IP CAMERAS

RA-N1250 RB1

RB2-N6600-N6630-N6130

RC RD-N2260

INTRODUCTION

IP cameras are cameras that can generate a purely digital video signal that can be transferred to a computer local area network, instead of using coaxial cables required for analog video transport standard television.

These cameras have therefore a power outlet instead of the classic video connector BNC / RCA and the images they generate are displayed on computers instead of TV-like monitor. E 'possible to realize an appropriate LAN network for the CCTV system or use one already exists.

MAIN SPECIFICATIONS

Template	**RA-N1250**	**RB1-N6600**	**RB2-N6630**	**RC-N6130**	**RD-N2260**
Sensor	CMOS progressive scan	CMOS progressive scan	CMOS progressive scan	Sony Super HAD CCD 520 TV lines	CMOS progressive scan
Max resolution.	640x480	640x480	640x480	704x576	640x480
Compression	MPEG-4 / MJPEG	MPEG-4 / MJPEG	MPEG-4 / MJPEG	MPEG-4 / MJPEG	MPEG-4 / MJPEG
Dual streaming	Supported - E 'can send streaming simultaneously with different compressions				
Frame rate max.	30 f / sec	30 f / sec	30 f / sec	30 f / sec	30 f / sec
Objective Standard	4 mm F 2.0	4.3 mm F 2.0	6 mm F 1.6	6 mm F 1.8	4.3 mm F 2.0
lens mount	S	S	S	CS	S
Illuminator	5 m.	15 m.	35 m.	-	10 m.
illuminator Technology	visible LEDs	IR 850 nm	IR 850 nm	-	IR 850 nm
ICR - IR removable filter	-	Yes	Yes	-	Yes
Audio	Bidirectional	Bidirectional	Bidirectional	Bidirectional	Bidirectional
Microphone	incorporated	External	External	External	incorporated
Pan	-	-	-	-	Pan 354 ° / 125 ° Tilt
Preset	-	-	-	-	32 presets - 4 tour
Motion detection	Yes	Yes	Yes	Yes	Yes
PoE (power over ethernet)	-	Yes	Yes	Yes	-
via RJ45 LAN cable	Yes	Yes	Yes	Yes	Yes
Wireless LAN	802.11b / g	-	-	-	802.11b / g
Alarms in / out	-	1/1	1/1	1/1	1/1
Mobile access to	Possible remote access from mobile phones 3GPP / ISMA / RTSP				
Access Browser	Internet Explorer - Mac Safari - MSN Messenger - Quicktime - Real Player - VST etc.				
DHCP	It - allows access to networks with automatic IP address assignment				
PPPoE	It - allows Log-in to the ISP in direct modem connections to the Internet				
DDNS	They - DDNS services allow access via the Internet without having a fixed IP				
SMTP	YES - it allows sending emails in case of alarm				
FTP	It - allows sending alerts to FTP sites				
HTTP	It - allows sending alerts to websites				
HTTPS	- to connect to secure networks				
Alarms in timeslot	It - enabling alarms weekly time slot				
PASSWORD Protection	Max 10 users - 3 levels of access				
HTTPS	- to connect to secure networks				
overlay	YES - Customizable text and date / time				
Policy Area	SI - To mask areas that you want to exclude from monitoring for privacy reasons				

ASSEMBLY AND INSTALLATION

Package Contents

- IP Camera
- Power supply 220VAC / 12VDC Bracket for wall mount /
- ceiling CD with software and manual.
-

hardware Connections

CAMERA STANDARD

In non-protected cameras connections are placed on the back of the camera.

CAMERAS DRYSUITS

In the waterproof cameras from the rear of the camera comes out of a cable with the connections.

- **Connection to the LAN** - The first thing to

to do is connect the video server to the LAN. For this purpose on the back of all the IP cameras is a RJ45 connector. Typically you connect to an Ethernet hub or switch network using a network cable law.

If instead of a LAN, you want to connect directly to the network card of a single PC, you will need to use a crossover network cable (CROSSOVER)

- **Wireless LAN connection -** Some cameras also offer the ability to connect to the

wireless LAN network via Wi-Fi. These cameras are equipped with an antenna that is screwed to the rear SMA connector. In this way, the only connection necessary for spinning the camera will be the power supply. Obviously it is necessary to have an access point in unable to make the wireless connection with the camera.

- **video output connection** - In the IP cameras

there is no analog video output BNC / RCA because the video signal is not connected to a device with standard television. Only the RC-N6130 camera that mounts an analog CCD, **internally transformed into digital, is equipped with analog video output (connector RCA yellow).** This output can be used to connect to a television apparatus,

a monitor analog or a

video recorder.

- **Connection AUDIO IN** - All IP cameras

They are equipped with an audio input to connect a microphone and hear the audio environment. The microphone input is a miniplug characterized by an indication or AUDIO IN A / IN to which one can connect an environmental microphone. AUDIO If the input is not present, this means that the camera is equipped with a built-in microphone of place rule on the front.

- **Connect AUDIO OUT -** All IP cameras enable two-way audio communication so you

can talk hands-free with people from camera. For this there is an audio output minijack so you can connect the computer speakers. The output is distinguished by an indication AUDIO OUT or A-OUT or SPEAKER. Audio playback is very clean and can be greatly amplified.

- **Supply -** The cameras have

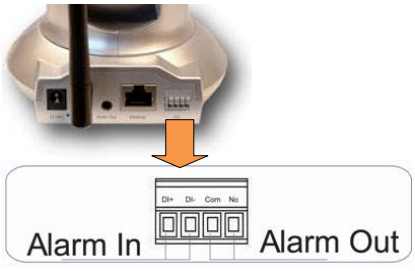
DC power supply. The power supply, provided together with the camera, it should be connected to the power plug.

- **Inputs / Outputs** - Some cameras feature

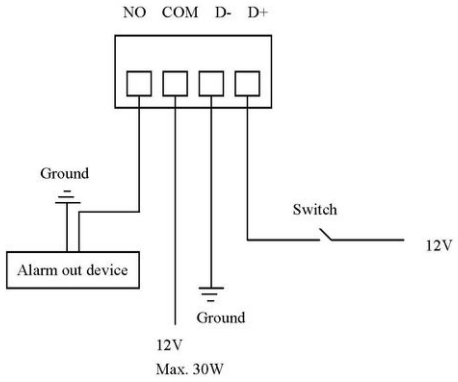
a terminal block with an input and an alarm output. At the entrance it is possible to connect a contact capable of generating the alarm actions (eg microswitch on a door). With the relay output can be controlled electrical devices such as lighting or other. The references are as follows:

- DI + / DI-Alarm Input
- COM / NO - Alarm output The RD-N2260, for example, the camera has the

following connections:



The alarm output is a contact Normally Open (NO) able to drive in a direct way max. 30W. The alarm input is instead a voltage input that requires to be triggered an applied voltage 5V or 12VDC. Programmatically it is possible to set whether the present voltage corresponds to active or at rest alarm.



- **RESET button** - All cameras

They have a reset button that is typically located inside a small hole so that it can only be operated voluntarily with a pointed tool. With the device powered by the pressure of the button generates the device is restarted. Hold the button for 10 seconds will reset the factory settings.

- **Lens Focus** - Cameras

They are already provided adjusted for optimum focus in the normality of most applications.

CAMERAS DRYSUITS **mod. RB1 / RB2** - The development of factory fire can not be changed CAMERAS WITH LENS ATTACHMENT C / CS **mod. RC**

- The focus should be adjusted depending on the lens used. Possibly can esserenecessario change the focal distance of the lens unlocking the attack lens threaded ring nut acting on the small side Allen.

CAMERAS WITH ATTACK MINILENTE S **mod. RA / RD**

- E 'can change the focus by rotating the silver ring that surrounds the lens.

- **Power Over Ethernet** - The PoE function is active

on the following models:

- **RB1-N6600**
- **RB2-N6630**
- **RC-N6130**

These cameras can be fed through the network cable, without using the AC adapter. And 'necessary that the SWITCH / HUB / Media Network Router PoE.

Fixing the wall / ceiling.

- **Bracket** for wall mounting - All cameras are provided with mounting bracket that allows the mounting to the wall / ceiling by means of dowels.

- **dome Cameras** - Dome cameras as the

RD-N2260 model is provided with a bracket for wall mounting which allows the mounting of the camera a plan or upside down depending on its position with respect to the environment.

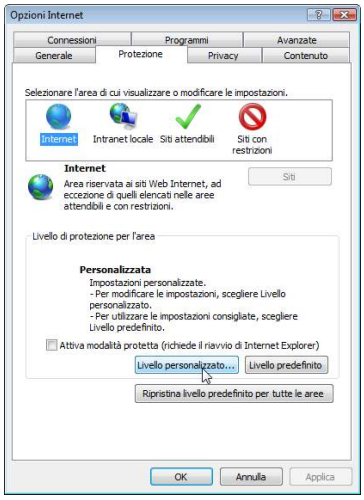
In case of mounting countdown it will be necessary to program the rotation of the shot image in the configuration of the camera. In SETTINGS / BASE / CAMERA / GENERAL set MIRROR IMAGE TURNED of + REVERSE.

