connection is essential also in the installation of Wi-Fi cameras to enable the wireless connection. If you are unsure about your network's operation you can use certain commands in DOS PROMPT

On a network PC launched a DOS window available between the Windows accessory programs.

Type IPCONFIG at the command prompt and press ENTER. They will see the TCP / IP parameters. The second line is the IP address assigned to your computer.



In the above example the address of the PC on which you are working is 192.168.2.3 and the subnet mask used is the classic 255.255.255.0. The camera can therefore assign an address chosen by the 192.168.2.XXX type, where XXX stands for a number between 0 and 255. It 'important **choose an address that is not already used by other devices** of network. To verify that the chosen address is free, try to make a PING from the same DOS window by typing PING followed by a space and by the IP you wish to assign to the camera. If there is no device responds to that address, you will receive 4 REQUEST TIME OUT as in the following example:

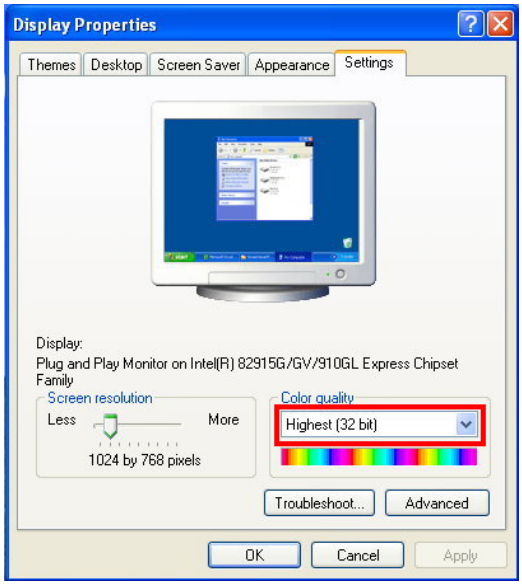


All cameras support the automatic IP address assignment from a DHCP server. However, this mode is not recommended as it is possible that in case of power failure or restart of the equipment is possible for the camera to change the IP address making it necessary

reconfiguration of the registration software.

Preliminary checks on the video card

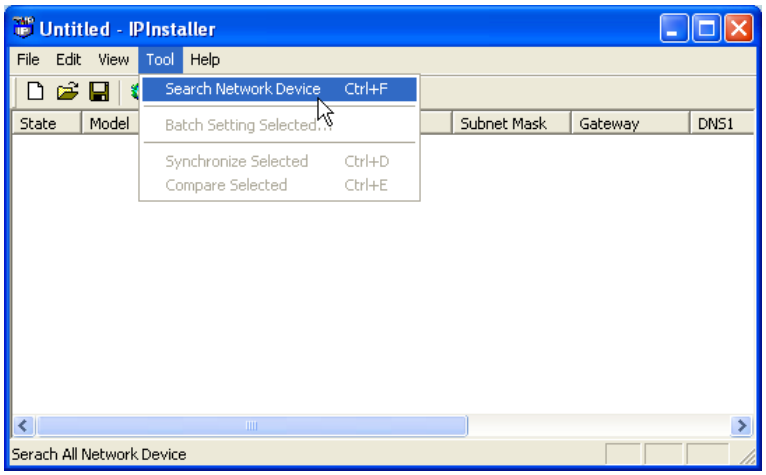
To view the images you need to set the color quality of the PC video card of 32bit



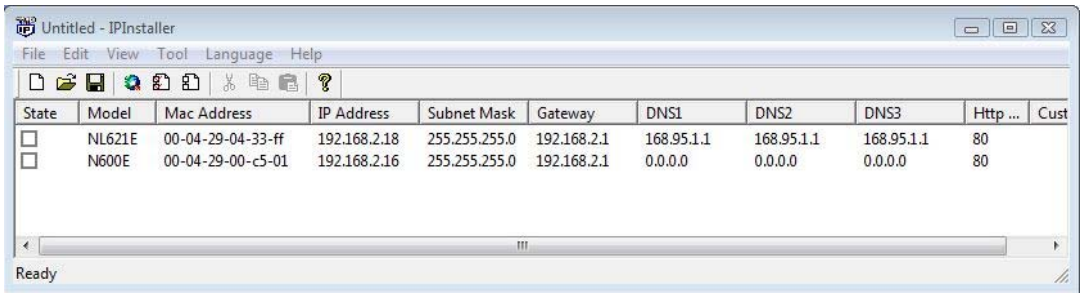
Using IP Installer to assign the IP address

1. Once you have successfully installed the IP Installer on a PC properly connected to the network, double-click the icon in the START MENU. Click Start Menu> Programs> IP Installer> IP Installer> Launch IP Installer. This will open the program window. The appearance of the program window may vary depending on the release without changing the function.

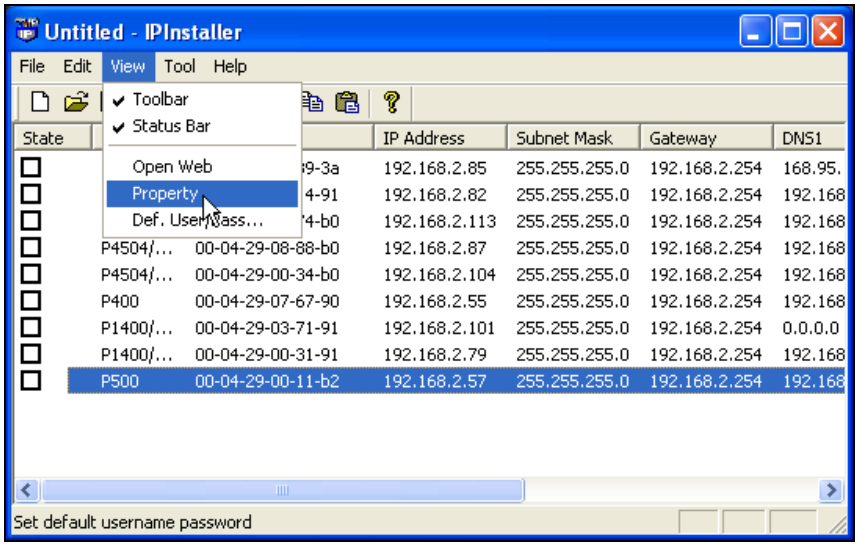
2. Click on the Tools menu bar (Tools)> Device Search Network (search network device) or click the icon with the search or press the lens DEVICE SEARCH button. The program begins to scan the RN series IP cameras on the network. Wait to complete the search.



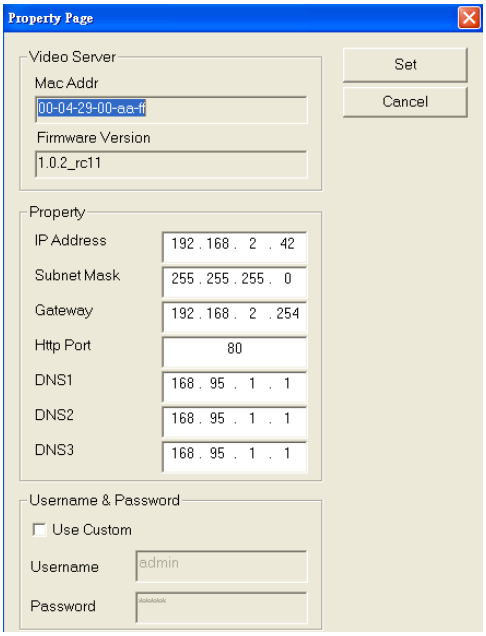
3. When the search will see the list of detected cameras. If the camera is not detected check the functionality of network links.



4. If you need to recognize which camera refers to physically a voice controlled list of the MAC address, a unique identifier, different for each camera, which is reported by the IP INSTALLER and is also indicated on the camera itself. Double-click on the camera line to be configured to open the Properties page, or click on the View menu bar (View)> Property (Properties).



5. In the Properties window, you can enter all network data necessary to integrate the camera into your network. Check especially to set an address with class and subnet mask similar to those used by your network. In the following figure, for example, the address class is 192.168.2 and the last number 42 is the camera identifier. The subnet mask is 255.255.255.0. Once you have entered the properties, click the SET button to transfer the configuration to the camera.



The IP Installer program also has some additional functions:

SAVE / SAVE AS - Allow to save the list of devices detected by IP Installer in a file that you can then open off-line but not connected to the network.

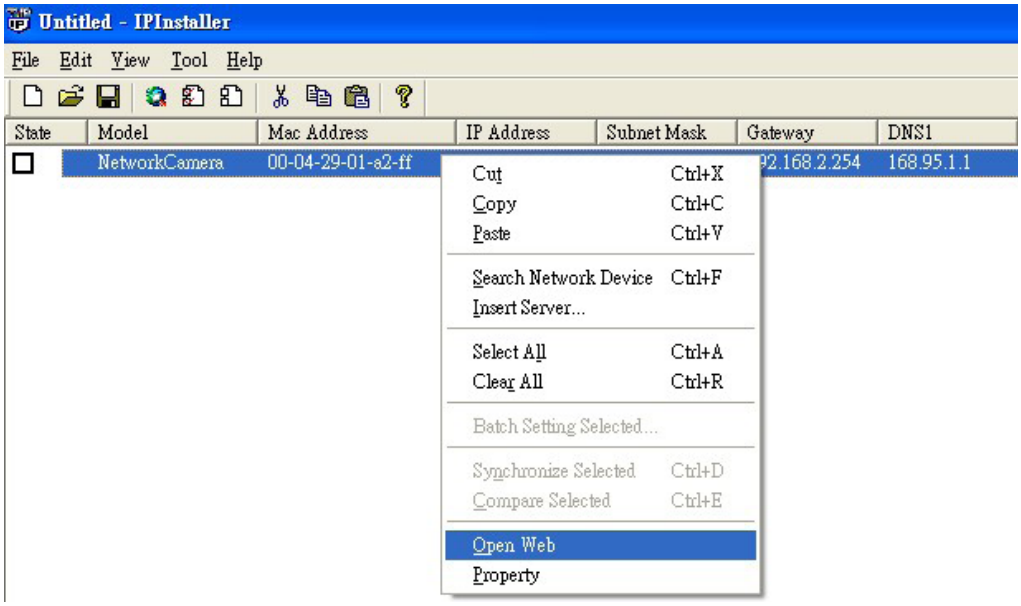
INSERT SERVER - Allows you to enter the camera's IP parameters from scratch, without having it detected with the search function.

DEF. USER PASSWORD - The modification of the IP parameters that is carried out by IP Installer provides you access the camera configuration, an operation that requires the use of USER NAME and PASSWORD. The factory in the RN series cameras are set to the following values: **USER: admin PASSWORD: admin.** For IP INSTALLER logic also uses the same factory admin / admin values. In this window you can change the data of dafult access to suit your needs. In the properties of each camera (see the previous figure) it is still possible to individually modify the access parameters for each camera by clicking USE CUSTOM and typing them freely.

Opening web user interface

1. Once properly set the network parameters, you can make the first access to the

camera using the Web browser. To access the selected drive web user, run View (View)> Open Web (Open Web) on the menu bar.



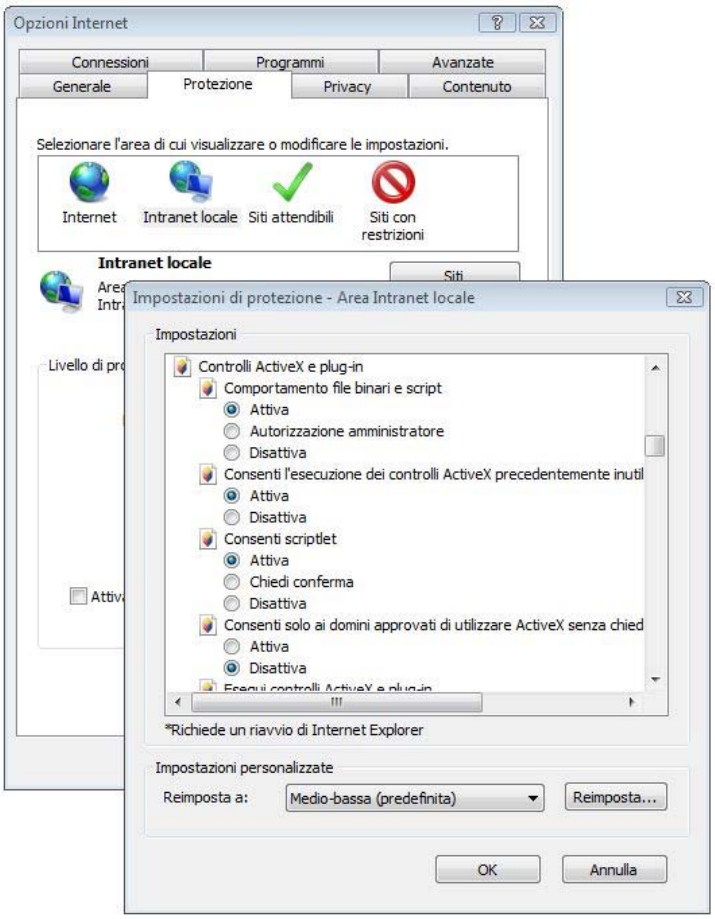
2. It will automatically start your default web browser (Internet Explorer recommended) and you get access to the camera. Alternatively it is possible to manually open **Internet Explorer** and type in the address box, the IP address that you gave to the camera (see previous section), for example.

   http://192.168.2.201 .

Install ActiveX component

When you connect to a RN camera using Internet Explorer for the first time, the system will be installed in the browser ActiveX components necessary to the vision of the cameras. You will get a confirmation window asking the approval to install the ActiveX control required for the video transfer. Reply OK to install.

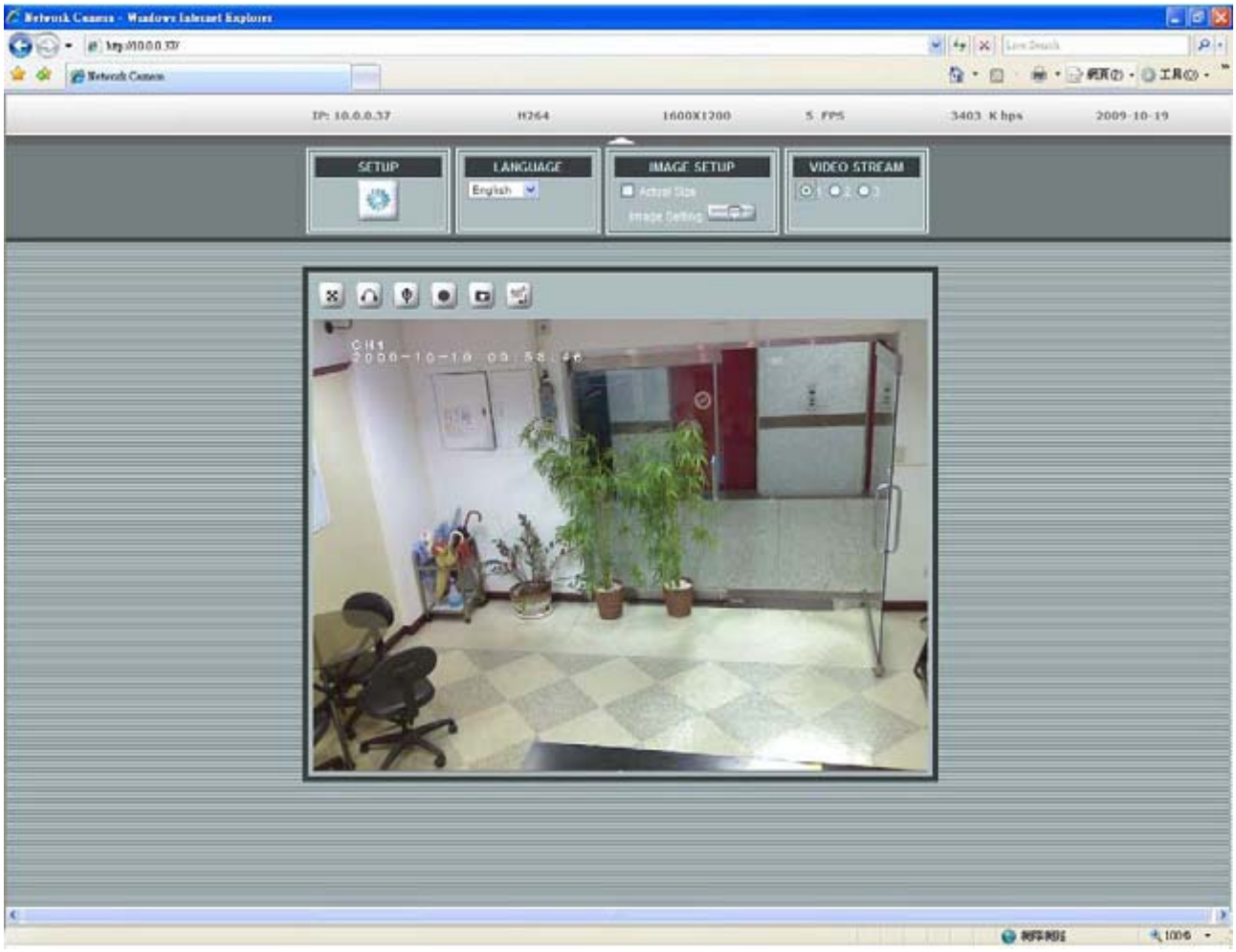
If it is not no message, or the installation does not go to fruition obviously the security settings of Internet Explorer are preventing the installation. Open TOOLS / Internet Options and select the PROTECTION table. Select the area of interest: if you are accessing the Internet from outside the network or intranet camera if you are connecting to a local network. Set the security level to LOW. Click CUSTOM LEVEL check they're enabled all the rumors regarding the ActiveX management is marked as safe that are not marked. All security parameters related to ActiveX are enabled or at least allowed after confirmation.



Be careful if you have set the parameters with ASK CONFIRMATION because Internet Explorer will require explicit consent to the installation of the ActiveX control with a message that appears below the address bar.

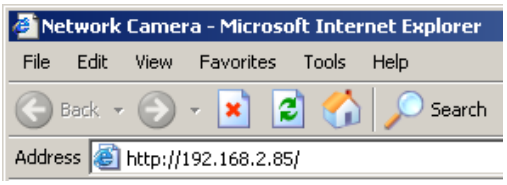
After completing the installation of ActiveX in Internet Explorer browser will open the initial access to the camera page.

If it does not return to check the security settings remember to restart your browser after each change.


IP: 10.0.0.37
H264
1600X1200
5 FPS
3403 Kbps
2009-10-19
SETUP
LANGUAGE
English
IMAGE SETUP
VIDEO STREAM

LIVE VIEW - LIVE Login with your browser

The RN series cameras are developed for full compatibility with the most popular browser **INTERNET EXPLORER.** E 'can also use other browsers like **Mozilla Firefox or Apple Safari** but this is not recommended because some functions may not be accessible. For the use of other browsers you must also install the **VLC codec** while Internet Explorer installation deli 'appropriate activeX is automatic as shown above .. To access the camera using Internet Explorer just type the address in the browser bar:



Depending on the security settings of the camera could be offered a window of log-in for entering username and password for access.

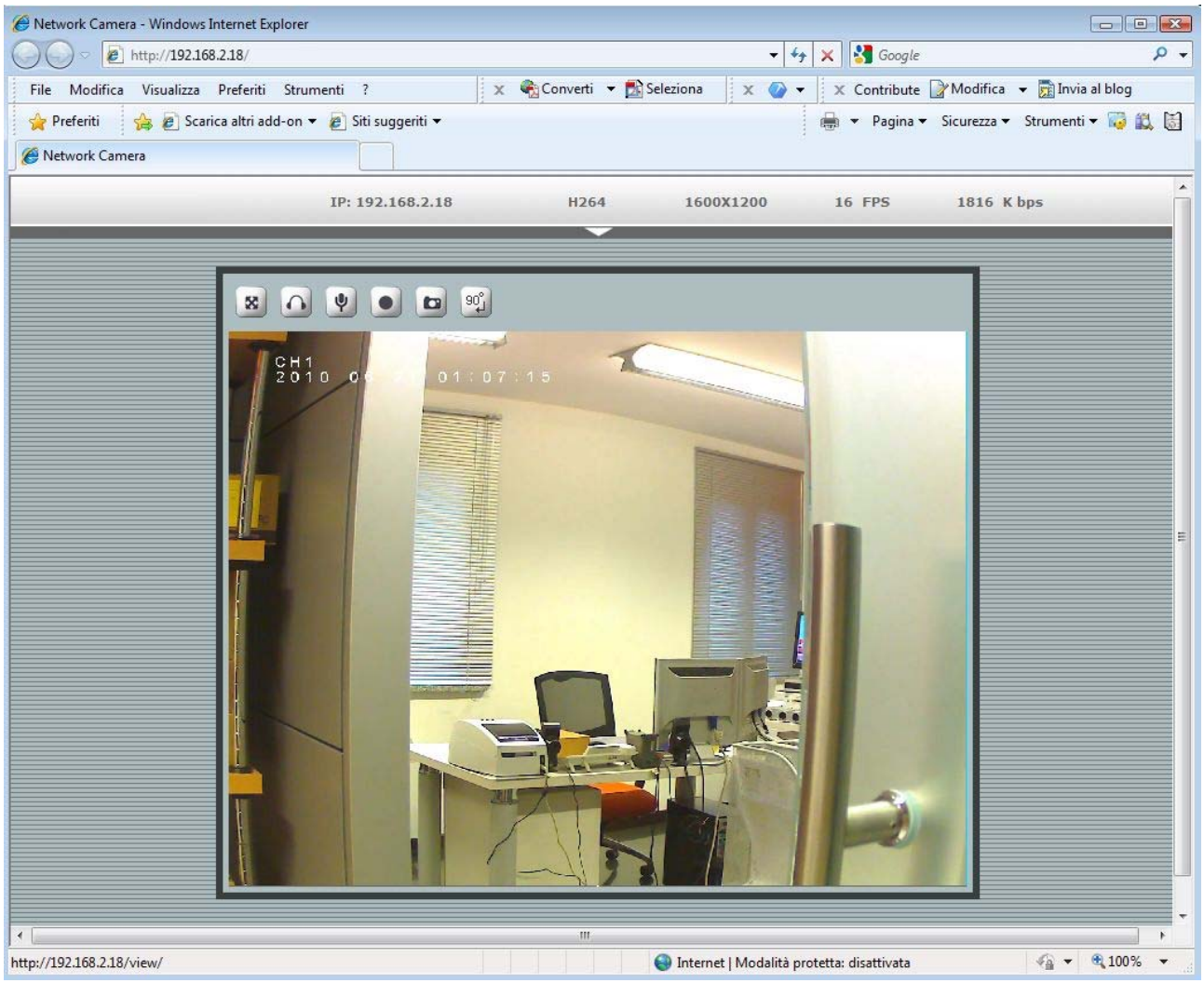
The data of the RN Series cameras factory passwords are:

USERNAME: admin

PASSWORD: admin

The access to the camera control mask:

The window that allows the display of real-time image looks like this:



At the top of the main window shows the connection parameters:

From left to right:

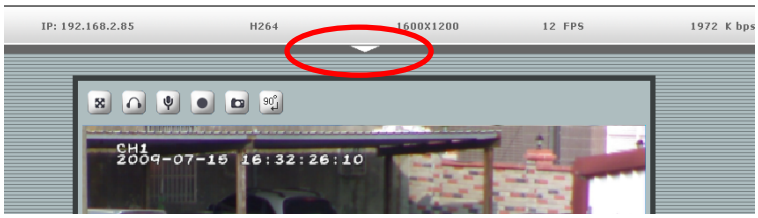
IP Address - video compression format - Resolution - Frame Rate - Bit Rate Above the image some buttons that allow quick access to commonly available

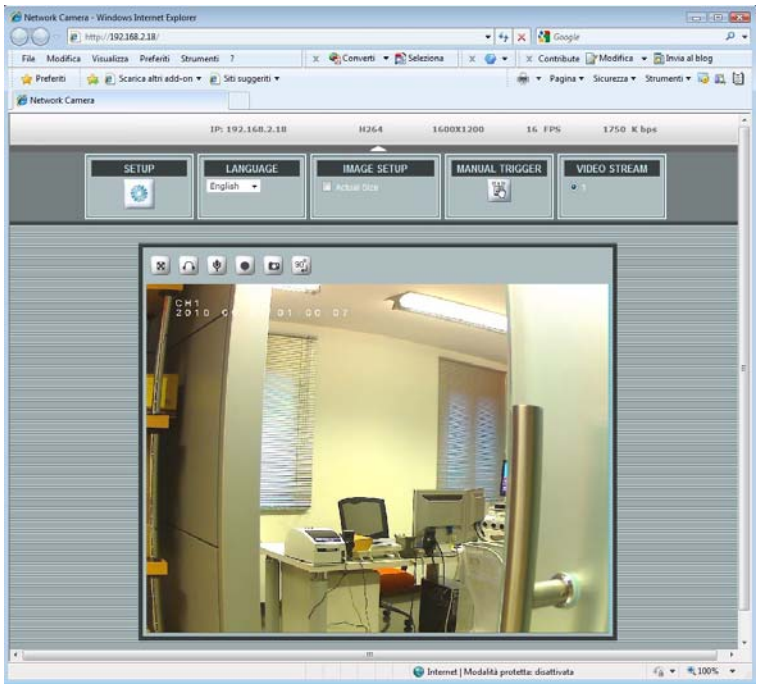
functions

Icon	Description
	Increase to full screen

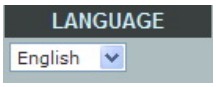
	Active listening to the sound coming from the camera
	Send audio from the local microphone to the camera speakers output
	Record video while you watch it in AVI format
	Take a photo in JPG format
	Rotate the image 90 degrees clockwise with each click (NO RN-636E)

To access additional commands is required to open the curtain by clicking on the arrow on the top center of the display window.





There are up to 7 frames depending on the camera models:

Button	Description
	Click to open the menu of camera settings
	Click to select the web interface language (currently available English only)
	The RN-636E panoramic camera allows you to choose different display types
	Click to change the size of the display window and bring it to the actual size corresponding to the resolution set in the camera.
	Click to manually operate the camera alarm condition (see Manual alarm in the programming section of the alarm management) The RN series cameras allow you to set three types of video streams with different settings that are
	configured in the SETUP of the camera. Using these buttons you can quickly choose which stream to use without having to access the camera program . (NO RN-636E)
	The only dome camera RN-636Econ panoramic vision has the ability to activate a PTZ control electronic simulation that allows you to rotate the vision as if you were moving the camera. The PTZ button to activate this function is present only if you choose the option in the settings to CEILING Ceiling mount (section Room / advance / mount camera - see section CAMERA - Camera Configuration)

Programming access

The following chapters refer to the programming of the camera which is accessed by pressing the SETUP key and typing User and Password

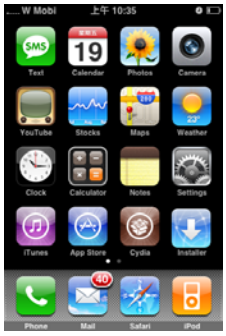
The data of the RN Series cameras factory passwords are:

USERNAME: admin

PASSWORD: admin

LIVE VIEW - LIVE Login with PDA

E 'can also connect to cameras with a phone I-Phone, Android and many other common PDA. Select the BROWSER function



Insert the camera's IP address

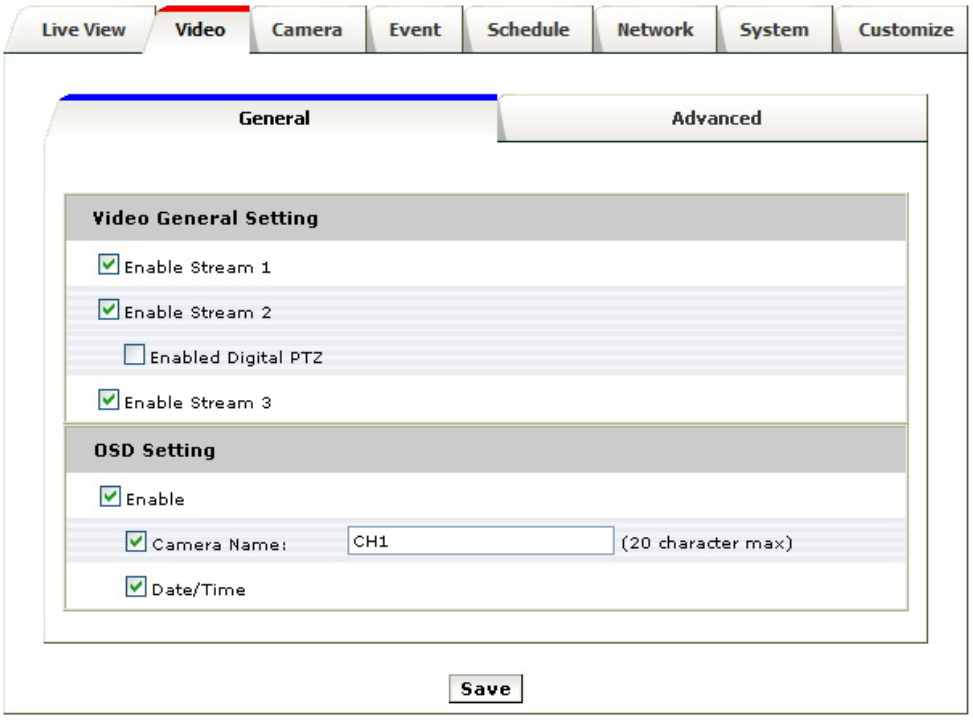
Insert the credentials of the factory access if requested by the access settings (see above)

The link page allows real-time visualization and 'acting can zoom with two fingers on the screen.

VIDEO - Video Setup

The first programming section refers to the camera video streaming settings and is divided into 3 sections: GENERAL, ADVANCED AND EXTERNAL VIDEO SOURCES

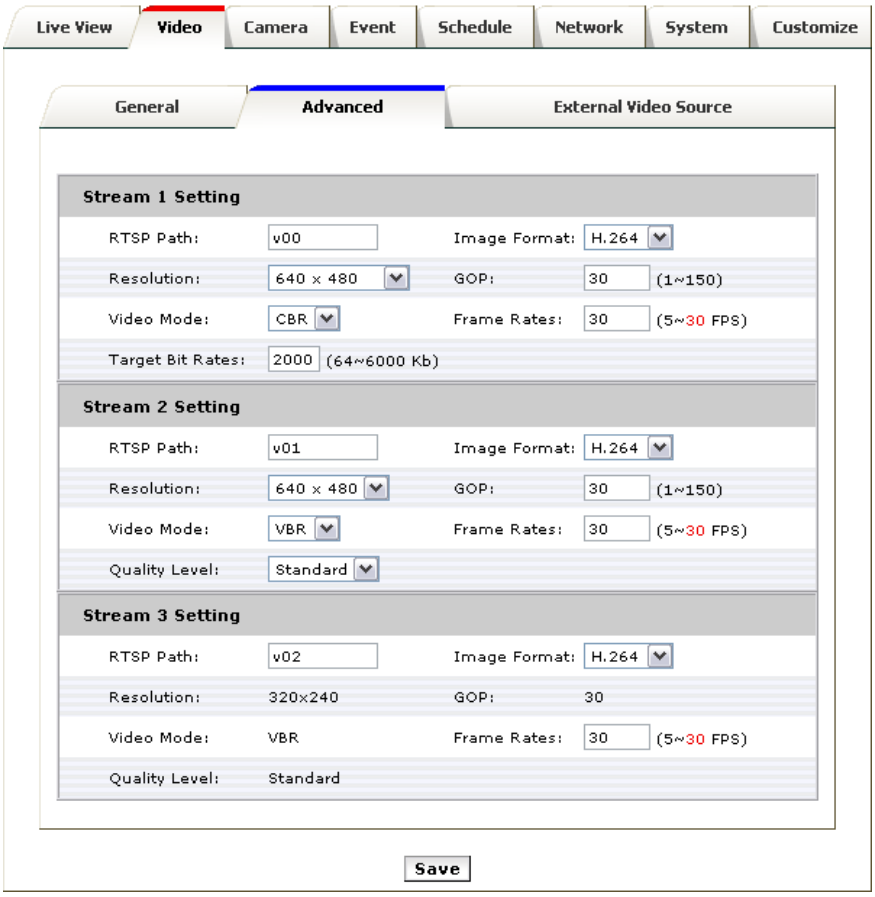
General



Video General Setting: The RN series cameras allow you to configure default three types of streaming video with different video settings. And 'you can display the LIVE switch between streaming with just one click. In this section you can define how many streaming enabled. Note that stream 1 is enabled in the factory and that the PTZ control (for models with this feature) is available only for streaming 2. (NB The RN-636E model does not provide for the management of multiple streaming)

OSD Setting: Tick OSD Enable to enable the overlay of the camera name, and the current date and time. E 'can set a distinctive name of max camera. 20 characters.

advanced



In this tab you set the parameters for the 3 streaming video available, (NB. The RN-636E camera,

you can set one video streaming)

RTSP Path -

It 'a streaming identifier value used by RTSP players like VLC Player to identify which stream play. The default values are v00, v01, v02 for the respective stream 1, stream 2 and stream 3. In the field you have to enter a combination of numbers and letters.

Resolution -

It is intended that the RESOLUTION is expressed by two values, which are the width and height of the display screen.

From the Stream 1 there are several options RESOLUTION: 1600x1200 (2 megapixels), 1280x720 (HD), 800x600 (VGA), 320x240 (QVGA).

From the Stream 2 VGA and QVGA are available. From the Stream 3 of the

resolution option is only QVGA.

In RN-636E camera resolution options are reduced compared to other cameras and depend on the type of the camera assembly and the display so that you choose.

The table below shows the resolutions available each mounting type and any type of display.

	WALL (wall)	CEILING (Ceiling)	TABLE (table)
ORIGINAL VIEW	1600X1200 800X600 640X480	1600X1200 800X600 640X480	1600X1200 800X600 640X480
BROAD VIEW	1600X600	1600X300	-
DOUBLE VIEW	-	1600X300	1600X1200 800X600 640X480
TRIPLE VIEW	1600X1200 800X600 640X480	1600X1200 800X600 640X480	-
QUAD VIEW	-	1600X1200 800X600 640X480	-
QUAD WITH SOURCE VIEW	1600X1200 800X600 640X480	1600X1200 800X600 640X480	-

Video Mode -

This section gives the possibility to choose between two different modes to manage the bandwidth occupied: CONSTANT BIT RATE (CBR) and VARIABLE BIT RATE (VBR).

In the CBR mode, the camera maintains a constant bit rate that can be set to 64 and 6000 Kb (default 2000 Kb). In the VBR mode instead of changing the bit rate camera in different operating conditions in order to maintain a constant video quality. In this mode you do not set the band but the video quality (STANDARD, GOOD, BEST).

The CBR mode is recommended if you plan continued use of connection via the Internet, especially with modest bandwidth. VBR mode allows for better optimization of bandwidth available, but it is recommended only for use on the local network and not via the Internet.

Image Format -

The RN series cameras are Dual Codec equipment, ie allow to choose 2 different type of video compression: dynamic (H.264) or static (MJPEG). The H.264 is the latest development in video compression and occupies little bandwidth while maintaining high image quality. The H.264 compression is preferred in almost all video surveillance applications for most smooth operation and the ability to transfer full-resolution megapixel images without overstraining the

Network and equipment.

The compression MJPEG is a much less efficient compression but which in certain circumstances may provide more detail of image. In view of the greater bandwidth demand it is not recommended in access via the Internet, but only on the local network ..

GOP -

Group of Pictures. This parameter relates to the compression mechanism H.264 and each indicates how many frames an I-Frame is inserted. Since an I-Frame is less compressed than the other frames it is the highest GOP (distance between two I-frames), the smaller the bandwidth required for the transmission. Excessive GOP size can, however, lead to transmission errors.

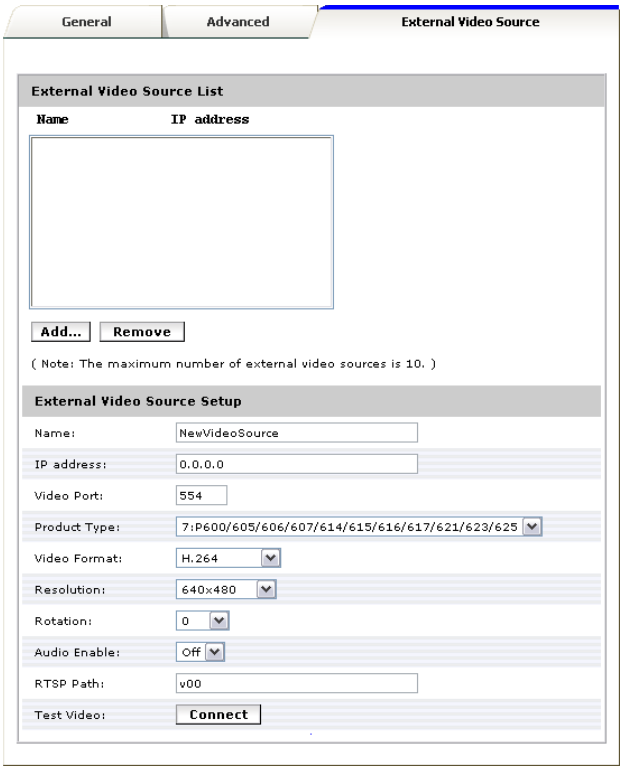
The GOP size of the DVD is 15. And 'possible to set higher values for the GOP size (1 to 150) to reduce the occupied bandwidth. 30 is the recommended factory setting and is normally a good compromise.