SET UP THE IP ADDRESS

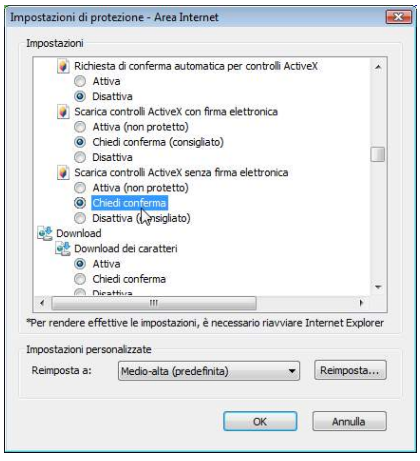
Enable ActiveX controls

The IP cameras can be viewed and configured simply by using the browser INTERNET EXPLORER. To do this Explorer is created within a control environment via ActiveX controls. First you must enable your browser Internet Explorer to download and enforcement of such controls.

- INTERNET EXPLORER / TOOLS / INTERNET OPTIONS - DATA PROTECTION - CUSTOM LEVEL

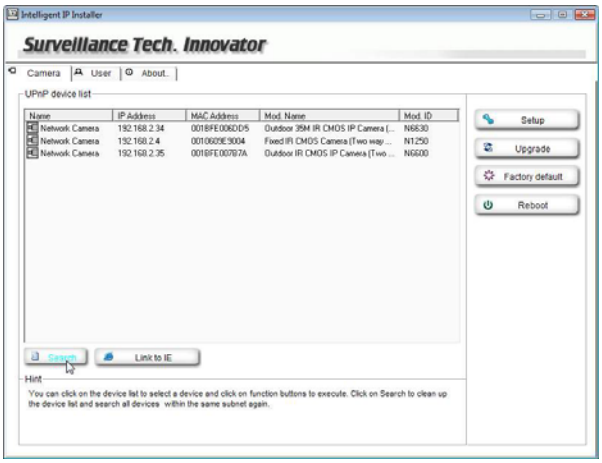


- Enable DOWNLOAD ACTIVEX CONTROLS WITHOUT ELECTRONIC SIGNATURE - select ON or ASK FOR CONFIRMATION.



Intelligent IP Installer

On the installation CD contains a very useful program to quickly configure the IP address of the video server. It is INTELLIGENT IP INSTALLER. Install it in the PC and run the program.



Click on the SEARCH button. The program will scan the entire network connected to the PC for compatible IP cameras. After a few seconds you will see the list of detected cameras. The program is also able to detect cameras that have a class of address different from that of the PC where you are working.

Remember, however, that to do with Internet Explorer requires that the PC and network **cameras are of the same, ie it is necessary that the first 3 IP numbers are common**

for everyone.

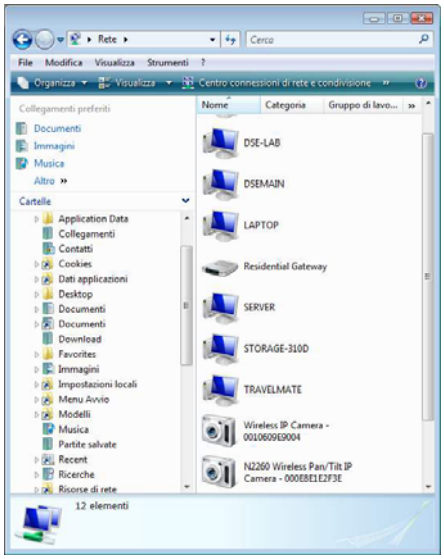
Select the camera and click LINK TO IE to log on opening the Internet Explorer browser. Asked to USER NAME / PASSWORD enter the factory settings

Username: admin Password: admin

If the network you're working on managing the automatic assignment of addresses (DHCP) the cameras automatically acquire an address in the same class as other network equipment and you can immediately log in using the browser. If the network requires manual changes then you need to click Setup, and provide for the setting of network parameters adjusted to conform to the PC on which you work.

UPnP Protocol

All cameras support the protocol Universal Plug and Play protocol (UPnP) that is enabled in the factory. Thanks to this protocol that does not require any configuration you can also view the IP cameras between the Explorer network resources. See the following example:



As you can see from all networked PCs also appear connected cameras and is so immediate detect the IP address and connect to the browser by double-clicking the icon. All without using the IP Installer software.

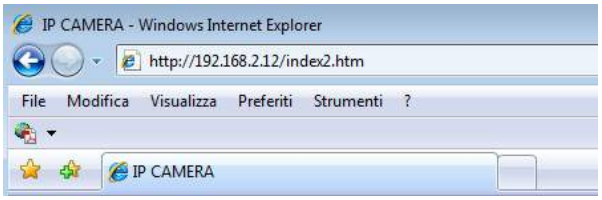
CONNECTION WITH BROWSER

BROWSER WINDOWS INTERNET EXPLORER

The most immediate way to connect to the camera is to use the Windows browser. Proceed as follows:

- Type in the address space of the browser the address of the camera detected with IP installer, as in the following example

- If you want to connect, but only display the camera image without the menu buttons **you can enter the address followed by / index2.htm as in the following example.**



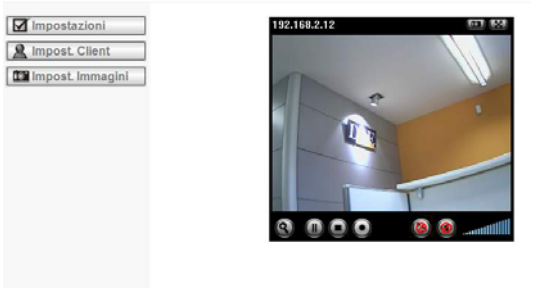
- If the address entered corresponds to a camera actually connected to the network will be prompted for the password

- For the first access type the default password.

Username: admin Password: admin

- If it is the first time you connect to an IP camera you will be offered to install the **appropriate components ACTIVE-X. Answer yes to any request for consent. If it appears the** installation request ACTIVEX make sure you set your browser's security settings correctly (see previous section)

- You will see the camera control window



SAFARI BROWSER MAC

The connection procedure with MAC is identical to quiella view for IE:

- Type in the browser address space SAFARI address of the camera detected by IP installer, for example, as shown below: http / 10.0.0.26. Enter the default password required (see above)

- As with Internet Explorer, if you want to connect, but only display the camera image without the menu buttons you can

to type the address IP followed by **/INDEX2.HTM (es. http://192.168.0.4/index2.htm)**

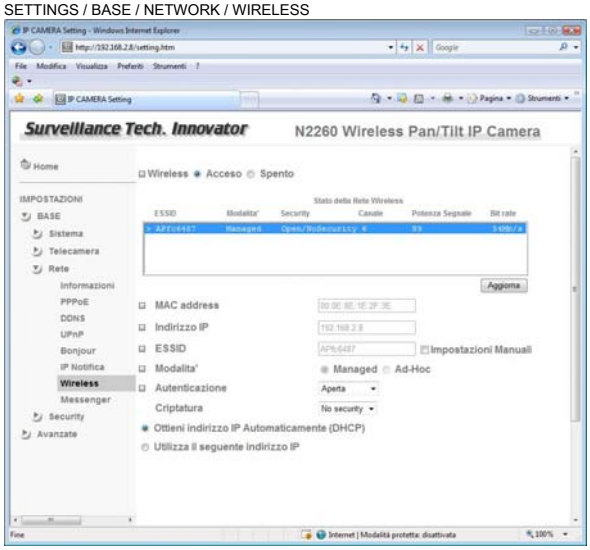
WI-FI CONNECTION

Some cameras have an antenna in order to also connect to a wireless network. To be able to connect to a wireless access point must first make a row connection via the LAN port in order to configure the wireless connection.

- Login to spin away with the browser as seen above.

To select

SETTINGS / BASE / NETWORK / WIRELESS



- Turn on your wireless service and click the Refresh button. All ACCESS POINT reached will be shown in the window.

- select the AP that you want to use and eventually modify the parameters according to settings used by your wireless network. By default the camera will get a wireless IP automatically (DHCP) and show it in the box. If you want you can select USE THE FOLLOWING IP ADDRESS and enter the address manually.

- You can then disconnect the network cable and reseat using the new wireless IP address.

RTSP CONNECTION WITH QUICKTIME, REAL PLAYER, VLC ETC.

It 'also possible to access the cameras with RTSP player as QUICKTIME, REAL PLAYER, etc. VST all freely downloadable.

In the camera setup menu verify that it is enabled RTSP function that factory is active. (SETTINGS / BASE / CAMERAS / GENERAL)

- In the player enter the IP address of the camera in the following format:

rtsp: // <IP>: <PORT> /video.3gp, where IP is the public address of the camera and PORT is the port used by the camera (default: 554)

Example: rtsp: //100.154.12.123: 554 / Video.3gp

CONNECTION WITH MOBILE PHONE

I-PHONE

E 'can connect to cameras with a phone I-Phone

- Select the function SAFARI

- Insert the camera's IP address

- Insert the credentials of the factory access (see above)

- The link page is similar to that seen on standard browsers, but pictures are displayed one after the other and not a real video. For this reason, the recording function is not available.

3G PHONES - STREAMING

E 'can connect the camera with a third-generation mobile phone.