Frame Rates -

And 'the number of frames per second that make streaming video. The PAL system provides 25 f / sec real-time, but you can set lower values to take up less bandwidth if necessary. If you use the maximum resolution megapixel 1600x1200 maximum value of Frame Network is 15 f / sec.

NOTE: FURTHER DETAILS ABOUT STREAMING SETTINGS IN APPENDIX

External Video Source



On this page you can configure the display of other **LINK** Video belonging to other cameras connected to the RN **NETWORK.** This application is primarily used for **VIDEO CONFERENCING.**

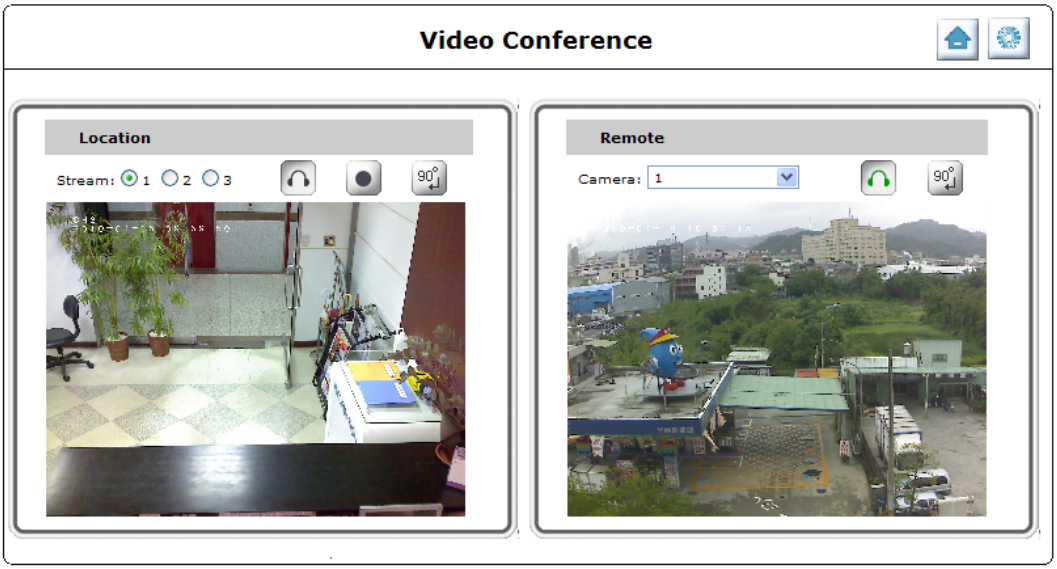
To add a **LINK** External video must click **ADD,** then complete all connection parameters relating to the remote camera. When you have completed this page, click CONNECT to test the display.

Video Conference

When the EXTERNAL VIDEO SOURCE is set up, will appear in the Live View button that

It allows you to activate the VIDEO CONFERENCE.

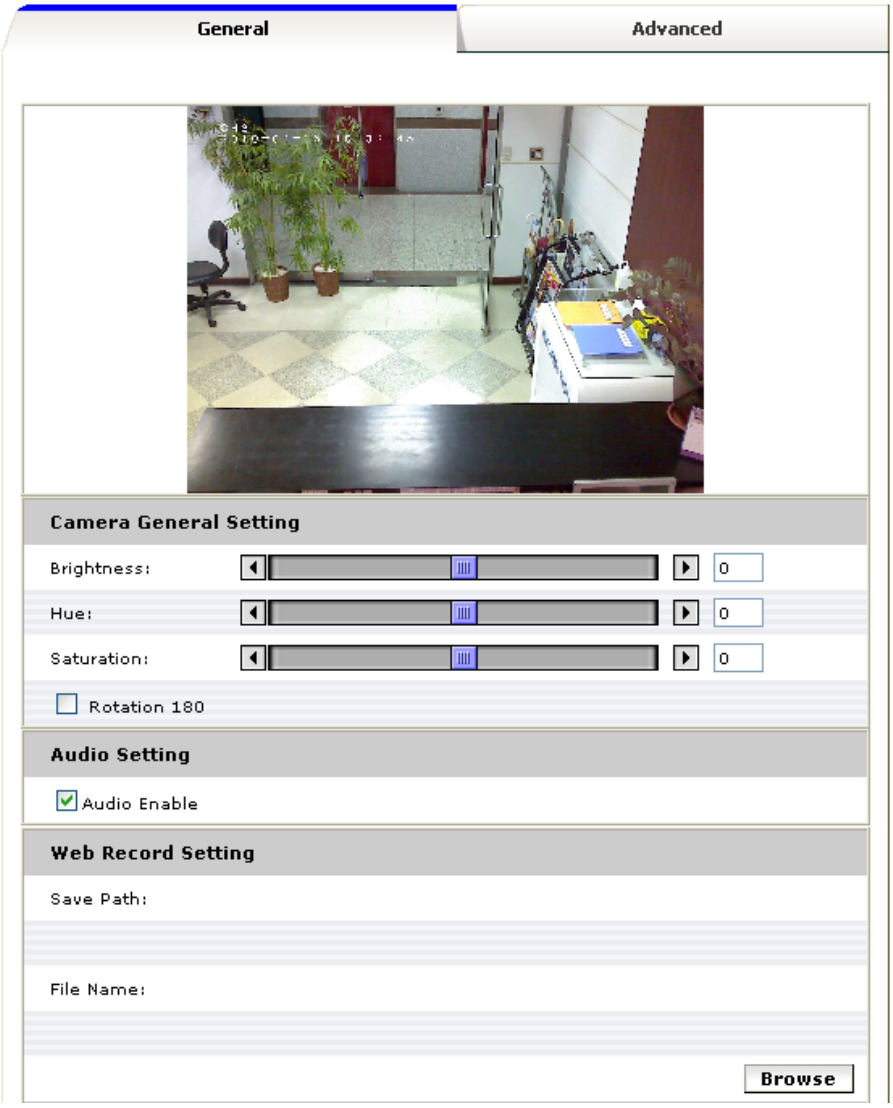
Click the button to start the video conference between the local camera and those configured as external links.

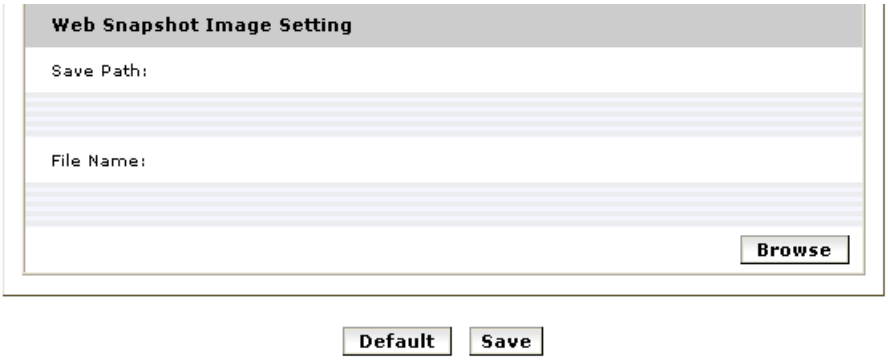


CAMERA - Camera Setup

The second programming table refers to the settings of the camera and is divided into 2 sections: GENERAL and ADVANCED

General





Chamber General Setting:

Brightness: adjusts the brightness of the image. Hue: Adjusts the color tone of the image. Saturation: Adjusts the intensity of the image.

Rotation: rotates the image. This option can be applied when the camera is to be mounted to a ceiling and the image is then inverted.

Audio Setting:

To enable or disable incoming audio of the camera. In RN-636E model it is also possible to select whether you want to use the microphone and speaker built-in or external inputs.

Web Record / Snapshot Image Setting:

This section defines where to save movies and photos recorded with the web interface controls. Click on the Browse button to select where to save the file and give it the name as a prefix. Movies are saved in AVI or MP4 format, pictures in JPG format.

Default:

Restore the factory settings only **CHAMBER GENERAL SETTING** and **AUDIO SETTING. Save:**

Save the changes to the settings.

Advance

White balance: This setting allows to adapt the quality of the white light source that there is in the environment in order to make the colors in the best way. They have several options to be selected based on the visual result.

Exposure: This Anti-flicker setting is used to adapt the lighting frequency. The frequency is 50 Hz for most European countries, while in the United Satti is 60 Hz. This setting should therefore be set according to the reference area. The Default value is 50Hz

Max Exposure Time: It refers to the SHUTTER speed. Of brighter rule it is the shortest environment can be the shutter.

Max Gain Control: And 'the amplification factor of the incoming light. Increasing the Gain you get a better night vision, however, the amplified image poterebbe also increase the noise (noise of

bottom) of the image.

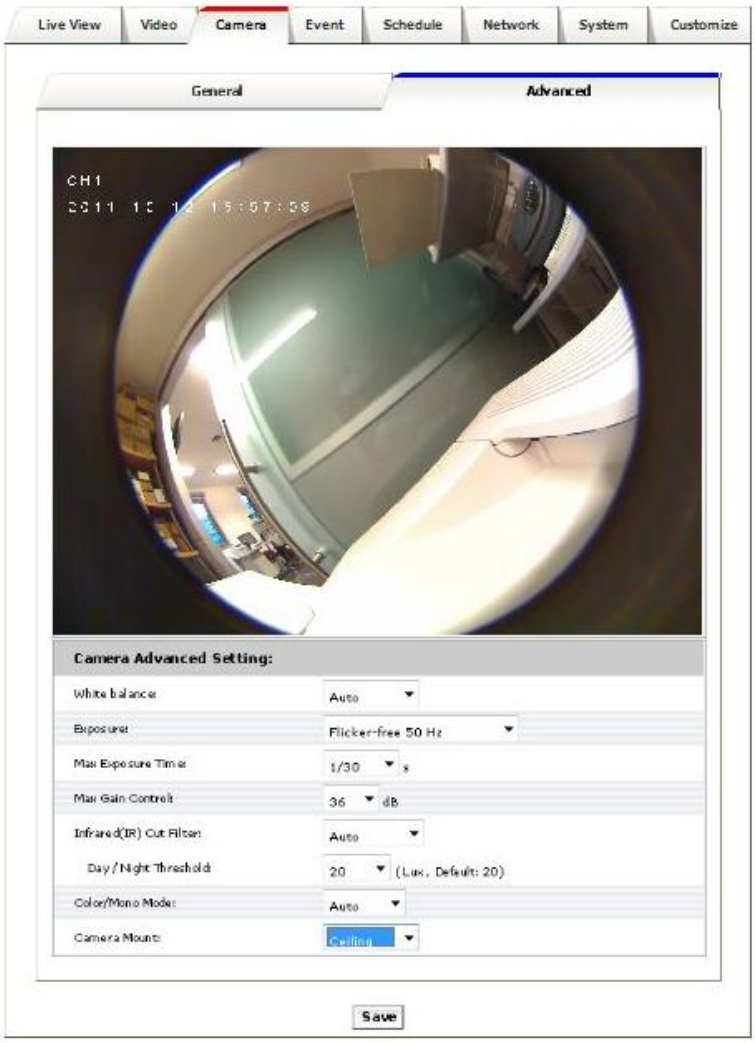
Infrared IR cut filter: to enable or disable the automatic removal of IR filter in night vision. The default setting is AUTO, so that the camera automatically manages the transition from day to night depending on the ambient brightness.

LED Status: turn on or off the LEDs of the camera status.

Color / Mono Mode: the default value is AUTO so that the camera provides color images until there is sufficient light, and black / white in the gloom cases. If you want you can also force a color camera with low light as in the case of shows and demonstrations resumed.

Advance - RN-636E Only

In RN-636E camera CAMERA / ADVANCE section includes some additional options:



Day / Night Threshold: sets the threshold to activate DAY or NIGHT mode. The default value is 20 lux. When the light falls below 20 lux the NIGHT mode is activated, and the camera becomes

sensitive IR illumination when shooting in black / white ..

Mount House: here you must indicate the type of the camera mount: Wall (wall), Ceiling (ceiling), Table (table).

- **WALL:** If the camera is installed on the wall choose WALL. Back to Live View, you have four types of video layouts to choose from: Original view, Broad view, Quad view with source, Triple view.

1. ORIGINAL VIEW

2. BROAD VIEW

3. QUAD WITH SOURCE VIEW

4. TRIPLE VIEW

- **CEILING:** to install the ceiling camera choose CEILING. Back to Live View, there are six kinds of layouts to choose from: Original view, Broad view, Quad view, Quad view with source, view Double, Triple view.

1. ORIGINAL VIEW

2. BROAD VIEW

3. QUAD VIEW

4. SOURCE WITH QUAD VIEW

5. DOUBLE VIEW

6. TRIPLE VIEW

- **TABLE:** to position the camera on a table choose TABLE. Returning to Live View, you have two types of video layouts to choose from: Original view, Double view

1. ORIGINAL VIEW

2. DOUBLE VIEW.

PTZ (RN-6901 only)

In the section **ROOM** the menu of the RN-6901 video server instead of the voice **ADVANCED** There is the voice

PTZ to set the options for the communication protocol to control a possible speed dome camera connected to the RS485 port of the video server. In this section we find the following items:

PTZ STATUS deactivates or activates the PTZ control through the RS485 port.

PTZ PROTOCOL select the communication protocol. There are the protocols Pelco P, Pelco D (to be used for speed dome SD-22 / SD-27), LI-LIN, LI-LIN NEW, Dynacolor.

DEVICE ID It indicates the address that has been set in the camera typically via microswitches and that identifies the BUS.

SPEED set the movement speed of the camera (1 to 10).

PORT MODE BUS sets which type of use for the command speed dome (RS485 or RS232) almost the speed dome SD-22/27 cameras use RS485 BUS.

BAUD RATE tax the speed of the RS485 protocol, from 300 to 115200 baud. The speed dome SD-22/27 cameras support 1200, 2400, 4800 or 9600 baud. The prescribed speed must match the speed controlled by the camera that the rule is selected with DIP switches on the camera itself ..

DATA BIT to be set according to information provided by the camera manufacturer

STOP BIT to be set according to information provided by the camera manufacturer

PARITY to be set according to information provided by the camera manufacturer

PTZ control (RN-636E only)

The dome camera RN-636E has a panoramic vision to 180 degrees and provides the ability to digitally simulate the PTZ camera movement as if it were a motorized camera. To enable this feature, click the PTZ button.

The PTZ button is present only if you choose the option to CEILING ceiling mounting, as seen in chapter CAMERA / ADVANCE.

The PTZ function is available only in BROAD VIEW, VIEW QUAD, QUAD WITH SOURCE VIEW, VIEW DOUBLE and TRIPLE VIEW.

Clicking on the button will appear on the screen PTZ PTZ control panel that takes on different aspects depending on which view we chose:

IN BROAD VIEW, VIEW DOUBLE, TRIPLE VIEW

STEP 1. to set the speed of the pan function (1-10)

2. PAN movement: to move the image horizontally

3. To move the PTZ panel in the screen

4. To close the PTZ panel

IN VIEW QUAD, QUAD WITH SOURCE VIEW

1. Ch: to select the window to apply the PTZ function

2. STEP: to set the speed of the pan / tilt function (1-10)

3. For moving the image both horizontally and vertically

4. ZOOM: Digital Zoom (1-10)

5. To move the PTZ panel in the screen

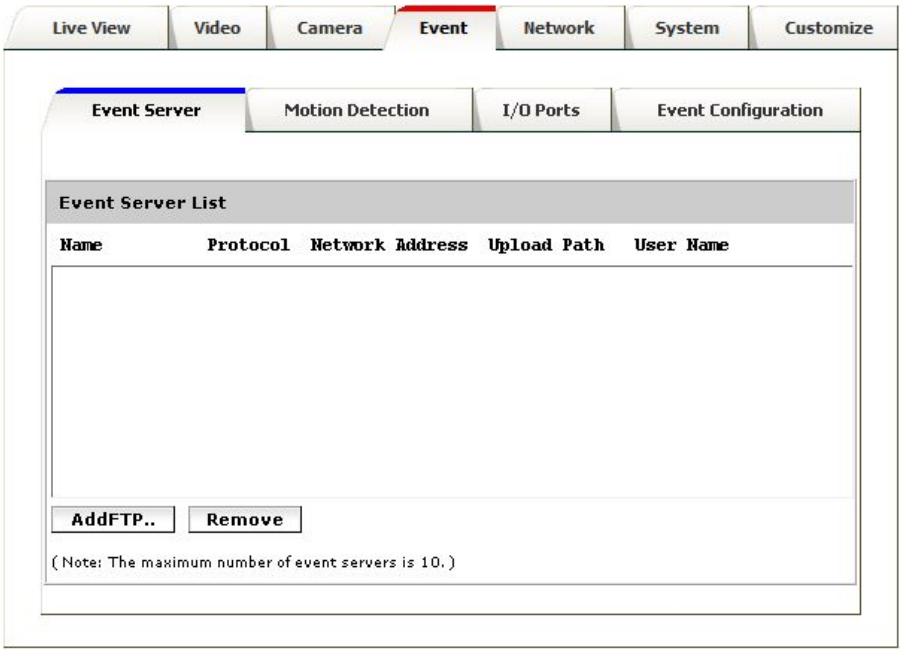
6. To close the PTZ panel

7. List of Preset points (1-16). Here you can set the preset by pressing the number button and click SAVE. The presets can be recalled quickly by clicking the numbered button.

EVENT - Alarms

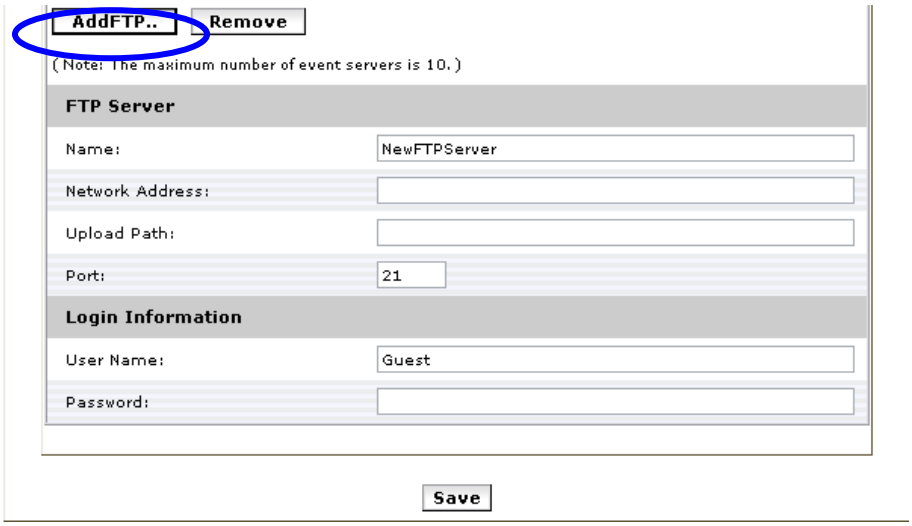
The RN series cameras are able to generate alarms with a detection control of the movement or via alarm inputs. It 'also possible to generate alarm events with manual activation, or on a time basis.

Following an alarm, you can send photos and videos to an FTP server, but also send email alert or turn on the camera's alarm output. This section allows the alert actions configurations. Click the folder **EVENT**



Event Server

The SERVER EVENT LIST lists the FTP server (and HTTP to RN-636E) that can receive alarm events. E 'can enter the network parameters and the access credentials.



Click **[Add FTP]** to enter a new FTP server

FTP Server:

- Name: enter the name of the FTP server
- Network Address: Enter the IP address of the FTP server
- Upload Path: choose the path where you want to upload the alarm information
- Port: enter the port number used by FTP servers

Login Information:

- Username / Password: Enter USER NAME AND PASSWORD of the FTP server

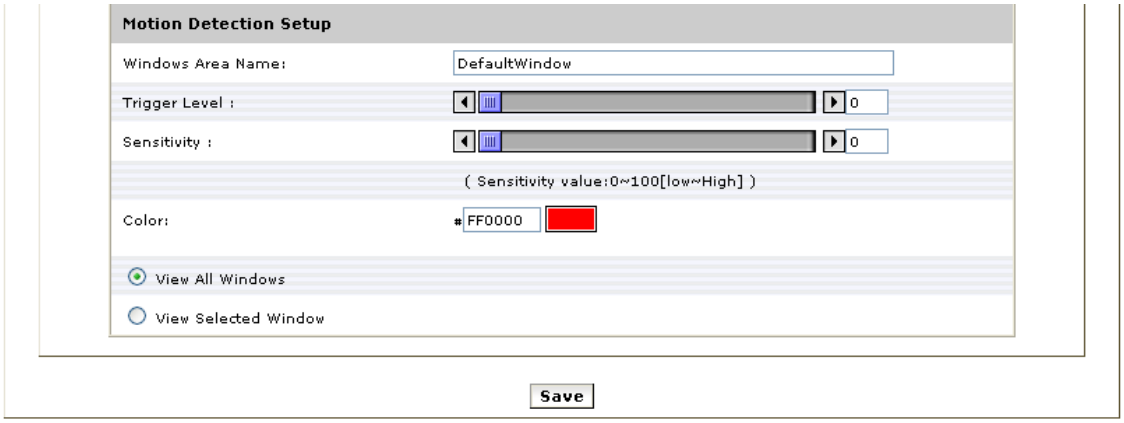
The RN-636E camera also allows you to enter an HTTP server:

Motion Detection

The image will appear coming from the camera. E 'can set the areas within which the movement will be detected that will generate the alarm. To select a motion detection area, click directly on the image, and then change the size and position by dragging with the mouse the rectangular design. They can be added up to 10 motion zones. For each detection area, a value of intervention and sensitivity threshold can be set.

To add an area of motion detection:

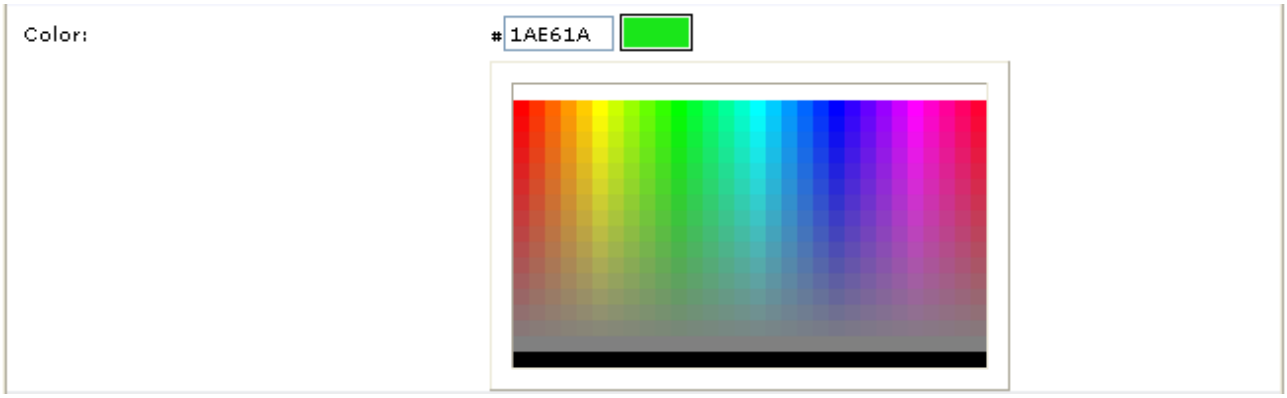
1. Click **[Add]** to set an area (a settings menu is displayed)



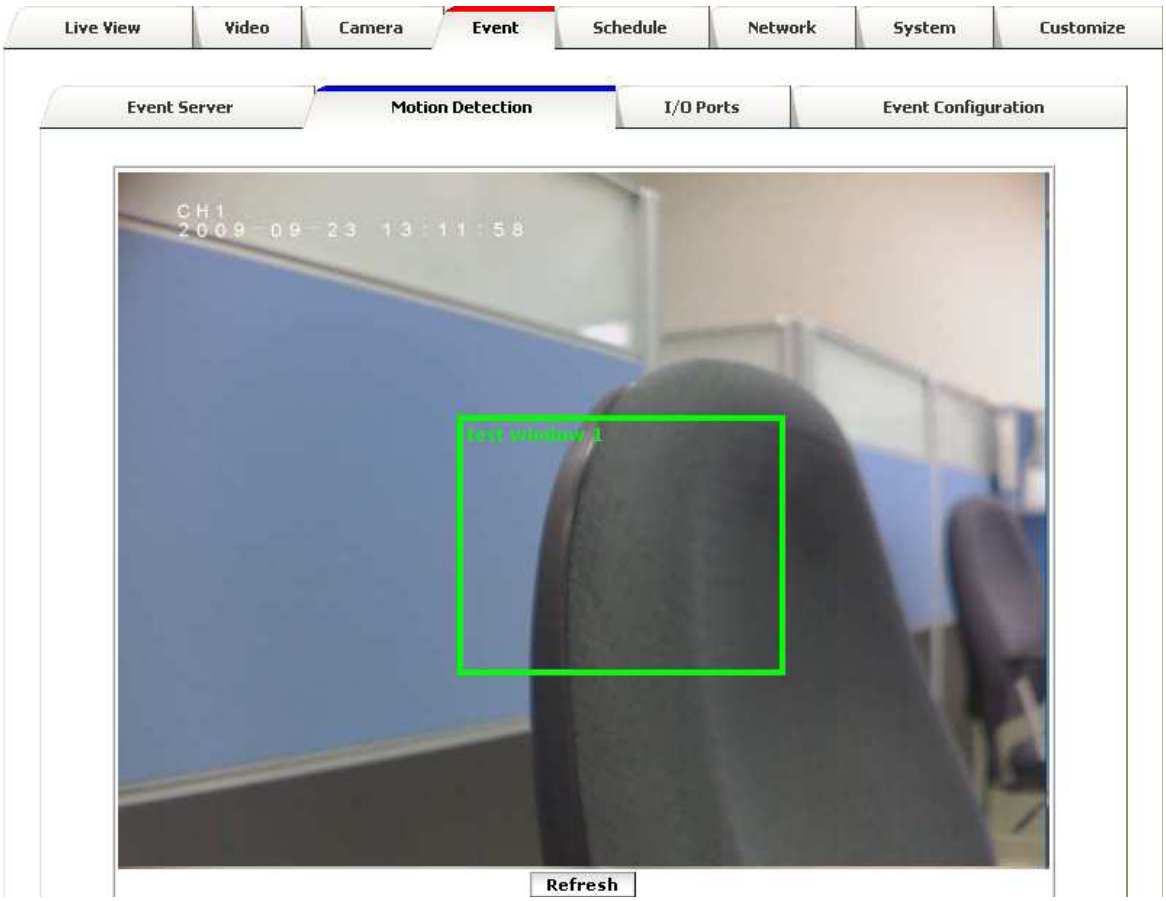
2. Give a name to the area of detection

3. Select INTERVENTION THRESHOLD (TRIGGER LEVEL) and SENSITIVITY '(SENSIVITY) per detection area (0 ~ 100, Hi ~)

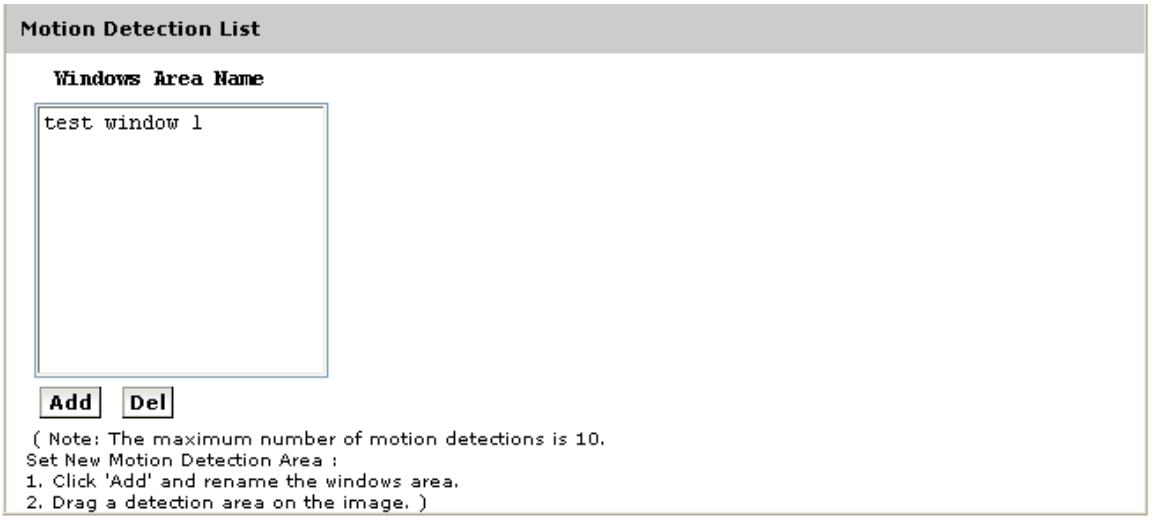
4. Select the color that identifies the window



5. Draw the image sensing window

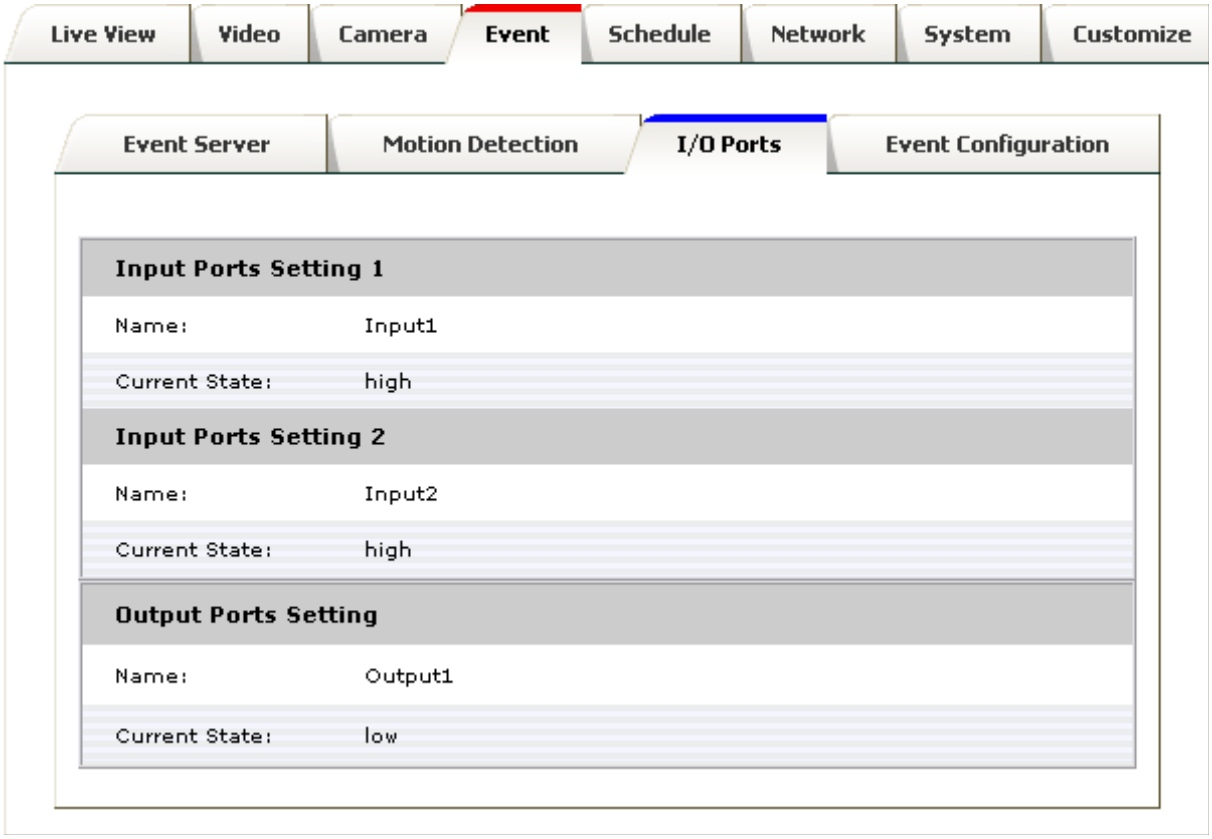


6. After that, click **[Save]** to save the configuration. The new detection area will be listed in the motion detection list



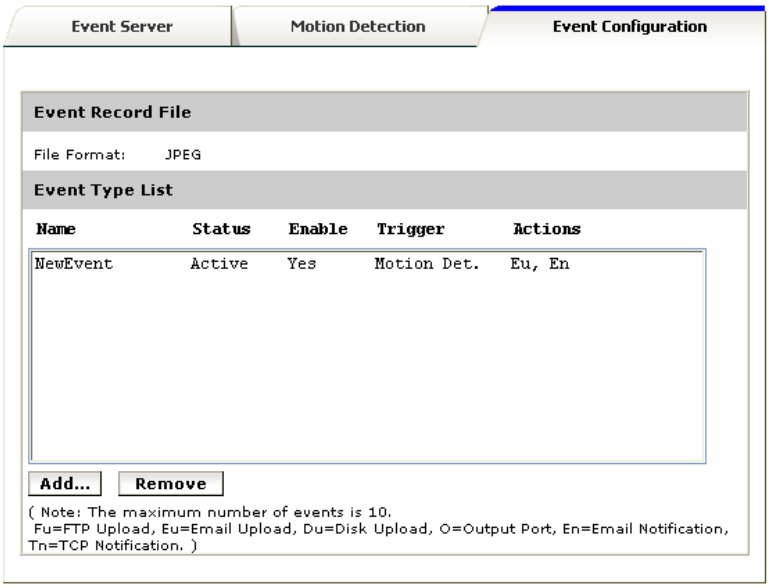
I / O Ports

If the camera you purchased is equipped with inputs and alarm outputs for connecting any external equipment, here it is possible to visualize the state of operation.

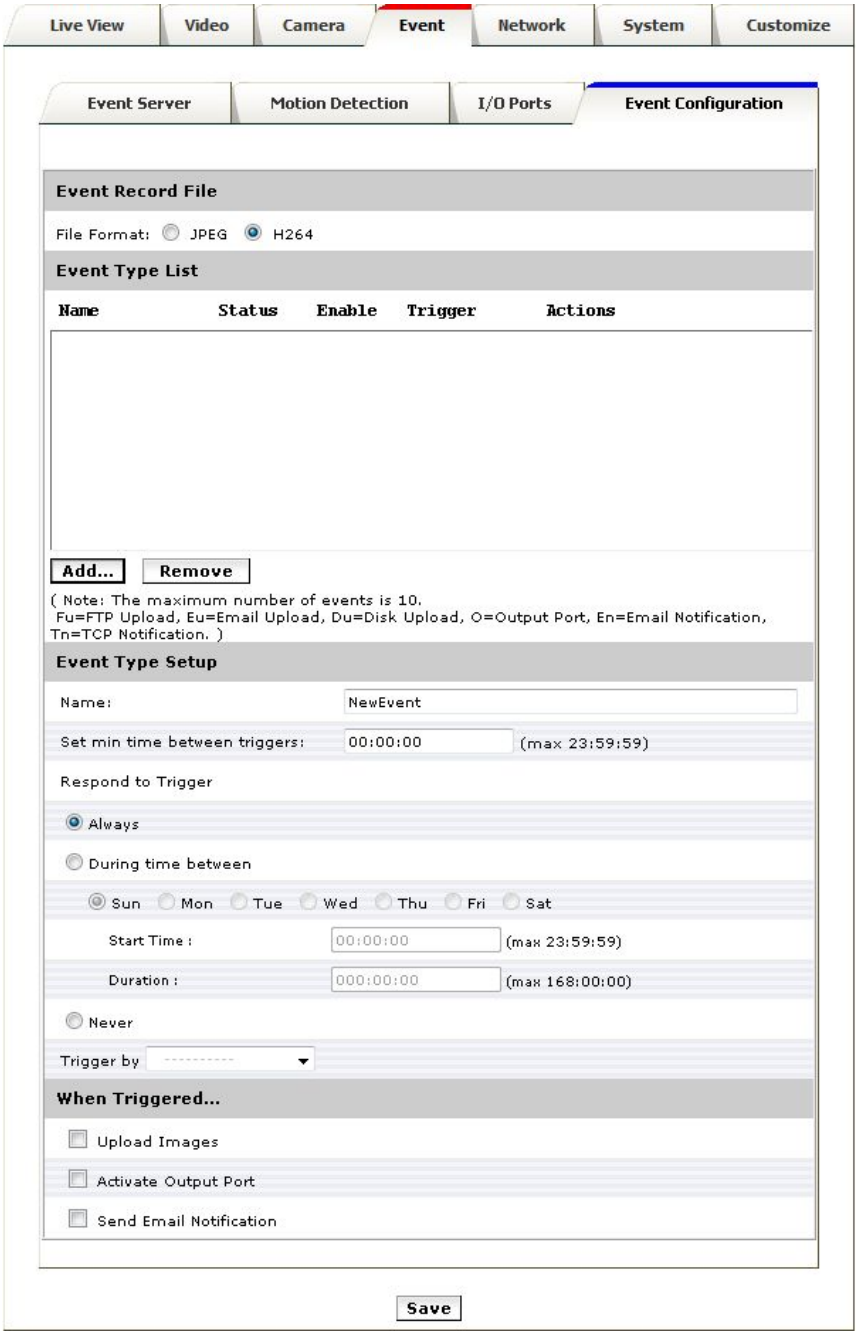


Event Configuration

In CONFIGURATION EVENT tab to assign the actions that you should take after specific events. E 'can set up to 10 different events



The table lists the configured events. Click on " **Add ...** "To add a new event



Event records files - E 'can choose whether on alarm only send photographs (JPEG) or video about 15 seconds (H.264). To change this option you must first disable the scheduled recording in the folder SCHEDULE

Name - indicative of the event Name

Set Minimum time between triggers - E 'can set the minimum time that must elapse between two consecutive alarms. In practice, after generating an alarm, the camera will wait for the set time before being able to generate another.