- In the camera setup menu to verify that it is enabled that the RTSP function of Factory is active.
(SETTINGS / BASE / CAMERAS / GENERAL)

- In STREAMING 3G connection, to insert the IP address of the camera in the following format:
rtsp: // <IP>: <PORT> /video.3gp, where IP is the public address of the camera and PORT is the port used by the camera (default: 554) Example: rtsp: //100.154.12.123: 554 / Video.3gp

MOBILE 2.5G - WAP

E 'can connect to cameras with a 2.5G mobile phone via WAP.

- In the WAP browser, type the IP address of the camera in the following format:

<IP> .mobile.wml, where IP is the public address of the camera

MOBILE 2.5G - BROWSER

E 'can connect to cameras with a 2.5G mobile phone also via the phone's browser.

- In the web browser, type the IP address of the camera in the following format:

<IP> .mobile.wml, where IP is the public address of the camera.

CONNECTION WITH MSN MESSENGER

This range of IP cameras is the only degree in accepting the connection via the messaging **program MSN MESSENGER freely downloadable from website www.msn.com .**

This feature is convenient because it allows you to connect to an IP camera connected within a network without God directing the router and without the availability of a public user ports.

INSTALL IP INSTALLER

Before proceeding with the connection via MSN must be installed on the PC from which you operate the IP INTELLIGENT INSTALLER program which is provided on CD and as already mentioned in the installation section. Along with the program you will also install the PLUG-IN MSN that allows connection.

MESSENGER INSTALL

IMPORTANT NOTE

The continuous updating of MSN software MESSENGER makes it impossible to guarantee at all times the full functionality with the latest version downloaded from the MSN website. Each new release of MSN may in fact require changes in the camera's firmware.

If you notice anomalies with MSN version in your possession please contact the service to get information about the latest compatible version that at the time of issue of this manual is 8.5, available at:

http://www.microsoft.com/downloads/details.aspx?Fa milyID = 7a1aae73-48cc-4f7a-b445-0487bd5e84ef playlang & dis = en

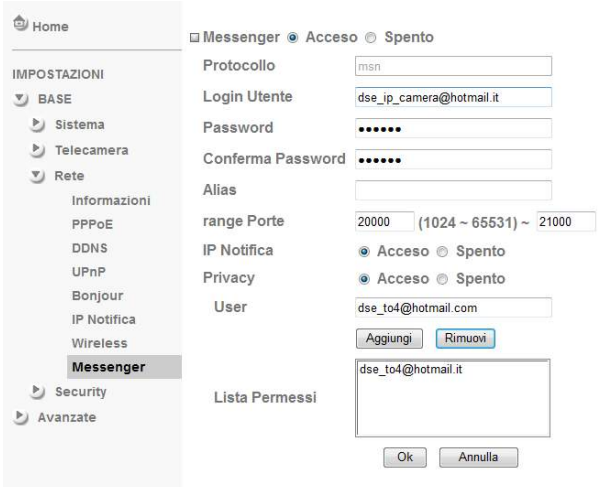
SET UP THE MESSENGER

After installing the program MSN MESSENGER create your personal account for accessing the service.

First you must create a new MSN account which is a WINDOWS LIVE ID that will be used by the IP camera. In the example that follows is supposed to

to create an MSN user the camera:
DSE_IP_CAMERA@HOTMAIL.IT

In the camera setup menu go to SETTINGS / BASE / NETWORK / MESSENGER activate the service and enter the details created with MSN for the IP camera.



E 'can enter the MSN user name and password. NOTIFICATION IP enabled, the camera will send its IP address to authorized users, in 'next option: PRIVACY you can add a list of MSN users authorized to receive the information including place such as your MSN personal user account, you access from your computer.

- Now on your PC, wherever in the world there find, reach MESSENGER

using your personal ID (which have also included in the camera PERMITS LIST). If the IP camera is connected to the Internet, you access a window will prompt you to add the IP camera to your contact list.

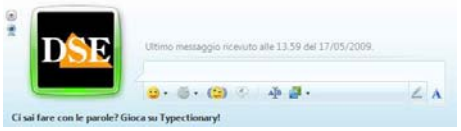
agree to add the camera to your contacts, and you can access them at will.

- At this point outputs from MSN performing a DISCONNECT. Then log back again.

You will start a call from the IP camera via MSN. The window will be displayed is the IP address of the camera to the public Internet, both its internal IP address to the network.

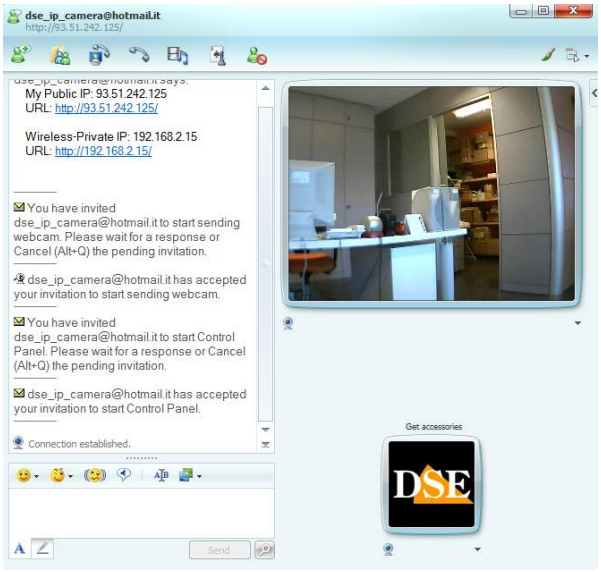
E 'is the unique advantage of connecting via MSN MESSENGER, it is not necessary to configure the router to track down the camera in the network and you can find the IP address of internet connection without expensive fixed IP or DDNS service.

Either your new MSN access to your camera will prompt you to start the connection.



- Please click on the small camera on the top left and choose VIEW WEBCAM CONTACT. After a few seconds It will start

camera playback



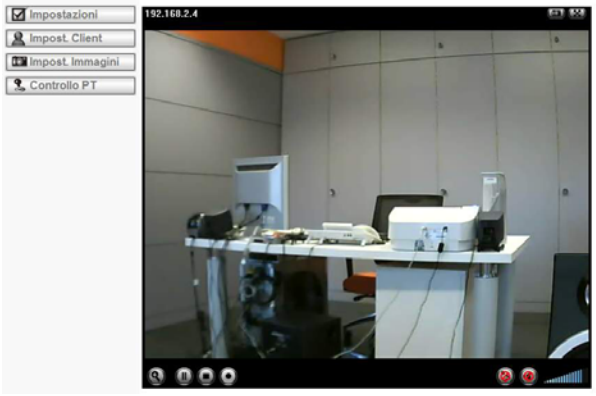
If the connection is established check that you have installed a compatible version of MSN (see above). If playback of the video to black screen sure you have installed the Intelligent IP INSTALLER including the XviD codec and plug-ins for MSN.

- Once connected you can also click SHARE / START CONTROL PANEL. Answer YES to the message indicating the start of an external application.

- The control panel allows you to shoot movie frames and save them to your local PC. In addition it is possible to adjust the image (brightness, contrast, etc.) and control the movement of the camera if this is swiveled.

VIDEO REMOTE CONTROL

Once you gained access to IP cameras by following the instructions in the previous section of the cameras the image will appear on the screen along with the control buttons.



Through the remote client that you are using, such as Internet Explorer you have several commands that will act on reproduction.

CONTROLS WINDOW VIDEO

In the Image Panel available the following commands:

- **ZOOM +/- -** E 'can zoom in pleasure within the image, up to a maximum of 10X by clicking on the button lens

The zoom window also contains a box with the original image 1: 1, which highlighted the larger pane. E 'can drag the

pane

magnification within the image as if you were inspecting the image with a lens magnifying.

- **TAKE A PICTURE -** This button allows you to save the image you are viewing in natural compressed JPG or BMP format.

- **FULL SCREEN -** This button brings the image full-screen without the browser outline vision and without the buttons Press Command-Esc to exit the mode.

- **PLAYBACK CONTROLS -** They are typical of DVR control commands

ICON ACTION	
	Pause
	Playback
	Stop
	Record - This starts movie recording received and will request the location where you want to save the file. The file is saved in AVI playable on any player.

- **CONTROL AUDIO** - All cameras are suportano two-way audio communication. For audio input some cameras have a built-in microphone, while in the absence of this there is an external audio input AUDIO IN. To play in the environment close to the camera the sound coming from the remote client all cameras have audio output to connect AUDIO OUT **speakers**

local from PC. The following commands are available:

ICON ACTION	
	AUDIO ON - Enables the audio playback to hear from your PC speakers what is happening around the camera OFF AUDIO
	MICROPHONE ON - Switches the microphone of the PC so you can send your item to the camera and spread it through the speakers. MICROPHONE OFF VOLUME CONTROL

SETTING THE CLIENT

Regardless of the camera settings, which we'll see later, each client that connects, for example, with Internet Explorer, can decide how you wish to receive streaming video in order to adapt it to your hardware and bandwidth available. Click the button SETTINGS CLIENT

- **METHOD '** - Click to select the format

video for use on the stream. The transmission

MPEG4 It consumes less bandwidth, while providing excellent image quality, and is always preferable rule. The transmission M-JPEG It takes up a lot more bandwidth, but being a very weak compression format preserves many details of the original video. We recommend the use of this compression only on the local network where you have bandwidth for the transmission wheel. The MJPEG mode is not available if the RTSP function is enabled in the settings of the camera.