Respond to trigger - E 'can enable the alarm ALWAYS, or in special groups

Hourly outside of which the detection will not be active. You can set the day of the week, the beginning of the recognition and the duration of the activation period. E 'can also set NEVER (NEVER) to temporarily disable the detection.

Trigger by - In this window you set the cause that triggers the event. There are 4 options: INPUT CAMERA ALERT (GPIN) with a choice of resting state / alarm DRIVE MANUAL (MANUAL TRIGGER)

MOTION DETECTION (MOTION DETECTION) area with a choice of TIMER detection (PERIOD) to trigger the event every XX minutes or hours

When Triggered - In this window you set the action to take after the alarm. The following options are available:

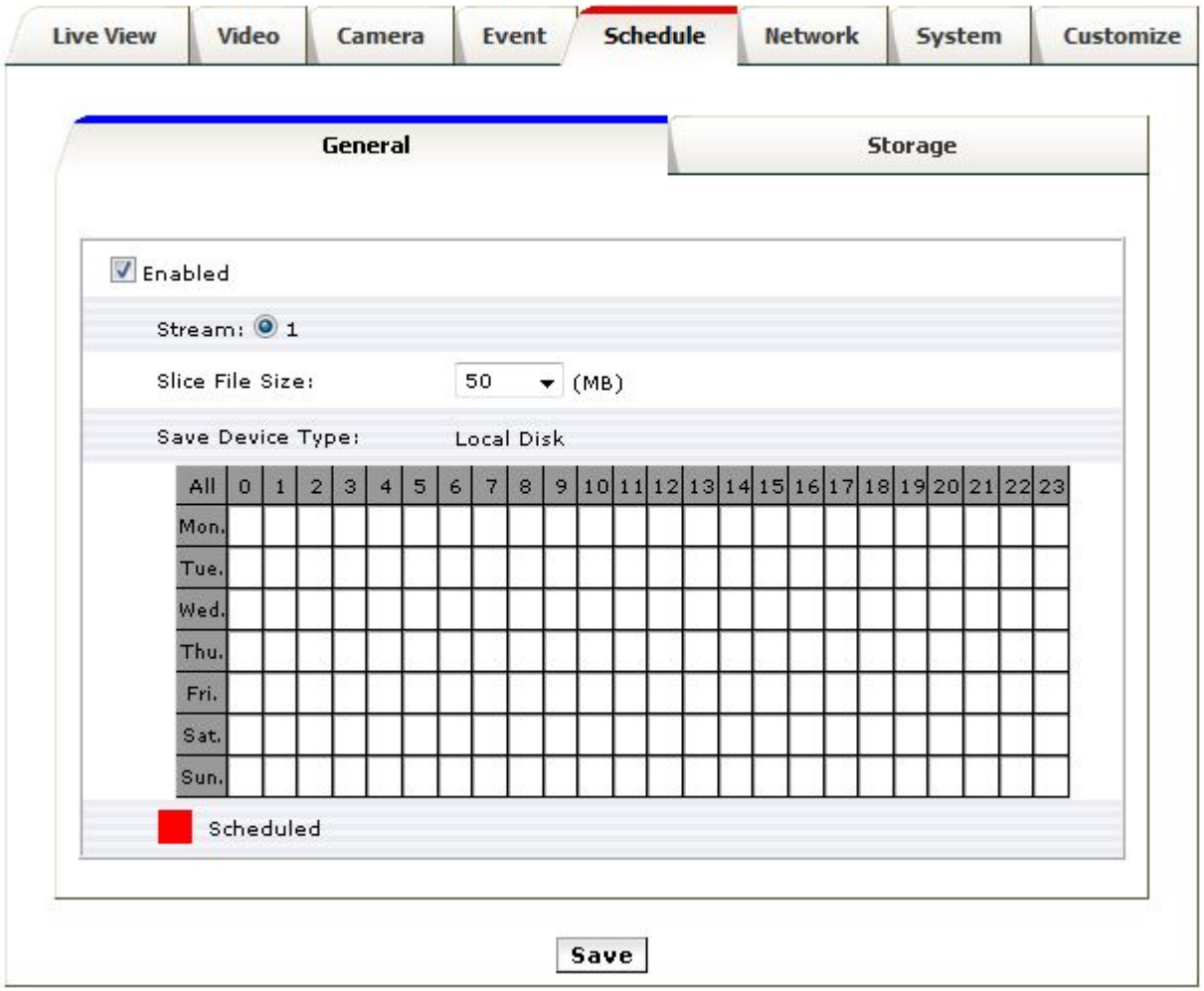
UPLOAD IMAGES - Send images to FTP server or EMAIL address. In this option you can also choose to record images on the SD card on board. OUTPUT ACTIVATE - Activate the SEND EMAIL camera alarm output - Send E-mail alarm information

SEND MESSAGE NOTIFICATION (TCP) - Available only for input drive event (GPIN) allows you to send event notifications to a web site with a TCP / IP packet that can be used by developers to integrate other software.

SCHEDULE - Local Video Storage

Some SD series cameras are equipped with an SD card or Micro SD card for recording video onboard the camera itself. Registration is carried out on the basis of a weekly programmer. E 'can also save JPG images on alarm.

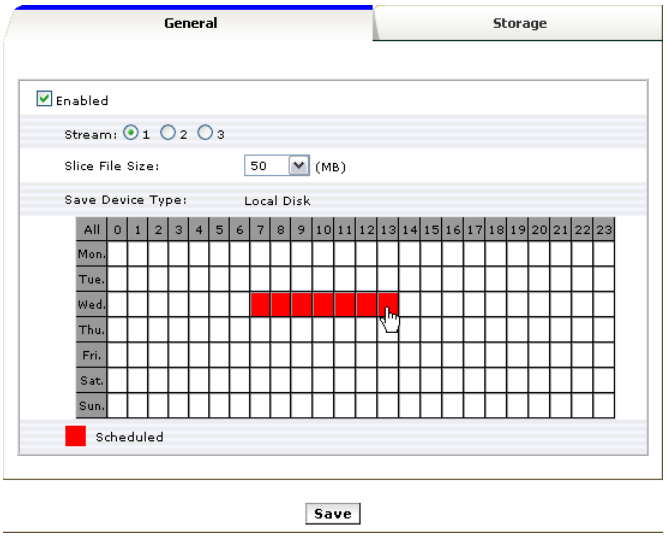
Insert the SD card into the slot and click the folder SCHEDULE (available only on cameras with SD card slot).



The folder is divided into two sections: GENERAL and STORAGE

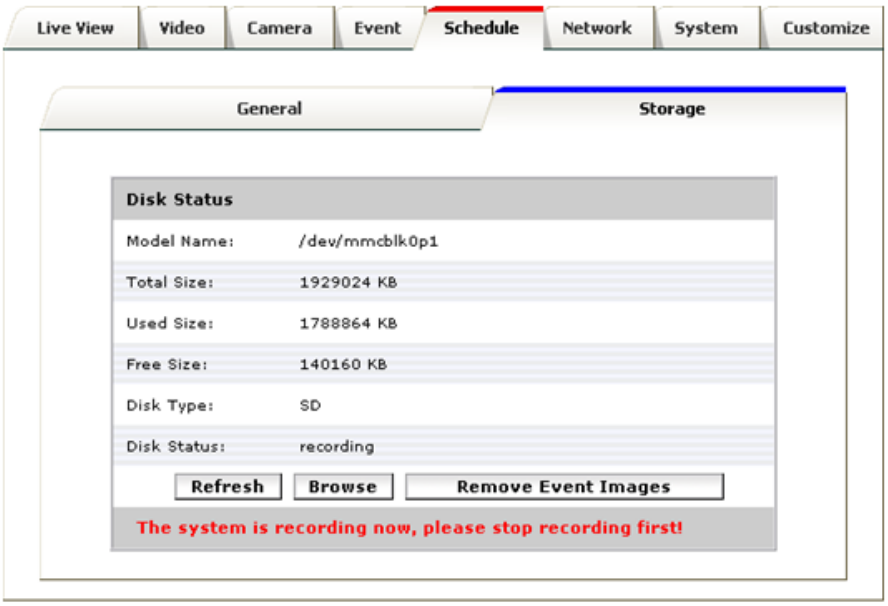
General

Define the date and time you want to record by clicking on the corresponding boxes a day and time when you want to record will remain marked in red. You can also specify which of the enabled video streams to be recorded and the size of each file in which the recording will be divided.



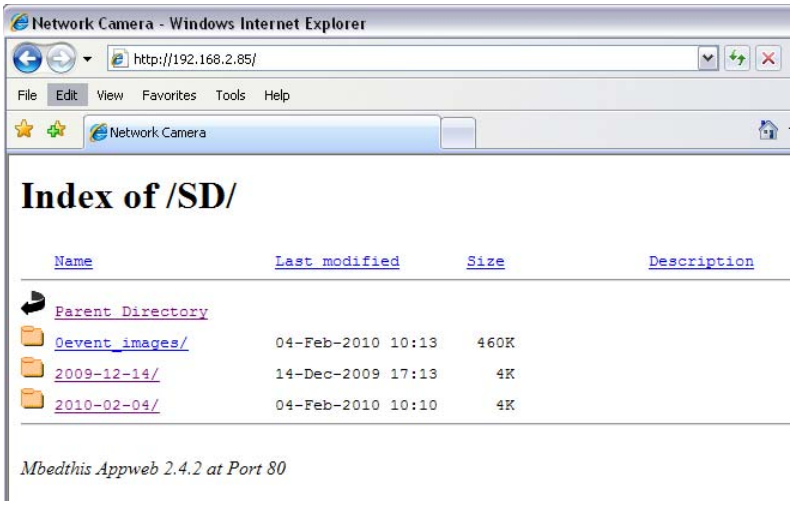
Storage

View the storage of information, including the size of the type and status. The warning message indicates when the recording is in action. The SD card must not be removed during the registration process.

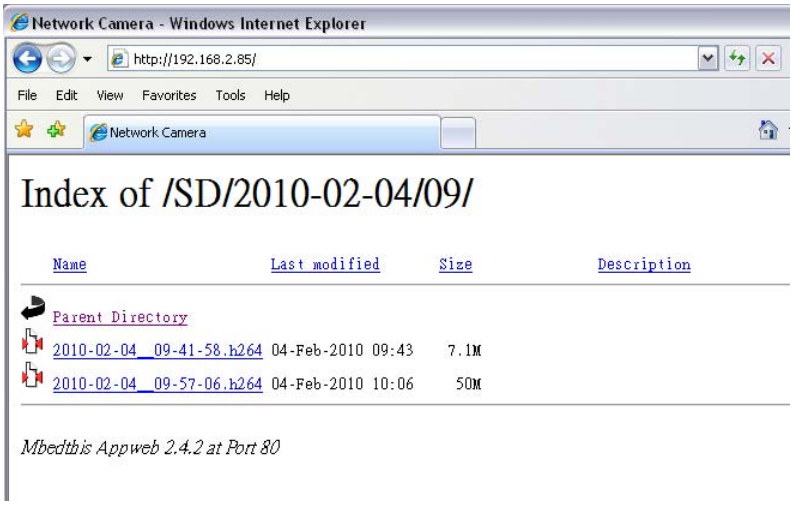


The window **Disk Status** It contains information on the status of the memory card, namely: CAPACITY '(Total Size), SPACE OCCUPIED (Used Size), SPACE (Free Size), PAPER TYPE (Disk Type), CONDITIONS (Disk Status).

The button **Browse** It allows you to view the list of recorded files. The list includes several folders including **Parent Directory** which returns to the main camera control page, **Event images** containing JPEG images captured in response to alarm events and folders video files divided by day.



The video files are named using the date and time and the extension of the file. **" h264 "**. The files in h264 format can be performed with free media player **VLC** media player. Note that recording is done for video only and NOT FOR AUDIO.



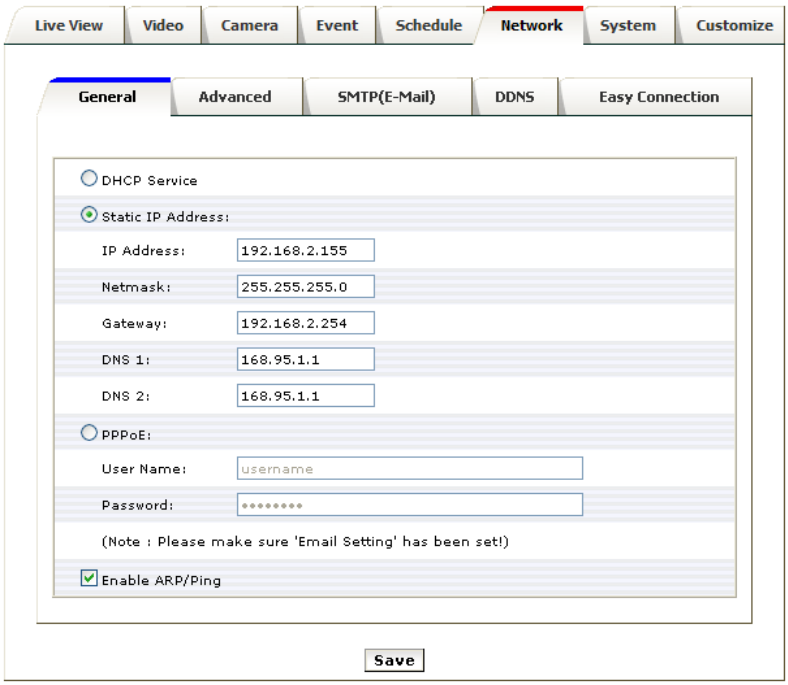
NOTE: The timer recording setting inhibits the activation of the system settings. Disable the timer recording to be able to freely access all the programming options.

NETWORK - Network Settings

This series of cameras acts as a any network device. This section describes how to configure the network settings. The board is divided into sections: GENERAL, ADVANCED, SMTP, DDNS.

General

In this section you can be configured to assign IP address to the device and the main network parameters.



DHCP - Select whether the network works with IP addresses automatically assigned by a DHCP server.

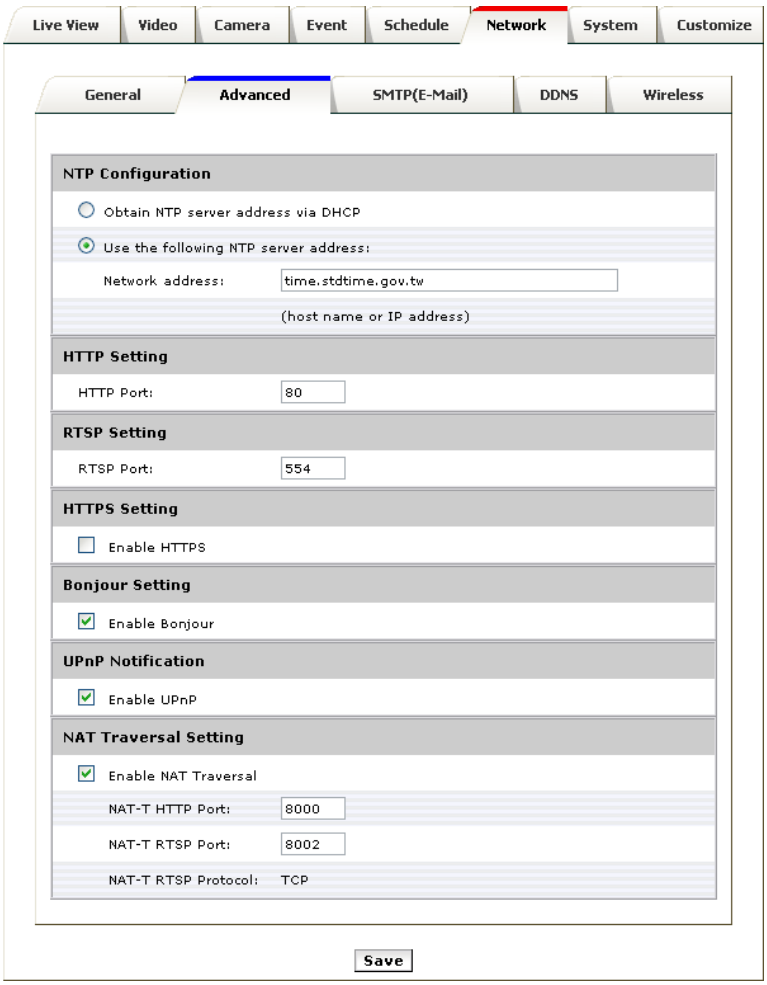
STATIC IP - This section allows you to instead set a fixed IP address, with relative Netmask, Gateway and DNS.

PPPoE - If the camera is not connected to a network but directly to an ADSL modem must enable PPPoE and enter the login information to connect to the internet

ENABLE ARP / PING It allows to enable ARP packets or PING from the network. Disabling this option is recommended if you want to make the camera not easily found the net with traditional PING.

advanced

In this folder are set advanced network configurations, not strictly necessary to the operation of the camera.



NTP: Configure an NTP (Network Time Protocol), so that the date and time of the camera to be automatically synchronized. E 'can set a specific server by entering the name or get the name of the NTP server from the equipment that manages the distribution of DHCP address if it allows.

HTTP: sets the HTTP port that is used to access the browser (default: 80)

RTSP: set the RTSP port (Video) which is used for video data transmission (default: 554).