All IP cameras in the range support and DUAL STREAMING I'm able to to send MPEG4 video streaming simultaneously, and M-JPEG to several clients connected simultaneously.

- **RESOLUTION** - Set the screen resolution

streaming (640x480 or 320x240). The higher the resolution, the larger the size of the image that you will receive on the client.

- **PROTOCOL** - Select the protocol

want to use for streaming: TCP, UDP or HTTP

- **VIDEO BUFFER** - It 's possible to activate the buffer

Local video for stable playback on networks with inconsistent bandwidth.

SETTING IMAGES

E 'can retouch the image you see on the client by adjusting the settings. Press SETTINGS Picture.

Adjust Brightness, Contrast, Saturation, Tone, or press DEFAULT to return to the standard parameters.

CONTROL PT

If the connected camera is PTZ you can control it from the remote client by pressing the PT CONTROL button.

- **BUTTONS MOVEMENT** - The arrow buttons

allow to move the camera in all directions.

- **PRESET** - Pressing the SET button sets the

current position as PRESET (prepositioning) into the camera. Pressing the GO button is proposed list of stored Preset and you can choose which one to call.

- **PATROL** - The terms PATROL / GUARD / TOUR is

with different words indicates the automatic movement of the camera between presets in a preprogrammed sequence. In order to use this feature you must have first set of sequences in TOUR

settings of the camera (SETUP / ADVANCED / PATROL). With the SET button you choose which of the available TOUR operate. With the GO button starts the TOUR and the camera starts the automatic movement between the various positions configured.

BASE SETTINGS

Through the IP camera control window it is possible not only to define the mode of connection of its connected client, as seen in the previous chapter, but also modify the camera configuration.

To enter setup press the button
SETTINGS.
The configuration is divided into two sections:

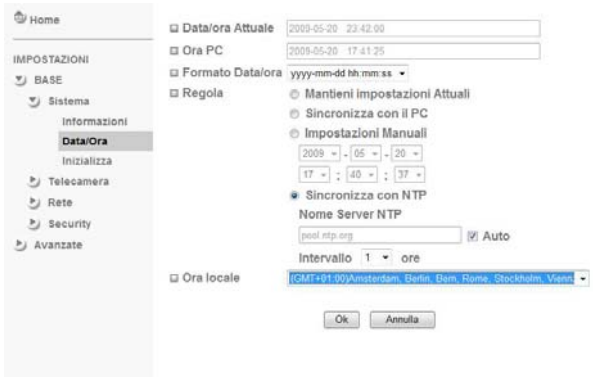
- SETTINGS BASE (this chapter) ADVANCED SETTINGS (next section)

SYSTEM

INFORMATION

- **PRODUCT NAME FIRMWARE**
- **VERSION WEB**

DATE HOUR



- **DATE / TIME CURRENT** - Now stored in

IP camera

- **cOMPUTER NOW** - Timed to the PC on which you are working
- **FORMAT DATE / TIME** - Select according to

preference format

- **RULE** - E 'can set the date and time

manually or automatically synchronize them with those in the PC.

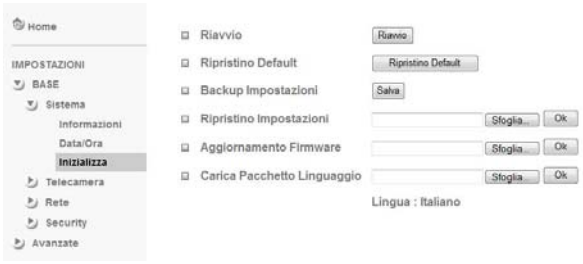
- **SYNC WITH NTP** - For cameras

connected to the Internet, you can set an NTP server to automatically synchronize. It is also able to set the number of hours automatically synchronize to always keep accurate time.

- **LOCAL TIME** - Set the time zone (Italy =

GMT + 1 in winter time)

INITIALIZES



- **RESTART** - Reboot the camera
- **RESTORING DEFAULT** - Restore the parameters

of Factory erasing any unwanted programs.

- **BACKUP SETTINGS** - Allows you to save

all camera settings to be able to then transfer to another of the same model.

- **RESTORING SETTINGS** - Allows

load the camera settings saved from another camera with the previous function.

- **firware UPDATE** - It's possible

locate in your hard disk and download the latest updated firmware version on the camera. Use only the

specific firmware for

camera. Do not turn off the camera while updating.

- **CHARGE PACKAGE LANGUAGE** - All the

IP cameras in the range are equipped with multilingual support. By default loads the Italian language, but you can request the files of other languages that can be downloaded to the camera from this command line.

CAMERA

GENERAL

- **RTSP -** Enable / Disable the Real Time Streaming Protocol, which is a protocol

used to there

video transmission. It is used by a variety of players such as Real Player, Quicktime, etc. VST

- **TURNED IMAGE** - Allows you to rotate

horizontally and / or vertically the image. This is useful if you want to install the camera upside down.

- **METHOD 'NIGHT** - By selecting -

car - automatically activates the camera

optimization of the recovery in conditions of little brightness (Digital Slow Shutter)

- **ILLUMIN.** - Allows you to adjust the camera

Depending on the type of ambient brightness. There are three options: a 50Hz lighting (Italy), 60 Hz lighting and exterior.

WHITE BALANCE - Allows set the white balance to make the white tone as close as possible. There are 4 possible settings based on the type of existing lighting: Automatic, fluorescent lamps, incandescent lamps, Black White (to obtain a monochrome image)

LED / IR - If the camera is equipped with infrared LED illuminators is that natural light can be programmed ALWAYS ON, ALWAYS OFF and AUTOMATIC. Selecting AUTO you can set the power threshold. The slider to the right allows for quicker ignition of the LEDs when it gets dark. Conversely, the

cursor to the left

It involves a more protno off the return of the brightness.

OVERLAY TEXT - And 'possible to insert a verbatim superimposed on the image by typing the text and defining location and color

PRIVACY MASK - This function serves to mask areas filming the camera you want to not resume for privacy reasons. And 'possible to dimension the mask area to taste.

MPEG4 COMPUTER VISION

Here you set the video parameters to be used in vision when making a PC connection.

RTSP - This option is only active if in the general settings you have activated the RTSP protocol used by players such as Real Player, Quicktime, etc. E 'can set the communication port (default 8554) and ask if you want to authenticate the user who connects to which you will be asked username and password.

RTP - If you have enabled the RTSP protocol, you can program the advanced parameters of the RTP transport protocol by setting the transmission in Unicast or Multicast mode. You should not change these parameters if you do not know the meaning.

If you have not enabled the RTSP protocol in this section, you will set the parameters for the MPEG4 doors instead of RTSP

IMAGE SIZE - Set the video resolution of 640x480 (VGA), 320x240 or 160x120

SPEED' - Sets frame rate transmission in frames / second from 5 to 30 f / sec.

QUALITY '- The compression directly affects the image quality. E 'can define the image quality in AUTOMATIC mode, or by setting the level that you want quality (QUALITY' FIXED) or used band (BITRATE FIXED). It's possible set a fixed value of occupied bandwidth from 64 to 2048 Kbps.

MPEG4 VIEW FROM MOBILE

Here you set the video parameters to be used in vision when making a connection from the mobile device. Through this section you can set for viewing by cell parameters less demanding in terms of bandwidth.

You can set the same parameters, seen for PC viewing. The image size is fixed to 160x120, the frame rate can be adjusted from 5 to 20 f / sec. The transmission can only take place at adjustable fixed bit rate from 16 to 64 Kbps

MJPEG

If the video is transmitted over networks with large bandwidth availability using MJPEG compression can provide a greater fidelity video. The MJPEG compression is not available if you enable the RTSP protocol in the general camera settings.

DOOR - The ports used for MJPEG streaming **IMAGE SIZE** - Set the video resolution of 640x480 (VGA), 320x240 or 160x120

SPEED' - Sets frame rate transmission in frames / second from 5 to 15 f / sec.

QUALITY '- The compression directly affects the image quality. E 'can define the image quality in AUTOMATIC mode or by setting the level of quality you want (5 levels).

NETWORK

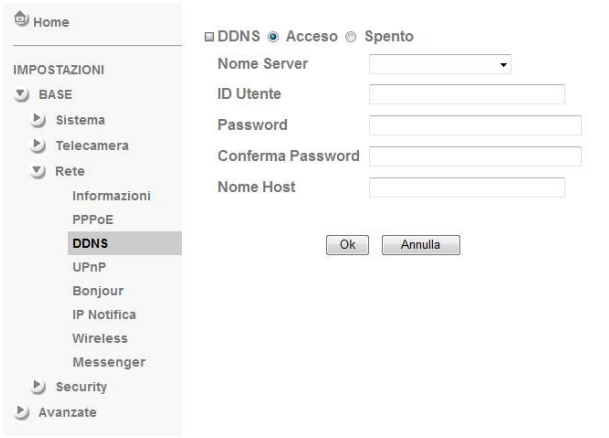
INFORMATION

- **MAC -** The unique identifier of the equipment
- **DHCP -** Enable this when connected to a network with automatic IP address assignment
- **USE THE FOLLOWING IP -** Set IP address manually
- **GET DNS SERVER -** Enable this when connected to a network with automatic IP address assignment
- **USE THE FOLLOWING DNS SERVER -** Set the DNS server manually.
- **HTTP PORT** - In general communications HTTP occur on port 80, but you can modify it for specific networking needs. SE uses a port other than 80, the door will be specified in the address at the time of connection eg. http://192.168.1.100:2000 to port 2000.

PPPoE

If your Internet connection requires a dial-up procedure with user name and password you type, as is typically the majority of ADSL connections, you must complete this section where you can insert the link address, and authentication parameters.

DDNS



To connect to an IP camera through the Internet is highly advisable to have a fixed IP address. If you can not get it,

all the cameras in the range support services DDNS (Dynamic DNS) that allow you to constantly monitor the machine's IP address. The following services are supported DDNS

- DYNDNS.ORG
- DHS.ORG TZO.COM
-

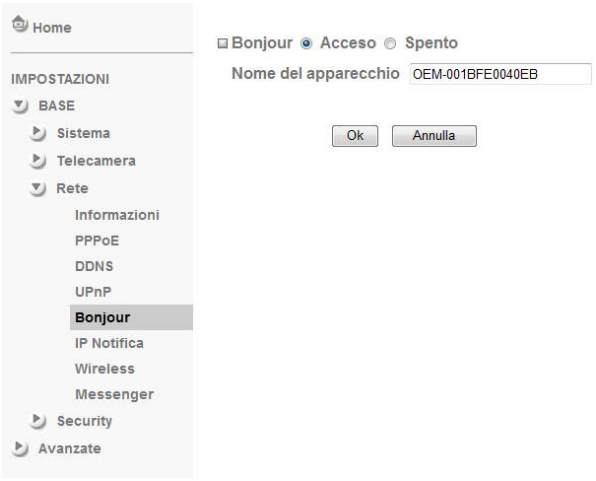
In this section you can enter the authentication data provided by the DDNS provider once subscribed to the service.

UPnP

Enable UPnP (Universal Plug and Play) is highly recommended to make sure that Windows Explorer can automatically detect the cameras between the network resources. In addition you can use this protocol to redirect the doors of the router connection to the Internet without intervening in its configuration (if your router supports UPnP IGD function).

By activating the "UPnP forward" function, the camera will communicate with the router and direct itself toward the ports indicated necessary to the various functions allowing the connection from the outside without having to modify the configuration of the router.

BONJOUR



Bonjour is a system that requires no configuration and allows a dialogue between networked devices without the need to set IP addresses or DNS server. All cameras in the range support Bonjour. To learn how to integrate Bonjour in your browser please visit:

http://www.apple.com/support/downloads/bonjourfor windows.html

NOTIFICATION IP

If you enable this convenient function, you can make the camera to send an e-mail each time you change its network configuration. This way you can connect the camera via the Internet even if it does not have a fixed IP address without using DDNS services.

- **SIGNAL TYPE** - The e-mail can be sent to

With automatic change of address from DHCP, change of fixed IP manually or by a new access to the Internet with PPPoE. Typically if you are using the notification service it is good to enable all 3 items.

- **NAME / PORT SERVER** - Enter the name and

port to use to access the SMTP server from the provider. If you use G-Mail you have to set the port to 587, and select SSL.

- **SMTP AUTHENTICATION** - IS' possible

set the data required to authenticate to the SMTP server of the provider and send the email if this requires authentication for sending (usually not required).

- **EMAIL RECIPIENT** - You 'can specify up to three e-mail notification recipients

- **E-MAIL ADMINISTRATOR** - This address

It is used as the sender. To it are then also sent any incoming system messages from the SMTP server.

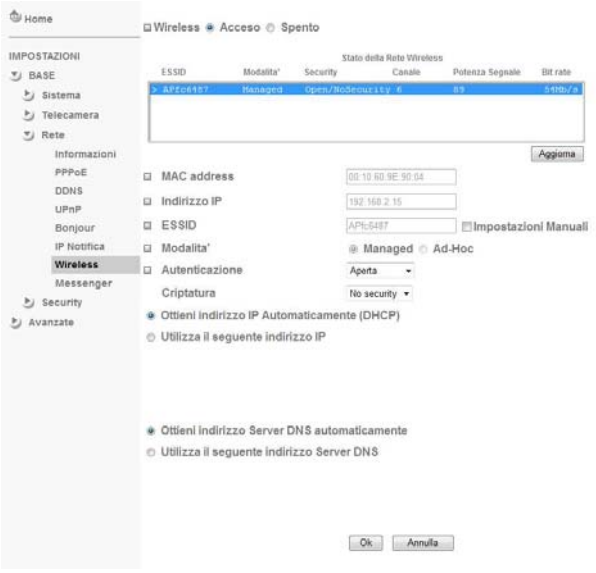
- **OBJECT / MESSAGE** - The message is

can use the System Labels (the common is <ip>) in place of which will be inserted a figure relating to the network configuration. Pressing the HELP button contains the list of available labels.

- **TEST** - Press the button to test sending

e-mail.

WIRELESS



Some camera models support, as well as a LAN connection via spin also connect to an access point Wi-Fi. For the setting and the wireless connection setup, however, you must sign a first row because then you can enable the wireless connection. Clicking the button updates the camera will search for access points in the area and list them in the window. Highlight the desired access point and set the connection parameters based on the settings of your wireless network. There is usually no need to change any parameters if your access point uses DHCP and you have not run custom settings. Confirm with OK and unplug the wired network cable. Then use IP Installer to identify the new camera's IP address in the wireless network.

MESSENGER

The connection via MESSENGER is a practical system, exclusive to this range of IP devices, in order to connect the cameras without the need for any kind of local configuration through routers and without having a fixed IP.

See settings in the section dedicated to access MSN MESSENGER.

SECURITY

ACCOUNT

Access to the cameras can be password protected. The system allows up to 10 passwords with 3 different levels of access.

- **USERNAME / PASSWORD** - Each name

user and password can be 4 to 16 characters

- **METHOD 'DISPLAY** - Each user

It can be combined with one of the following levels of access:

ADMINISTRATOR - It has full access including configuring

OPERATOR - Has access to live video and control of any speed dome PTZ cameras

VISITOR - Has access to view live alone

- **ADMINISTRATOR -** The administrator user is present in the factory with the

following credentials. NAME: admin PASSWORD: admin

- **USER 1..9** - You can enter more than 9 users

administrator.

- **AUTHENTICATION DISPLAY** - If

disables this function access to one

LIVE viewing will be permitted without entering a username and password.

HTTPS

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.

If you enable HTTPS with active camera RTSP will protect the phase-in log (username / password), but not audio / video streaming. If you enable HTTPS without active RTSP it will also be protected audio / video streaming.

With this window you can create and install a certificate and also decide which user can access in safe mode.

ADVANCED SETTINGS

CONTROL PT

This section is only available for PTZ cameras. You can adjust the parameters relating to the displacement of the camera

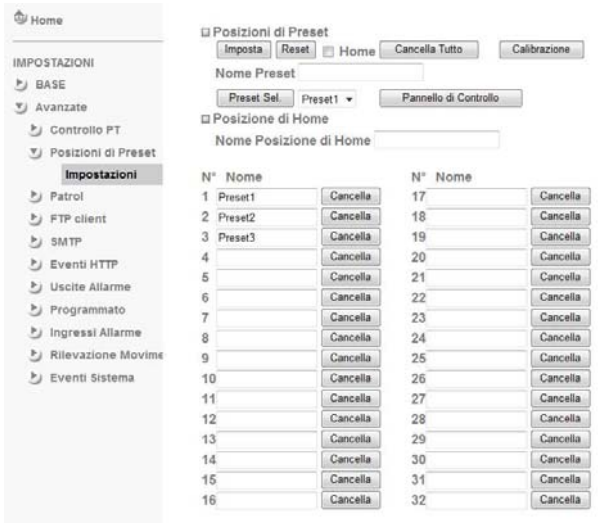
SETTINGS

- **SPEED 'PAN -** displacement speed of orizzoantale
- **SPEED 'TILT -** vertical displacement speed
- **SPEED AUTOPAN -** Speed in the automatic horizontal displacement.

PRESET POSITIONS

This section is only available for PTZ cameras. You can set the default positions (PRESET) of the camera which can then be called up as desired either manually or automatically. The Pan Tilt RD Series cameras also able to store 32 presets.

SETTINGS



To set a preset:

- Press CONTROL PANEL - to open the control window that allows you to move the camera.
- Move the camera to the desired position Enter a name in the Name box PRESET
- Press SET to record the PRESET If before recording the preset you check the HOME
- option position will be considered as the main and accessed by pressing the center
- button of the navigation arrows. The Home position set to appear in the NAME OF HOME POSITION box. By registering a new preset HOME as it replaces the previous one.
- RESET - Clears the preset name you entered in the text box
- ALL CLEAR - Delete all presets

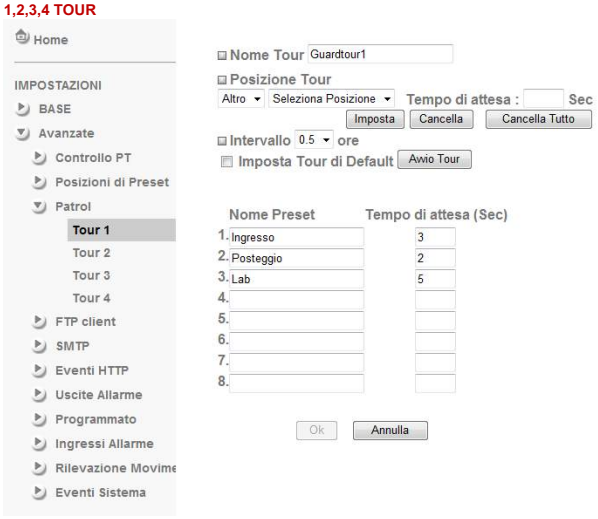
programmed into the camera

- PRESET SEL. - Choose the PRESET in the next box and press this button to bring the selected PRESET camera.
- CLEAR - The button next to each preset allows you to delete it

PATROL

This section is only available for PTZ cameras. You can set 4 Automatic tour sequences each containing up to 8 presets. By activating the tour will cover the camera in sequence the programmed positions.