HTTPS: enables or disables the use of the HTTPS security communication and allows you to set the port to use (default: 443). HTTPS (Hypertext Transfer Protocol over Secure Socket Layer) is an encrypted language used in internet secure connections, typical of protected services (banking etc.)

All cameras in the range support https so you can connect to a camera via the Internet by typing https: // ..... instead of http: // .... The standard communication port will vary from 80 of http to 443 of https.

Bonjour: BONJOUR enables the communication protocol. Bonjour is a protocol created by Apple that allows you to configure network equipment through a wizard without setting parameters directly. Many applications use this protocol to configure network equipment easily. For more information, visit the Apple website.

UPnP: enables the UPnP (universal plug and play). Enable UPnP (Universal Plug and Play) is highly recommended to make sure that Windows Explorer can automatically detect the cameras between the network resources.

NAT Traversal: Enable NAT TRAVERSAL so that from the Internet clients can easily access the camera placed behind the router. With the UPnP enabled routers that support this dialogue function with the camera to set the directing of the doors you need to communication from the Internet to the local network.

SMTP (E-Mail)

The RN Series cameras can send E-mails after alarm events. In this section you set the parameters for the SMTP server for sending e-mail.

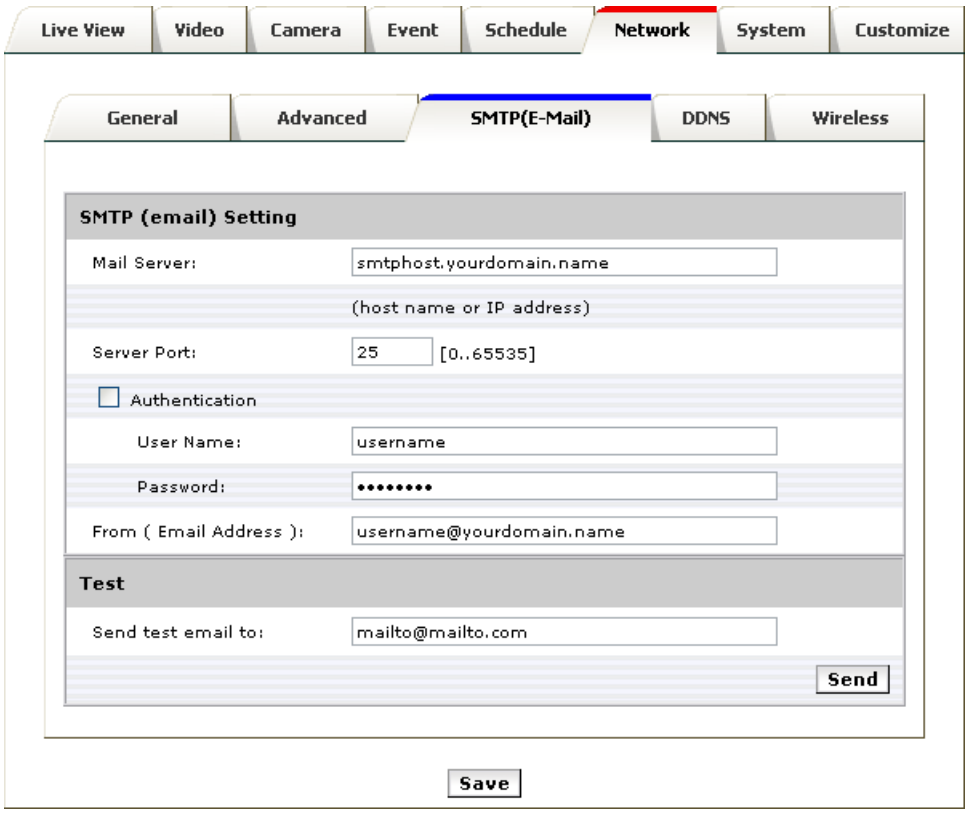
Mail Server: Name of the SMTP server that is used for sending email

Server Port: Port used for sending emails

Authentication: If the SMTP server requires a user name and password to send email you can place

from: Enter the sender address that will appear in the email sent by the camera.

Test: E 'can enter an email address and send a test email by pressing SEND to check the proper functioning.



DDNS

To connect to an IP camera through the Internet is highly advisable to have a fixed IP address so that you always know the exact address to connect. If it can not get from your provider, all cameras in the range support services DDNS (Dynamic DNS) that allow you to constantly monitor the machine's IP address. These services, also available for free, provide the user with a domain name that you type into your browser. The DDNS provider redirects communication to the IP address that the camera has at that moment.

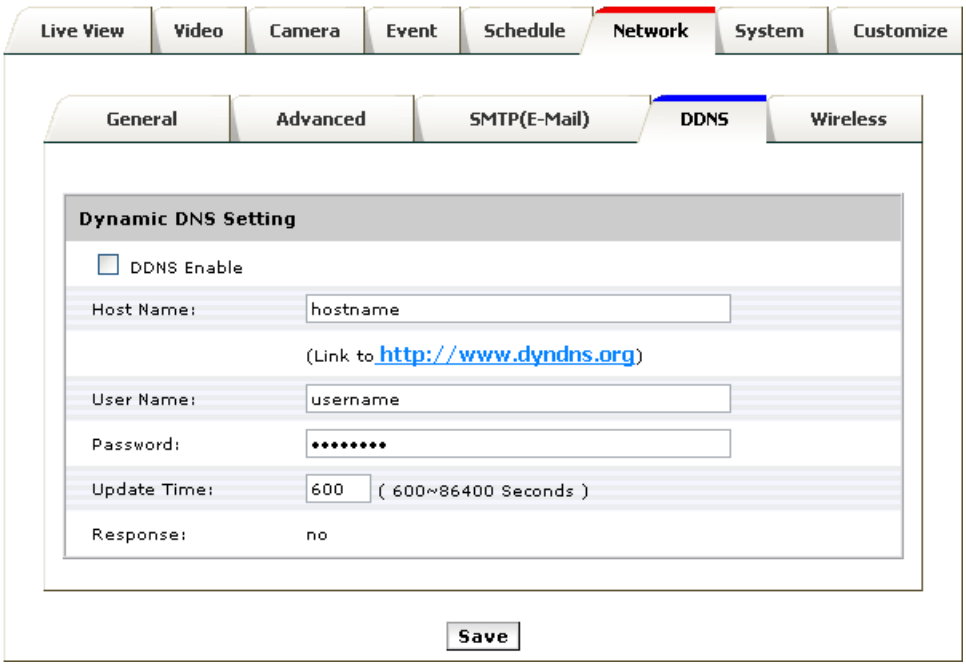
All RN Series cameras support the most common DDNS services and are able to send to the DDNS provider periodically Internet IP address assigned to them. You can set the following parameters:

Host Name: personal domain name that is assigned by the DDNS provider to the device

User Name / Password: account authentication for access to the service.

Update Time: frequency with which the camera sends its IP address to DDNS server.

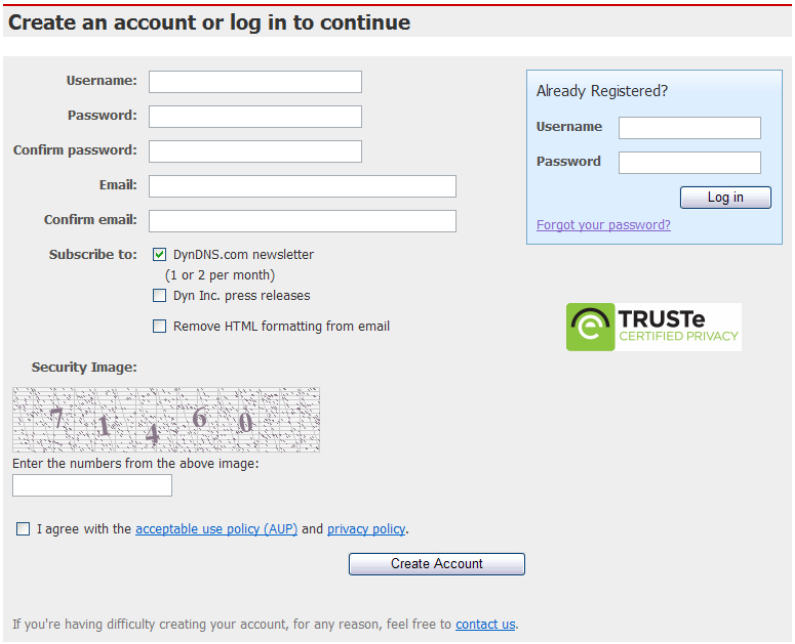
Response: It indicates whether the camera is properly connected to the service and the DDNS is in operation.



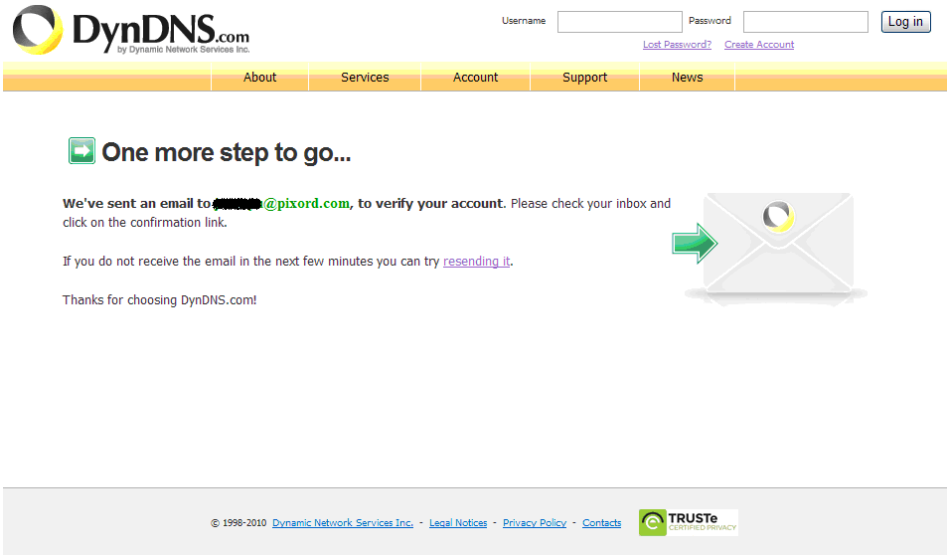
The following describes how to use the DDNS service offered by one of the leading providers DYNDNS.COM whose link is also present in the configuration tab. Open the web page www.dyndns.com

DynDNS.com
by Dynamic Network Services Inc.
Username
Password
Log in
Lost Password?
Create Account
About
Services
Account
Support
News
I'd like to...
Remotely access my home computer
Control my DVR from anywhere
Get a free domain name
Safeguard my email
Protect and speed up my Internet
Search
Introducing the NEW
DynDNS Community
An all new format to help you get the absolute most out of DynDNS.com and help others do the same.
Community voting on Questions/Answers
Reputation Points and Service Badges
Single Sign on for DynDNS.com Users
Join Now
Free Dynamic DNS
Point a hostname to a dynamic or static IP address or URL.
Host your own website at home for free!
Connect to your workstation, DVR, webcam from anywhere.
example
dyndns.biz
Add
» DDNS service details...
DNS Hosting & Domains
Register your domain and point it to an IP address or URL
Easy-to-use web interface with powerful expert tools.
Secondary and primary DNS servers around the globe!
example.com
Add
» more about Custom DNS hosting...
Resources
What is DNS?
DNS Tools
Home DNS Solutions
Business DNS Solutions
Services
DNS Hosting
Free Dynamic DNS
Spring Server VPS
Domain Registration
Support
DynStatus
Knowledge Base
24/7 Premier Support
DNS Update Clients
Follow Us
Our News
Twitter @dyninc
LinkedIn
DNS Ninjas | Facebook

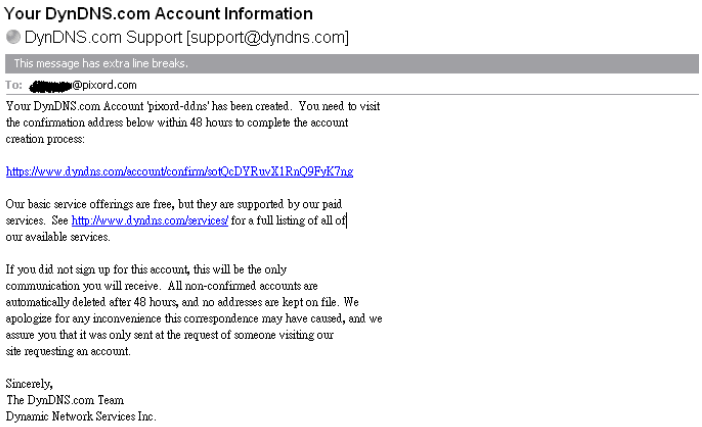
Creating an account with DYNDDNS.COM



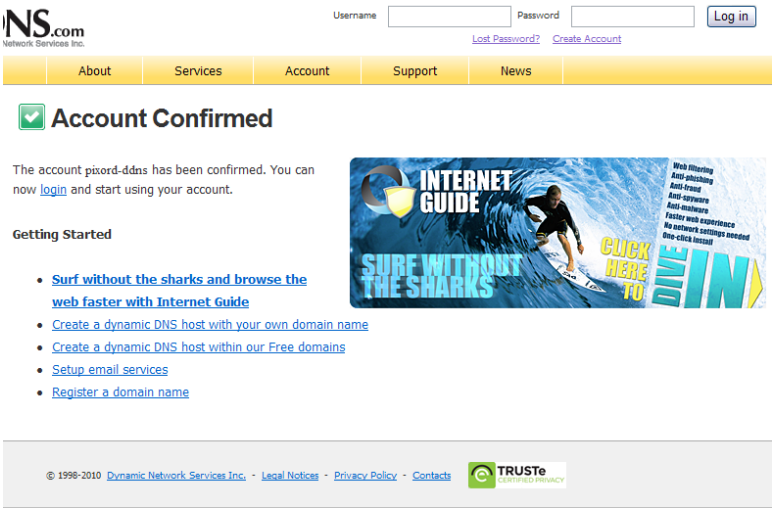
Enter USER NAME, PASSWORD and EMAIL to create an account to use for your camera.



The site has accepted the new account and send an e-mail verification.



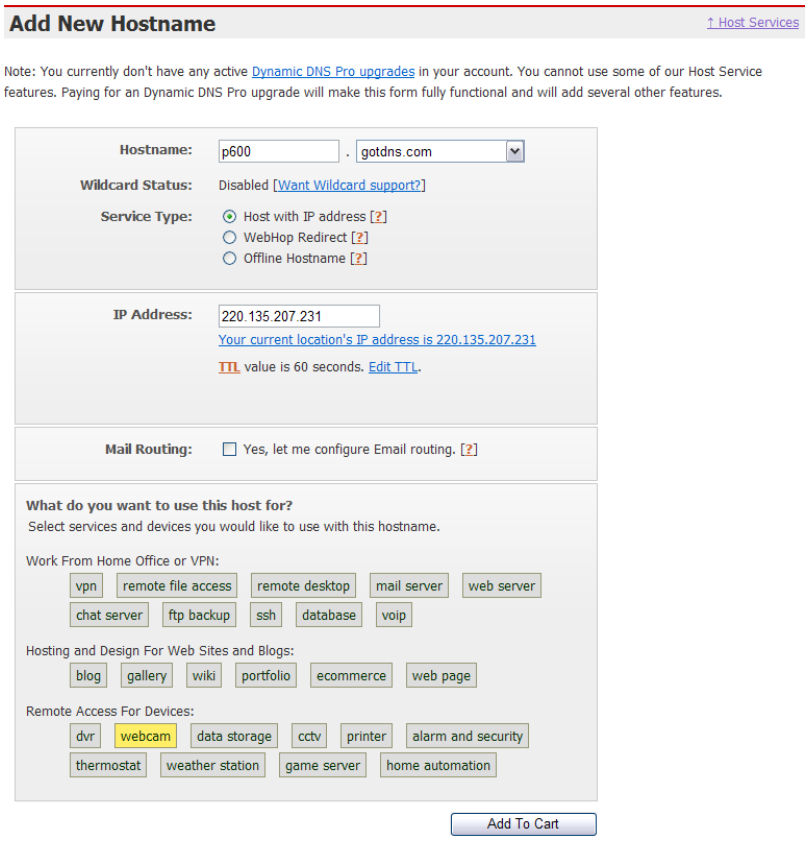
In the email sent by DynDNS, you need to click the link to activate the service. The account will be activated by entering the web site to confirm.



Login and use the service DYNDNS.COM

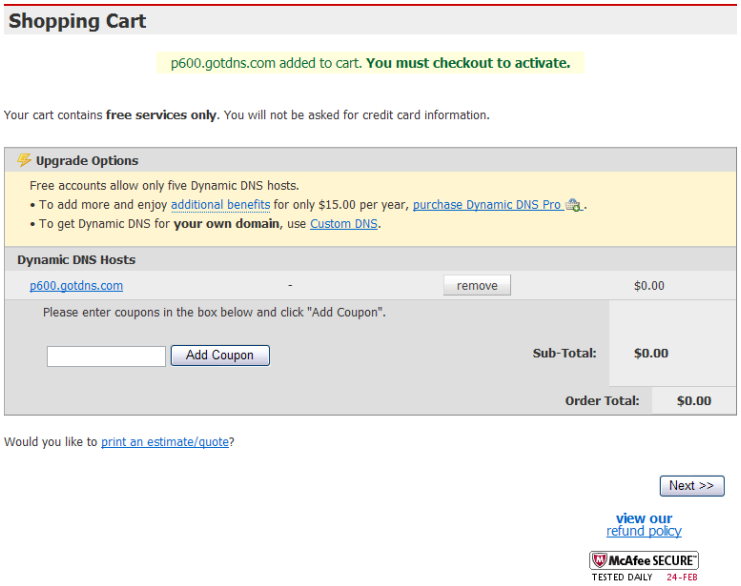
For the LOGIN, enter USER NAME and PASSWORD assigned

After entering the created, in the " **My Services** "Click" Add Host Services ".