1,2,3,4 TOUR



- **TOUR NAME** - Enter a name that identifies the
- **tour POSITION TOUR - Insert the preset position in the tour sequence (1..8), select the**
- preset from among those that are programmed in the previous section and choose the waiting time before moving on to the next preset.
- **TAX** - Enters the presets shown in

scan sequence by updating the list below.

- **CLEAR** - Select the tour position

press delete to delete it.

- **ERASE EVERYTHING** - Delete all positions

the tour set up then.

- **INTERVAL** - Enter the duration of the tour 0.5

to 24 hours.

- **START TOUR** - starts the sequence of tour

programmed or stops

- **SET DEFAULT TOUR** - set this

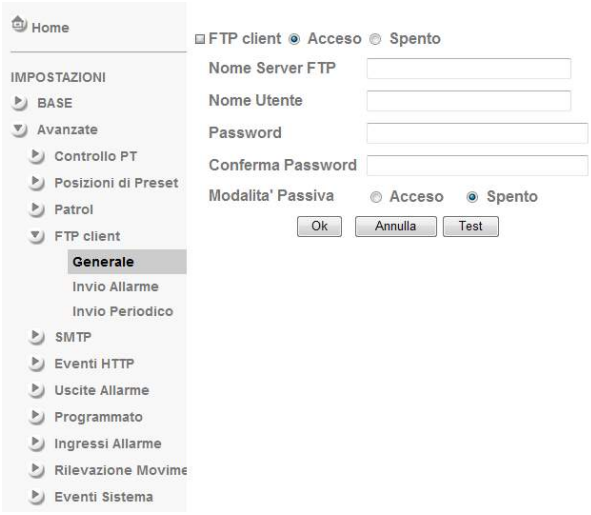
tour as selected by default at startup.

FTP CLIENT

All cameras in the range allow you to send images to an FTP server so that it can then be integrated into websites.

NOTE: The live image frame rate performance may be reduced when sending FTP image.

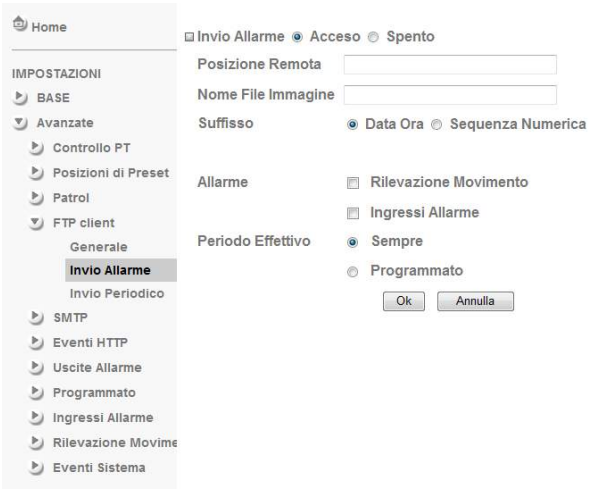
GENERAL



- **NAME SERVER FTP -** - Enter the name of FTP server to which to send the frames
- **USERNAME / PASSWORD** - Credentials access to the FTP server provided by the provider.
- **METHOD 'PASSIVE** - Select ON connect to the FTP server in passive mode.

ENTER ALARM

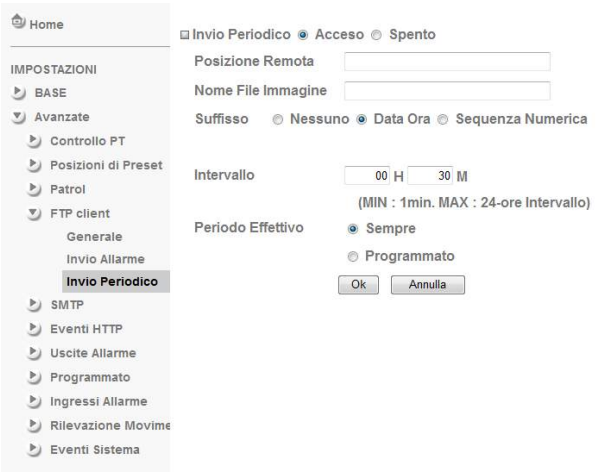
In this section it is possible to schedule the sending of images FTP in basis to events of alarm.



- **REMOTE LOCATION -** Enter the exact path where it should be placed on the frame files on FTP servers
- **IMAGE FILE NAME -** Enter the general name given to the frame files
- **SUFFIX** - The suffix is a component variable that is added from the camera to the image file name set in the previous step. SE set a suffix name of the file sent will change over time, but if you do not enable the suffix of the file name will always be the same and therefore the file will be overwritten in the FTP server.
- **DATE HOUR** - When the file name is added the date and time as a suffix. For the record it is added 14 figures indicating year (2), month (2), day (2), time (2), minutes (2), seconds (2), number progressive (2)
- **SEQUENCE NUMBER** - When the file name is added as a suffix to a consecutive number of 10 digits between 0000000001 and 4294967295
- **MOTION DETECTION** - Sending frame will take place at the click of the motion detection (see Motion detection below)
- **ALARM INPUTS -** The sending of the frame will snap to the input of an external alarm if the camera has it (see below)
- **EFFECTIVE PERIOD** - You can choose whether ALWAYS send frames or only at certain times of day chosen by the programmer.

SEND BY PERIODIC

In this section it is possible to schedule the sending of FTP images cyclically



- **REMOTE LOCATION -** Enter the exact path where it should be placed on the frame files on FTP servers
- **IMAGE FILE NAME -** Enter the general name given to the frame files
- **SUFFIX** - The suffix is a component variable that is added from the camera to the image file name set in the previous step. SE set a suffix name of the file sent will change over time, but if you do not enable the suffix of the file name will always be the same and therefore the file will be overwritten in the FTP server.
- **DATE HOUR** - When the file name is added the date and time as a suffix. For the record it is added 14 figures indicating year (2), month (2), day (2), time (2), minutes (2), seconds (2), number progressive (2)
- **SEQUENCE NUMBER** - When the file name is added as a suffix to a consecutive number of 10 digits between 0000000001 and 4294967295
- **INTERVAL -** Indicate every How many seconds / minutes / hours to make the sending of the image.
- **EFFECTIVE PERIOD** - You can choose whether ALWAYS send frames or only at certain times of day chosen by the programmer.

SMTP - SEND E-MAIL

All cameras in the range allow you to send pictures by email. And 'you can send e-mail with the frame and in case of events (Alarms / motion) which periodically.

GENERAL

NAME / PORT SERVER - Enter the name and port to use to access the SMTP server from the provider. If you use G-Mail you have to set the port to 587, and select SSL.

AUTHENTICATION - E 'can set the data needed to authenticate to the SMTP server of the provider and send the email if this requires authentication for sending (usually not required).

EMAIL RECIPIENT - You 'can specify up to three e-mail notification recipients

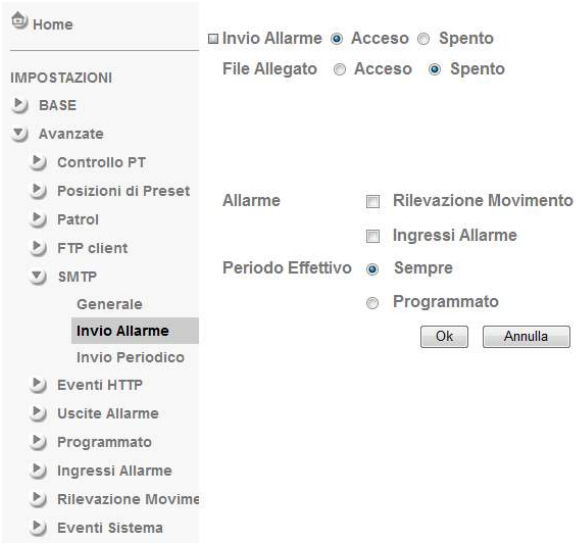
E-MAIL ADMINISTRATOR - This address It is used as the sender. To it are then also sent any incoming system messages from the SMTP server.

OBJECT / MESSAGE - Enter the text and the message subject

TEST - Press the button to test sending e-mail.

ENTER ALARM

In this section it is possible to schedule the sending of e-mail with attachment frame according to alarm events.



ATTACHED FILE - Select whether you want to send the frame attached to e-mail, uncheck if you want to send only text.

MOTION DETECTION - Sending e-mail will take place at the motion detection timer (see Motion detection below)

ALARM INPUTS - Sending the e-mail will snap to the input of external alarm if the camera as available (see below)

EFFECTIVE PERIOD - You can choose whether send email ALWAYS or only at certain times of the day selected by the programmer.

SEND BY PERIODIC

In this section it is possible to schedule the sending e-mail to cyclically programmed deadlines

IMAGE FILE NAME - Enter the general name given to the frame files

SUFFIX - The suffix is a component variable that is added from the camera to the image file name set in the previous step. SE set a suffix name of the file sent will change over time, but if you do not enable the suffix of the file name will always be the same and therefore the file will be overwritten in the FTP server.

DATE HOUR - When the file name is added the date and time as a suffix. For the record it is added 14 figures indicating year (2), month (2), day (2), time (2), minutes (2), seconds (2), number progressive (2)

SEQUENCE NUMBER - When the file name is added as a suffix to a consecutive number of 10 digits between 0000000001 and 4294967295

INTERVAL - Indicate after how many hours / minutes make the email is sent with image.

EFFECTIVE PERIOD - You can choose whether ALWAYS send frames or only at certain times of day chosen by the programmer.

EVENTS HTTP

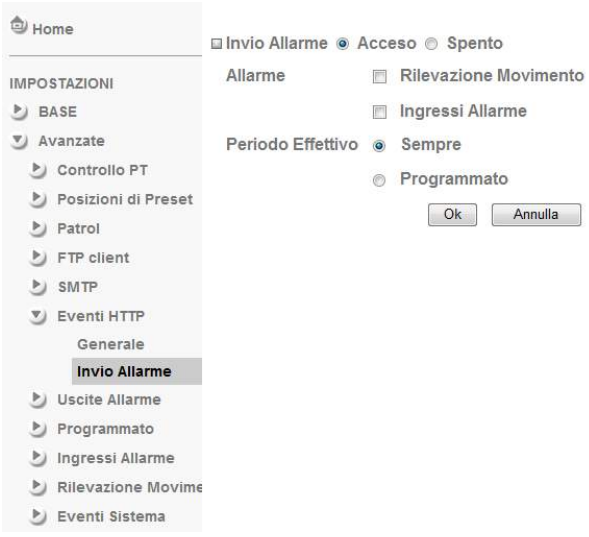
All cameras in the range allow you to send commands to an HTTP server when alarm events occur. The function can be useful to webmasters for controlling a CGI.

GENERAL

- **URL** - Enter the address of the web including the full path to reach the element to be controlled. Es. 192.168.1.7/cgi-bin/operator/ptzset
- **PORT / ID / PASSWORD -** To insert the Credentials to access the site if required
- **ACCESS PROXY -** Enter the access data to any proxy server

ENTER ALARM

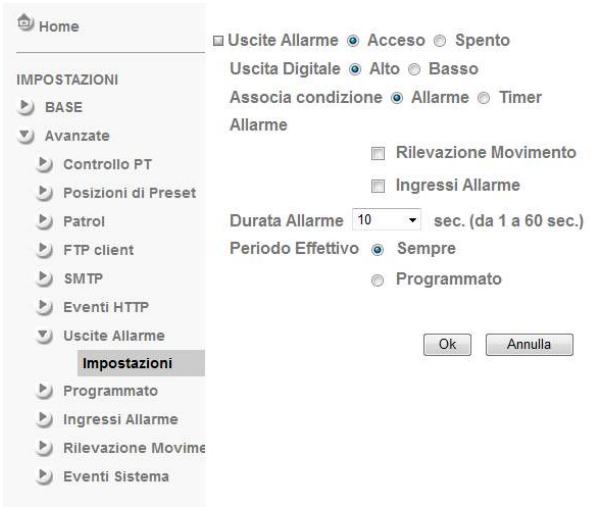
In this section you can set the controls to be sent in following he events of alarm.



- **MOTION DETECTION -** It opens two boxes where you can specify PARAMETERS MESSAGE and that the commands you want to send the CGI when motion detection activation, for example. MOVE DOWN =
- **ALARM INPUTS -** It opens two boxes where you can specify PARAMETERS MESSAGE and that the commands you want to send the CGI in the case of external alarm activation. (See below)
- **EFFECTIVE PERIOD** - You can choose whether ALWAYS send HTTP commands, or only at certain times of the day selected by the programmer.

ALARM OUTPUT

Some cameras are equipped with an output of alarm useful for controlling external devices as a result of an event.



- **DIGITAL OUTPUT** - Sets the operation output of alarm: High / Low
- **ASSOCIATE CONDITIONS** - you 'can turn on the basis of the alarm output to a camera ALARM (Input or Motion) or based on an hourly basis (TIMER). If you choose to activate TIMER it is possible to set the daily time slots in which to activate the exit. If you choose the ALARM activation leads to the following options.

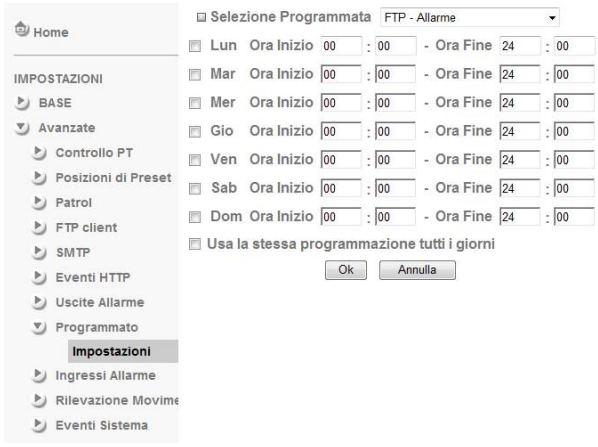
- **ALARM INPUTS** - The output is activated if you activates an alarm input. (See below)
- **MOTION DETECTION** - The output is activated at the click of the motion detection (see Motion detection below)

- **ALARM DURATION** - And 'the time of activation output as a result of an event (1 ... 60 sec.)
- **EFFECTIVE PERIOD** - E 'can choose whether ALWAYS activate the output or only at certain times of the day selected by the programmer.

PROGRAMMER

Several functions of the cameras can be enabled / disabled automatically on the basis of daily time band.

- FTP sending to FTP SMTP sending periodic alarm (E-mail) sending SMTP alarm /
- E-mail) of OUTPUT alarm periodic sending HTTP commands send turned on
- OUTPUT alarm periodic activation In previous screens whenever you chose the
- PROGRAMMER item was accessed to this section to set the time zone. In this
- window (PROGRAMMER) gather all settings together they can be easily modified.
-
-



PROGRAM SELECTION - Choose which camera functionality you want to enable only in certain time slots.

START TIME / END TIME - For each day of week you can set the time zone where the event will be enabled. By default the option is always set
0.00 / 24.00 which means: always enabled.

USE THE SAME PROGRAMMING DAILY - With this option the programmed schedule of Monday 'will be used for all 7 days of the week.

ALARM INPUTS

Several functions of the cameras (eg. Sending e-mail, FTP, outputs activation, etc.) can be automatically activated on the basis of the input of external alarm that some cameras have been supplied.

In previous screens whenever you chose the ALARM INPUT button was accessed in this section to set the input operation. This window is accessed directly.

ASSOCIATE CONDITIONS - Choose whether you want the alarm
It will be activated with input state HIGH or LOW. The alarm input is activated by applying a 5 or 12VDC voltage according to the diagram shown in INSTALLATION section. If this option is set to HIGH it means that the input will be considered in alarm to miss the applied voltage. Minimum 10 seconds must elapse between two consecutive alarms.

IF the option is set to LOW the alarm will be activated at the moment when voltage is applied. Minimum 10 seconds must elapse between two consecutive alarms.

MOVE CAMERA - In camera
PTZ can recall a Preset trigger input.

MOTION DETECTION

All cameras include the motion detection function in order to activate the alarm actions as a result of a movement in the image. Following an intrusion is possible to send the frame via email or FTP and activate the alarm output (if available)

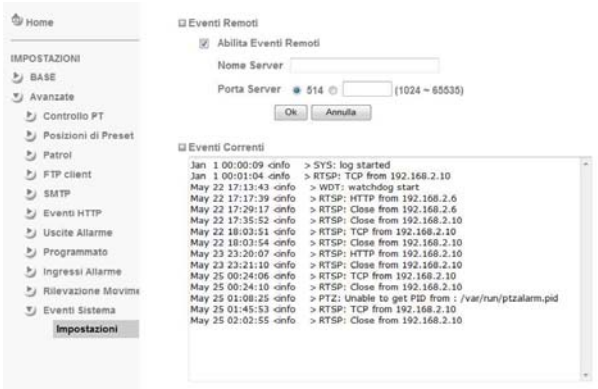
Each camera allows set up to 3 detection areas, each with programmable sensitivity.

LOCATION - enable at least one of the three detection masks available and size the highlighted area image. There detection movement will only take place within the highlighted area.

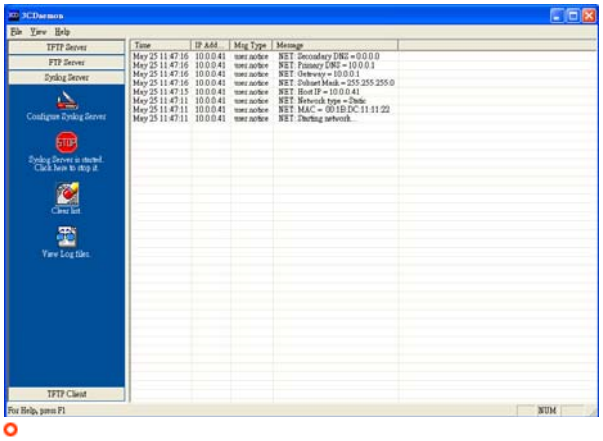
THRESHOLD (THRESHOLD) / SENSITIVITY ' -
By moving the sliders to the right it makes the detection more sensitive to the slightest movement. By moving the sliders to the left will react detection only in case of more substantial movements.