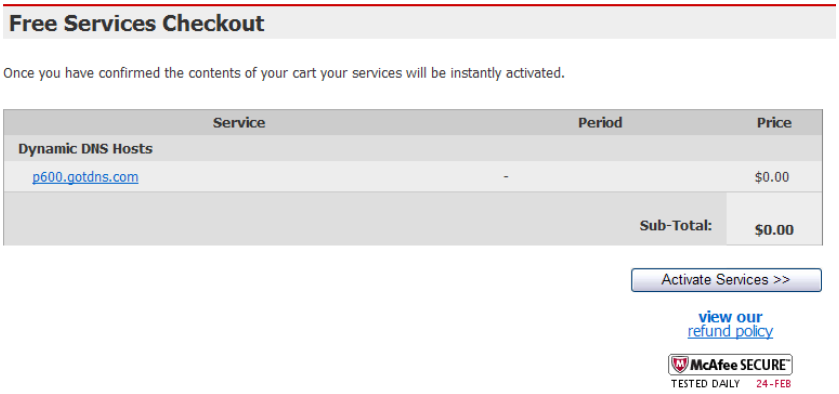


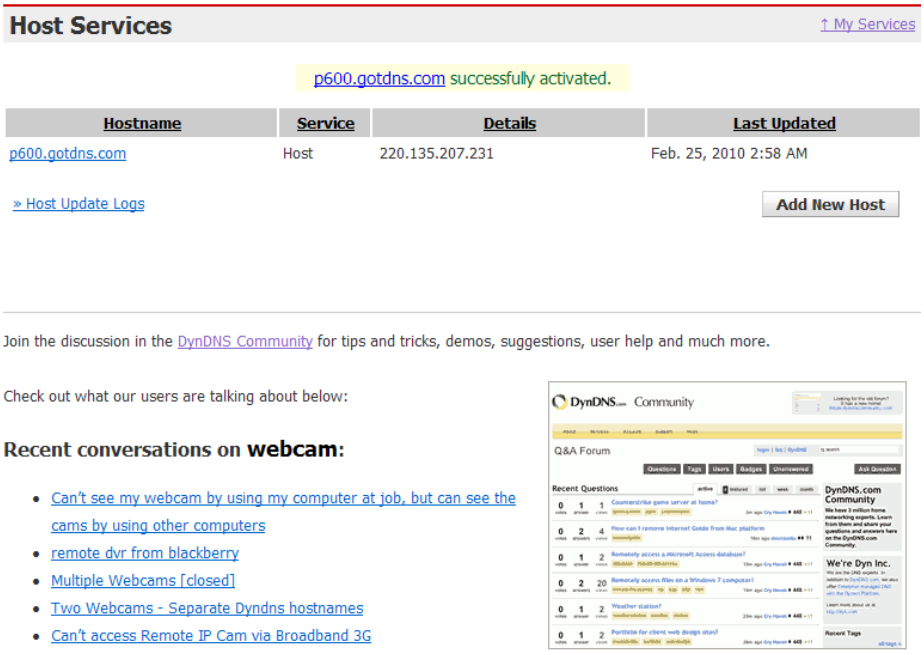
HOST Enter the name given to the device. The field where ' "IP Address" is entered can be filled with any address as it will be updated once the device is registered to the service. click on

"Add To Cart" to move to the next step.



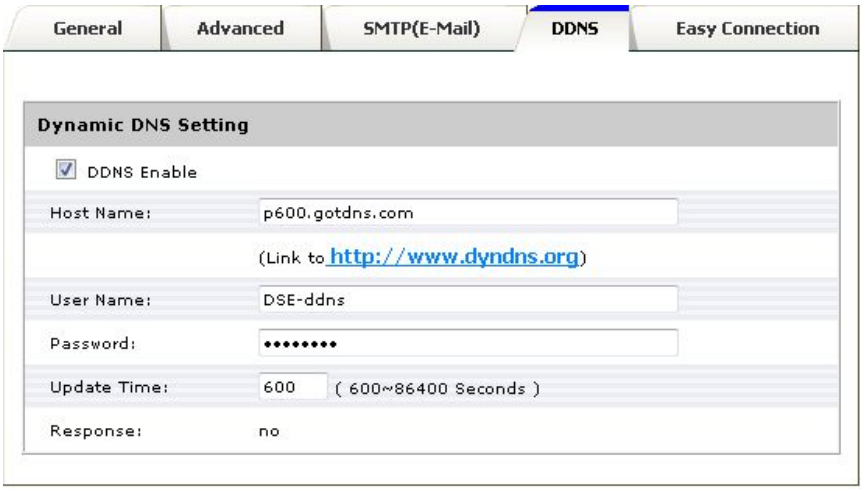
The Dynamic DNS hosting service is free. only on "Next" Click.





Click "Add New Host" option if you want to record other additional IP cameras.

Enter the DDNS parameters in the camera

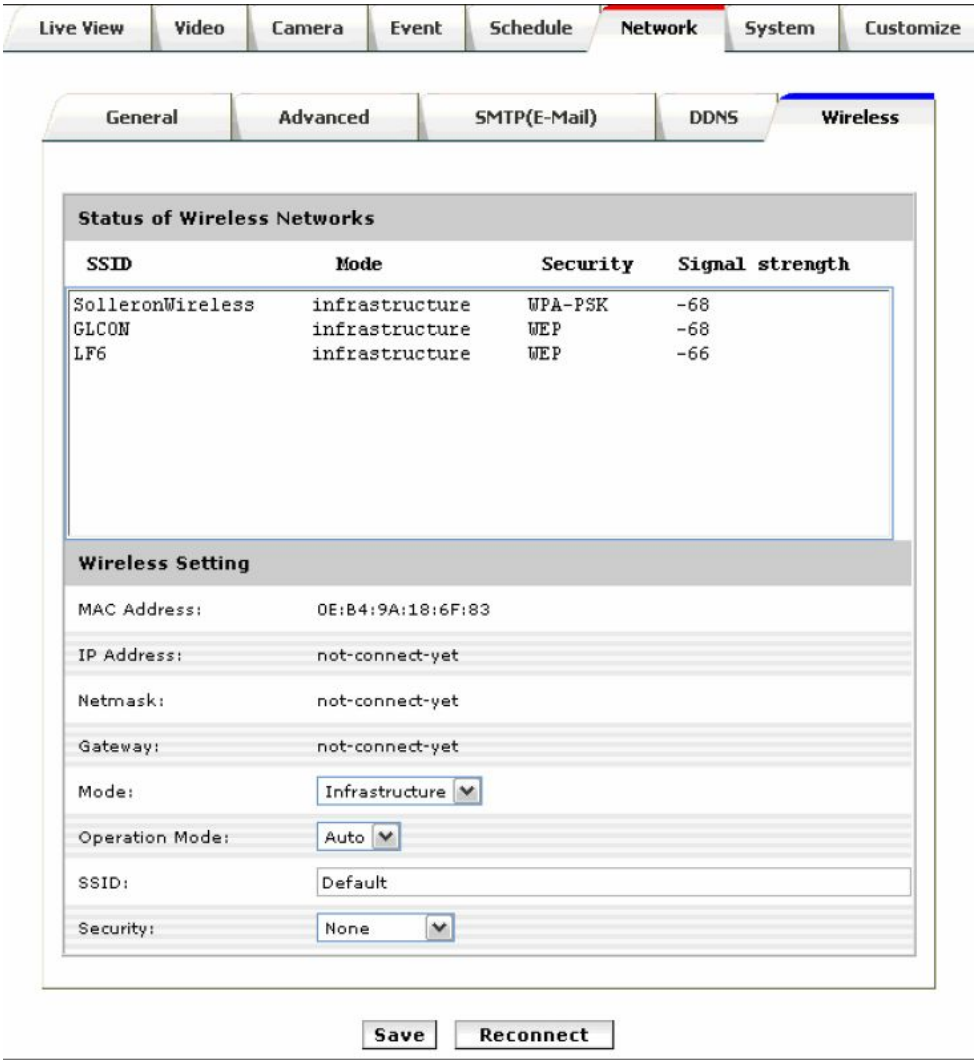


On the Device Configuration page, Setup -> Network -> DDNS, enter the name HOST logged and the username and password. Enable DDNS then save the settings. In the "Response" she says "yes" to indicate that registration has been successful. If you click on the LINK in blue will show the Live View page of the device.

Wireless

This section is only available in cameras that support the connection to the wireless network Wi.Fi. E 'need to access the camera via hardwired connection initially to configure the disconnection wireless power and subsequently disconnect the network cable. The window shows all the wireless networks available in the environment (Access Points) and indicates the type, the safety guard and the signal strength.

Enter the connection parameters adjusted according to the settings of your wireless network SSID and especially any security parameters to connect

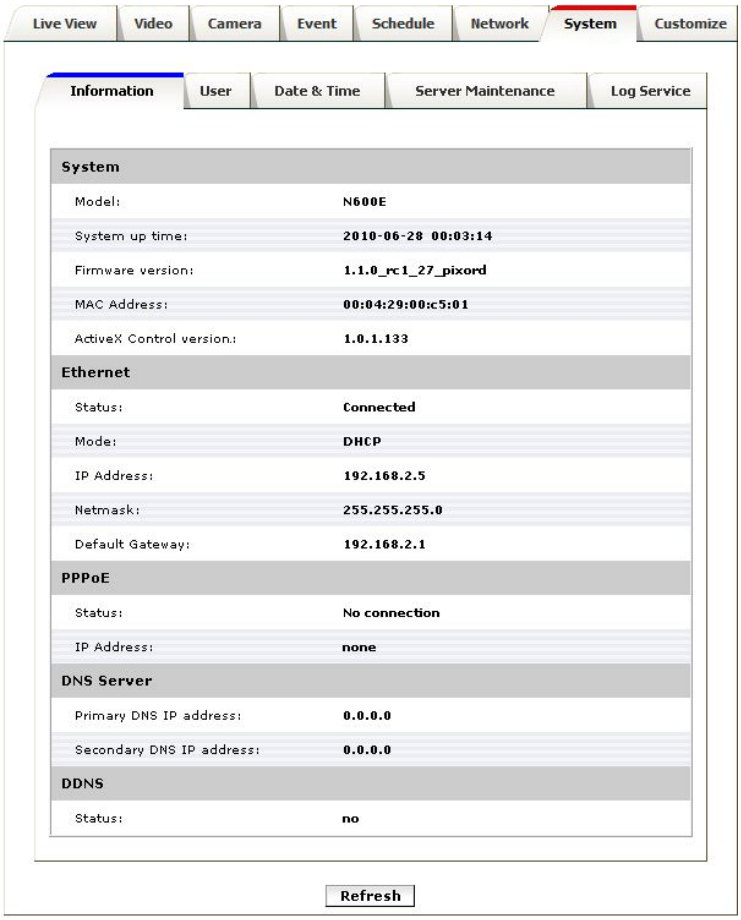


SYSTEM - System Settings

In this section you set the general options for system

Information

This tab summarizes the information about the product and network configuration.



User

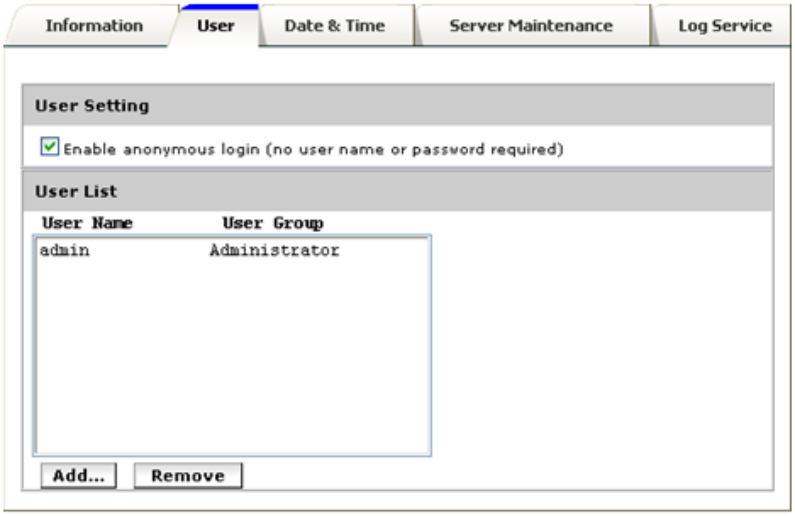
Access to the camera is controlled by a password so that only authorized personnel can access them. E 'can enter up to 20 users

Each user can have one of the following levels of access to the system:

ADMINISTRATOR: full access

OPERATOR: Access to display and single programming sections and VIDEO CAMERA.

VIEWER: Access to only live viewing

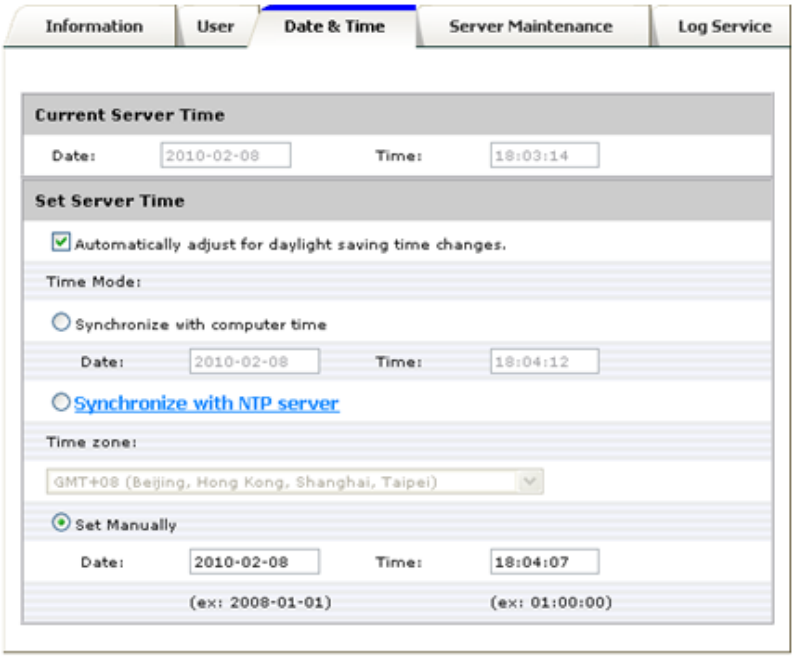


Use the ADD button to add a new user.

The default user ADMIN can not be eliminated, but you can of course customize the password to it combined. The option **ENABLE ANONYMOUS LOGIN** You can be enabled if you want to allow access to only viewing without requiring any access passowrd.

Date & Time

In this tab, it is possible to configure the date and time of the device. The options for synchronization with PC and NTP server are provided for the automatic adjustment.



AUTOMATICALLY ADJUST FOR DST - Automatically adjust clock for summer / winter

SYNCHRONIZE WITH COMPUTER TIME - Sync time to that of the PC

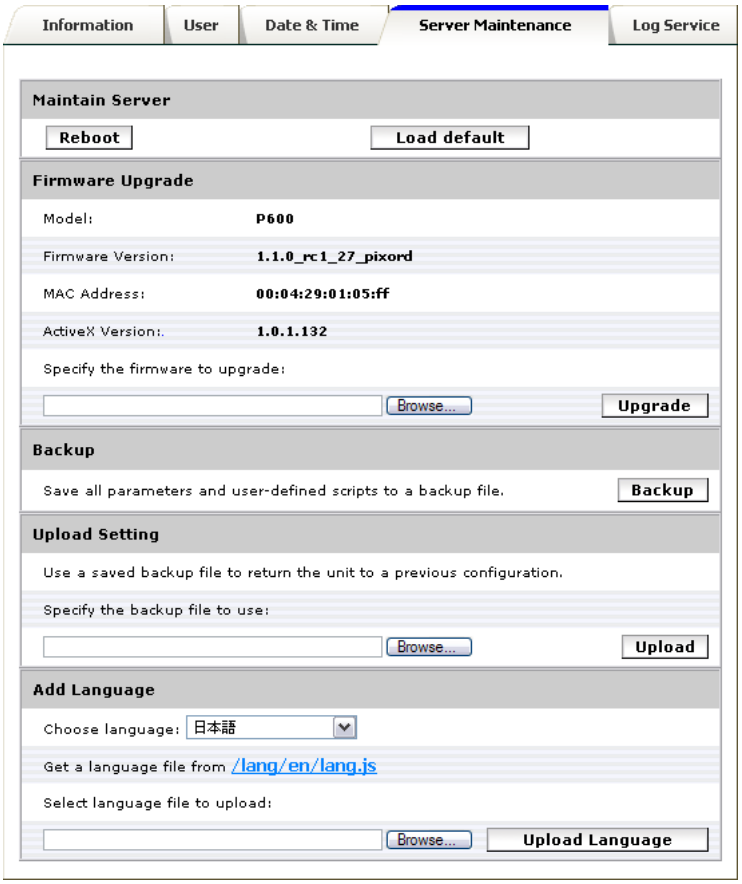
SYNCHRONIZE WITH NTP SERVER - Rule automaticanente time with an NTP server on the network to configure in the NETWORK section.

TIME ZONE - Set the time zone (GMT + 1 in Italy)

Set Manually - Set date and time manually

Server Maintenance

This page provides tools for maintenance of the camera system on board.



REBOOT - Reboot the camera

LOAD DEFAULT - Restore the factory parameters

UPGRADE - Allows you to choose and to send a new updated Camera Firmware

BACK UP - Save the camera configuration in a file .TGZ

UPLOAD - Allows you to send to a previously saved configuration Camera

ADD LANGUAGE - This command is useful if you want to translate the English text web interface of the camera or change it at will. E 'can by clicking the link in blue, from the camera to download the file containing all the web interface texts in the international factory language (English) and translate them into any language using any text editor such as notepad windows With the command **UPLOAD LANGUAGE** you can send the translated file to the camera.

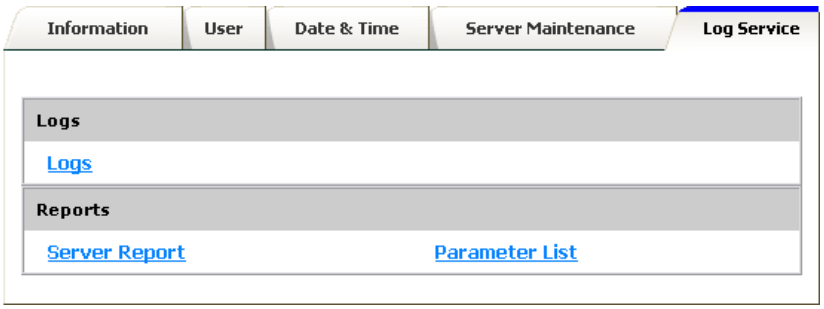
Log Service

Most system operations are stored in a LOG. On this page you can view the log in a browser window. There are 3 types:

LOGS - List of transactions carried out the network

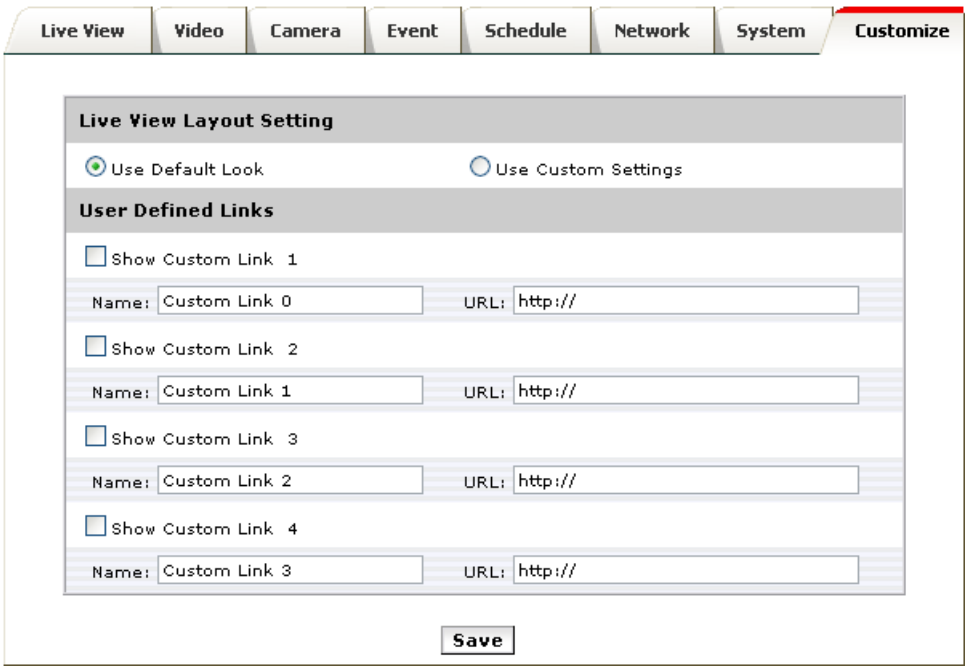
PARAMETER LIST - Complete programming

REPORTS SERVER - Full report



CUSTOMIZE - Customization

In this section there is the possibility to customize the appearance of the LIVE camera view page. There are two types of layout setting: the factory DEFAULT display or use custom settings.



Use Default Look: Use the aesthetics of the graphical Factory

Use Defined Links: E 'can enter the IP addresses that link will be shown in the live display of the camera. For example, you can enter the IP address of other cameras or network devices (NAME: see description URL: address).

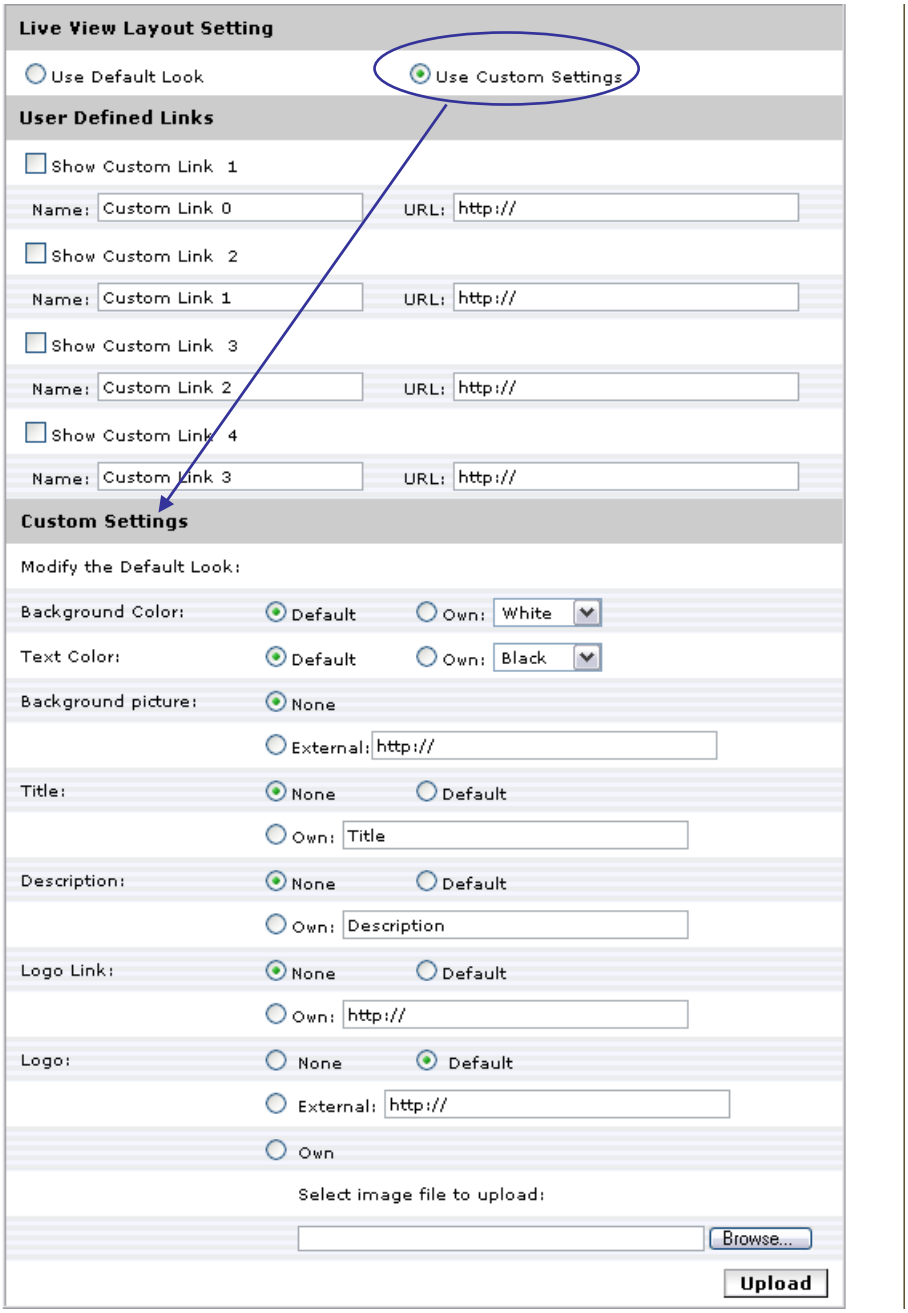
Use Custom Settings: E 'can customize the graphical web interface according to your needs: BACKGROUD COLOR - background color TEXT COLOR - text color

BACKGROUND PICTURE - Background image (file or external link) TITLE - the page

title

DESCRIPTION - description LOGI page - Logo reproduced on the

page (file or external link)


Live View Layout Setting
Use Default Look
Use Custom Settings
User Defined Links
Show Custom Link 1
Name: Custom Link 0
URL: http://
Show Custom Link 2
Name: Custom Link 1
URL: http://
Show Custom Link 3
Name: Custom Link 2
URL: http://
Show Custom Link 4
Name: Custom Link 3
URL: http://
Custom Settings
Modify the Default Look:
Background Color: Default Own: White
Text Color: Default Own: Black
Background picture: None
External: http://
Title: None Default
Own: Title
Description: None Default
Own: Description
Logo Link: None Default
Own: http://
Logo: None Default
External: http://
Own
Select image file to upload:
Browse...
Upload

firmware Update

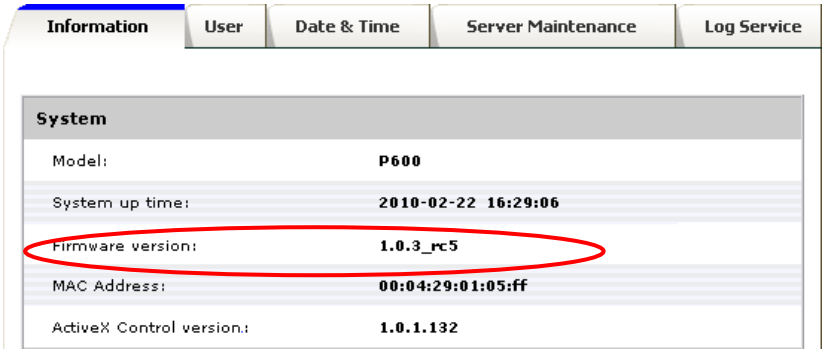
Check Firmware Version

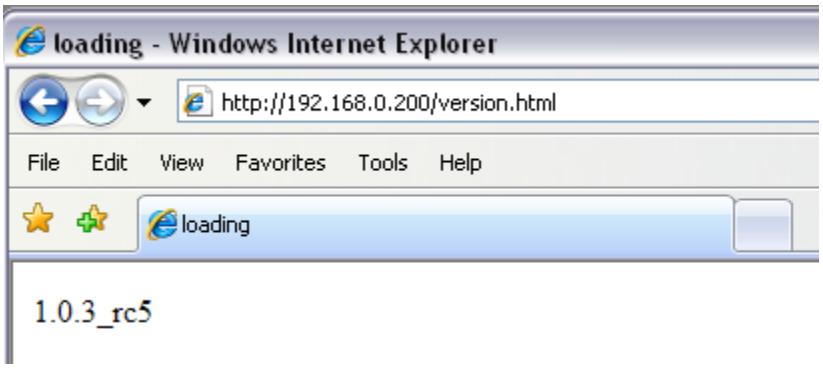
How Firmware is the set of software instructions within the camera that govern its operation. The version of the Firmware installed in the device can be checked by entering the menu

Setup, then **System,** in the folder **Information.**

You can come to knowledge of the firmware version also simply typing "version.html" after the camera address, for example http://192.168.0.200/version

.





Firmware Update

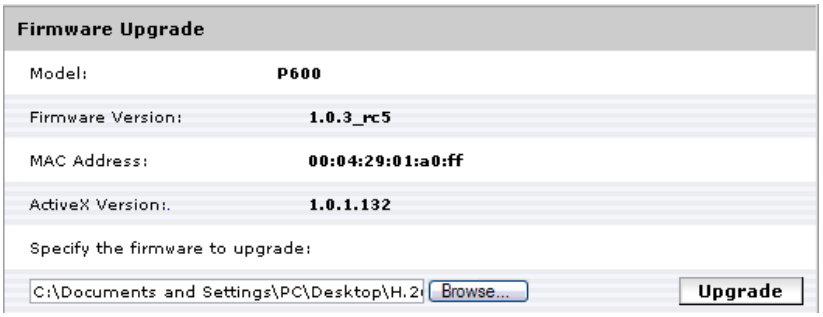
All RN series cameras allow you to upgrade the camera firmware with a newer one. In any case it is never recommended to update the firmware unless under indication of our technicians. The

the firmware update process is done through the browser by going to **Information -> Server Maintenance -> Firmware Upgrade.**

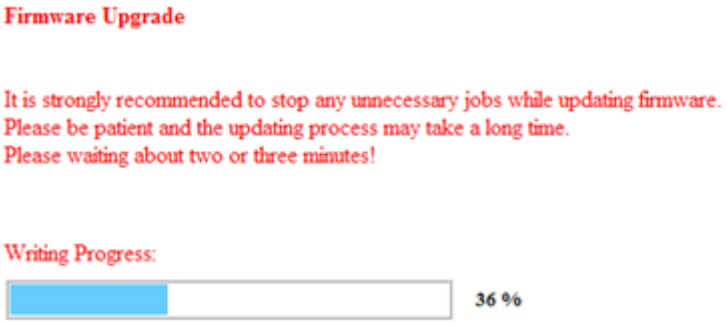
Follow the following guidelines:

1. Obtain the latest version of firmware and save it on the client PC.
2. Disconnect all clients connected to the camera.
3. Turn off any scheduled recording SCHEDULE.
4. Go to the page for updating the firmware, try the update file by clicking on BROWSE,

then click on UPGRADE to start the update.



5. The update will start in a few minutes depending upon the transfer status. The update process takes about 5-10 minutes. Do not disconnect the device during the update process to avoid any damage.



6. The orange indicator LED camera flash during the update process. When the LED is again fixed the camera will be ready for use.

Restoring the factory settings

If you are not satisfied with the settings made or if detected irregularities in operation due to incorrect settings may be convenient to restore the factory parameters of the camera. All cameras and video servers RN for this series are fitted with a reset button indicated by RESET or DEFAULT.

If the button is not directly accessible from the outside there is a small hole inside which it is possible to insert a thin object, such as a suitably deformed paperweight clips so as to press the reset button inside.

Some models, in waterproof, do not have a button accessible from the outside. In this case there is a DEFAULT terminal in the terminal inputs and outputs. Instead of pressing the reset button will connect together the DEFAULT terminal with a GND terminal to start precedura.

To restore the factory settings is not simply press the reset button, but you must scrupulously perform the following steps:

1. Disconnect the power supply of the camera and the outlet.
2. Insert a pin into the RESET hole and hold (in the models without the reset hole to short the DEFAULT and GND terminals)
3. Connect the power of the camera while continuing to press the button for a few seconds until the status LED flashes rapidly ..
4. Releasing the reset button by removing the pin from the hole (in the models without the reset hole to remove the connection between the DEFAULT and GND terminals)
5. Wait until the LED flash quickly and reconnect terms of the network

The camera has now returned to its factory settings.

CAUTION: Restoring the factory settings also includes access passwords, and network parameters.

Video streaming Specifications

OPTIONS

As previously seen the RN series cameras, except for the RN-636E camera, they can manage 3 different video streams simultaneously.

You should consider the following rules:

1. Each stream can be set in MJPEG or H.264 mode
2. Each stream can be configured to CBR or VBR
3. The Stream1 (main stream) is available in all resolutions listed
4. The maximum settable resolution for Stream 2 is 640x480
5. The maximum settable resolution for Stream 3 is 320x240
6. The maximum frame rate for the transfer is 1600x1200 15fps. Other resolution can be up to 30fps

	STREAM1	**STREAM2**	**STREAM3**
coding mode			
H.264 / MJPEG	V	V	V
Transfer Mode			
CBR / VBR	V	V	V
Maximum resolution / FPS			
1600x1200 @ 15	V		
1280x720 @ 30	V		
800x600 @ 30	V		
640x480 @ 30	V	V	
320x240 @ 30	V	V	V

RELATIONS

Some of the video streaming settings are dependent STREAM 1 adjustment.

1. **Fps Maximum:** when ***Stream1*** It is set in ***1600x1200,*** the maximum frame rate is ***15fps.*** As a result, both the ***Stream2*** that ***Stream3*** They can be configured with frame rate 15.05 fps
2. **resolution Dependency:** the maximum resolution for the ***Stream2*** It depends on the resolution set for ***Stream1.*** When Stream1 is set to 320x240, Stream 2 is limited to 320x240.
3. **Independence frame rate:** The setting frame rate for each stream can be independent.

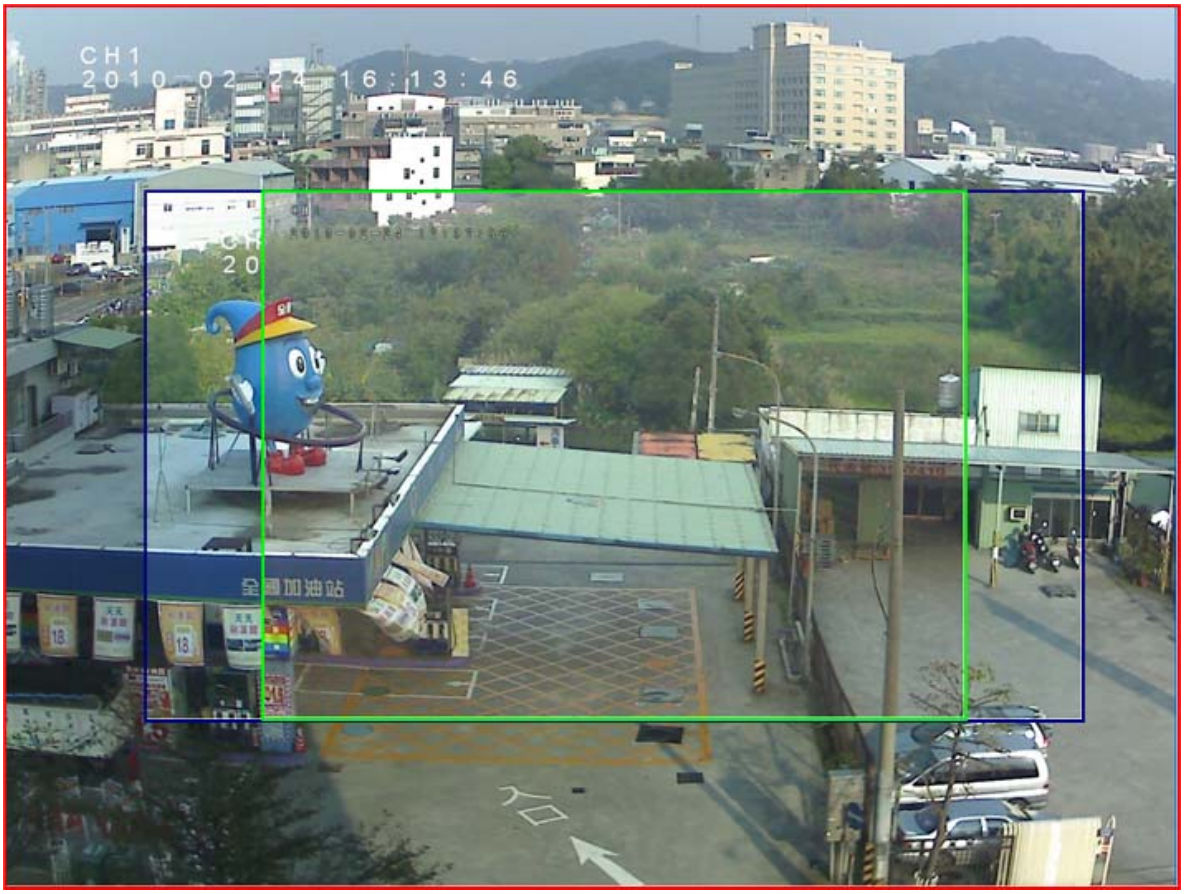
STREAM1	STREAM 2		STREAM3
	640x480 320x240	320x240	(Fixed)
1600x1200, 5 ~ 15 fps **5 ~ 15 fps**			**5 ~ 15 fps**
1280x720, 30 fps 5 ~	5 ~ 30 fps		5 ~ 30 fps
800x600, 640x480 5 ~ 30			
fps, 30 fps 320x240 5 ~, 5			
~ 30 fps		5 ~ 30 fps	

The resolution setting should follow: Stream1 ≧ Stream2 ≧ Stream3.

VIEW ANGLE

The influence of the STRAM1 setting the angle of view of the camera. Nell photo below shows the same shot with 3 1600x1200 resolutions, 960x720 and 1280x720 (the latter not available in the camera menu. As can be seen the angle of view is different in the 3 situations.

The 800x600, 640x480, 320x240, are the reduction in the original image scale and vary depending on whether the stream 1 has 1600x1200 resolution or 1280x720.



Angle actual view of the stream 1 to 1600x1200, 1280x720 and 960x720

STREAM 1 to 1600x1200

Angle of view with STREAM 1 to 1280x720