EVENTS SYSTEM

In this folder you can view the history of connections and events are recorded in the camera's memory



REMOTE EVENTS - This option
You can make sure that the camera also send events to an external PC on which a server program such as log 3CDaemon installed.


3CDaemon
File View Help
TFTP Server
FTP Server
Syslog Server
Configure Syslog Server
Syslog Server is started.
Click here to stop it.
Client list
View Log files.
TFTP Client
For Help, press F1
NUM

XX

APPENDIX A
Tables Frame Rate / Bit rate

A.1. NTSC IP CCD Camera

A.1.1. @ 30fps MPEG4 / Kbps

Quality	704 * 480	352 * 240	176 * 120
Excellent	**2000**	**800**	**200**
Detailed	**850**	**250**	**80**
Good	**450**	**150**	**60**
Standard	**350**	**110**	**50**
Medium	**250**	**90**	**40**

A.1.2. MPEG4 / Kbps fps-Size

Image	Bitrate Settings	Frame-Rate Setting	Current Bitrate	Current Frame-Rate
704 * 480	2048	30	**1800**	**25**
704 * 480	2048	15	**2100**	**16**
704 * 480	1536	30	**1500**	**30**
704 * 480	1536	15	**1700**	**16**
704 * 480	1024	30	**1050**	**30**
704 * 480	1024	15	**1100**	**16**
704 * 480	512	30	**520**	**30**
704 * 480	512	15	**650**	**16**
352 * 240	1536	30	**1500**	**30**
352 * 240	1536	15	**1600**	**16**
352 * 240	1024	30	**1100**	**30**
352 * 240	1024	15	**1100**	**16**
352 * 240	512	30	**530**	**30**
352 * 240	512	15	**600**	**16**
176 * 120	1024	30	**1000**	**30**
176 * 120	1024	15	**900**	**16**
176 * 120	512	30	**530**	**30**
176 * 120	512	15	**550**	**16**
176 * 120	128	30	**150**	**30**
176 * 120	128	15	**150**	**16**

A.1.3. @ 15fps MJPEG / Kbps

Quality	704 * 480	352 * 240	176 * 120
Excellent	**7500**	**2800**	**1000**
Detailed	**5000**	**1500**	**700**
Good	**3500**	**1000**	**500**
Standard	**2000**	**800**	**400**

Medium	**1300**	**500**	**300**

A.1.4. MJPEG / Kbps fps-Size

Image	Quality Setting	Frame-Rate Setting	Current Bitrate	Current Frame-Rate
704 * 480	Excellent	15	**7500**	**11**
704 * 480	Excellent	5	**4000**	**5**
704 * 480	Good	15	**3500**	**13**
704 * 480	Good	5	**1500**	**5**
704 * 480	Medium	15	**1300**	**13**
704 * 480	Medium	5	**550**	**5**
352 * 240	Excellent	15	**2800**	**12**
352 * 240	Excellent	5	**1200**	**5**
352 * 240	Good	15	**1000**	**12**
352 * 240	Good	5	**450**	**5**
352 * 240	Medium	15	**500**	**12**
176 * 120	Medium	5	**220**	**5**
176 * 120	Excellent	15	**1000**	**15**
176 * 120	Excellent	5	**400**	**5**
176 * 120	Good	15	**500**	**15**
176 * 120	Good	5	**200**	**5**
176 * 120	Medium	15	**300**	**15**
176 * 120	Medium	5	**100**	**5**

A.2. PAL CCD IPCamera

A.2.1. @ 25fps MPEG4 / Kbps

Quality	704 * 576	352 * 288	176 * 144
Excellent	**1800**	**400**	**100**
Detailed	**600**	**150**	**50**
Good	**400**	**100**	**40**
Standard	**300**	**80**	**30**
Medium	**200**	**60**	**20**

A.2.2. MPEG4 / Kbps fps-Size

Image	Bitrate Settings	Frame-Rate Setting	Current Bitrate	Current Frame-Rate
704 * 576	2048	25	**2000**	**23**
704 * 576	2048	15	**2100**	**16**
704 * 576	1536	25	**1600**	**25**
704 * 576	1536	15	**1700**	**16**
704 * 576	1024	25	**1100**	**25**
704 * 576	1024	15	**1200**	**16**
704 * 576	512	25	**550**	**25**
704 * 576	512	15	**650**	**16**
352 * 288	1536	25	**1500**	**25**

352 * 288	1536	15	**1600**	**16**
352 * 288	1024	25	**1100**	**25**
352 * 288	1024	15	**1100**	**16**
352 * 288	512	25	**550**	**25**
352 * 288	512	15	**600**	**16**
176 * 144	1024	25	**1000**	**25**
176 * 144	1024	15	**1000**	**16**
176 * 144	512	25	**550**	**25**
176 * 144	512	15	**600**	**16**
176 * 144	128	25	**150**	**25**
176 * 144	128	15	**150**	**16**

A.2.3. @ 15fps MJPEG / Kbps

Quality	704 * 576	352 * 288	176 * 144
Excellent	**7800**	**1700**	**650**
Detailed	**4300**	**1000**	**450**
Good	**2500**	**650**	**350**
Standard	**1300**	**450**	**250**
Medium	**1000**	**300**	**180**

A.2.4. MJPEG / Kbps fps-Size

Image	Quality Setting	Frame-Rate Setting	Current Bitrate	Current Frame-Rate
704 * 576	Excellent	15	**7800**	**11**
704 * 576	Excellent	5	**4000**	**5**
704 * 576	Good	15	**2500**	**11**
704 * 576	Good	5	**1200**	**5**
704 * 576	Medium	15	**1000**	**11**
704 * 576	Medium	5	**500**	**5**
352 * 288	Excellent	15	**1700**	**11**
352 * 288	Excellent	5	**900**	**5**
352 * 288	Good	15	**650**	**11**
352 * 288	Good	5	**330**	**5**
352 * 288	Medium	15	**300**	**11**
352 * 288	Medium	5	**160**	**5**
176 * 144	Excellent	15	**650**	**12**
176 * 144	Excellent	5	**300**	**5**
176 * 144	Good	15	**350**	**12**
176 * 144	Good	5	**150**	**5**
176 * 144	Medium	15	**180**	**12**
176 * 144	Medium	5	**75**	**5**

A.3. CMOS IP Camera

A.3.1. @ 30fps MPEG4 / Kbps

Quality	640 * 480	320 * 240	160 * 120

Excellent	**1000**	**300**	**90**
Detailed	**400**	**150**	**50**
Good	**300**	**100**	**30**
Standard	**250**	**70**	**25**
Medium	**250**	**55**	**20**

A.3.2. MPEG4 / Kbps fps-Size

Image	Bitrate Settings	Frame-Rate Setting	Current Bitrate	Current Frame-Rate
640 * 480	2048	30	**1800**	**26**
640 * 480	2048	15	**2200**	**16**
640 * 480	1536	30	**1500**	**30**
640 * 480	1536	15	**1700**	**16**
640 * 480	1024	30	**1000**	**30**
640 * 480	1024	15	**1000**	**16**
640 * 480	512	30	**500**	**30**
640 * 480	512	15	**600**	**16**
320 * 240	1536	30	**1500**	**30**
320 * 240	1536	15	**1600**	**16**
320 * 240	1024	30	**1000**	**30**
320 * 240	1024	15	**1000**	**16**
320 * 240	512	30	**550**	**30**
320 * 240	512	15	**600**	**16**
160 * 120	1024	30	**950**	**30**
160 * 120	1024	15	**750**	**16**
160 * 120	512	30	**500**	**30**
160 * 120	512	15	**50**	**16**
160 * 120	128	30	**130**	**30**
160 * 120	128	15	**140**	**16**

A.3.3. @ 15fps MJPEG / Kbps

Quality	640 * 480	320 * 240	160 * 120
Excellent	**4000**	**1500**	**600**
Detailed	**2400**	**900**	**400**
Good	**1600**	**650**	**300**
Standard	**1300**	**500**	**240**
Medium	**900**	**350**	**170**

A.3.4. MJPEG / Kbps fps-Size

Image	Quality Setting	Frame-Rate Setting	Current Bitrate	Current Frame-Rate
640 * 480	Excellent	15	**4000**	**13**
640 * 480	Excellent	5	**1600**	**5**
640 * 480	Good	15	**1600**	**13**
640 * 480	Good	5	**650**	**5**
640 * 480	Medium	15	**900**	**14**

640 * 480	Medium	5	**360**	**5**
320 * 240	Excellent	15	**1500**	**13**
320 * 240	Excellent	5	**550**	**5**
320 * 240	Good	15	**650**	**13**
320 * 240	Good	5	**260**	**5**
320 * 240	Medium	15	**350**	**13**
160 * 120	Medium	5	**130**	**5**
160 * 120	Excellent	15	**600**	**13**
160 * 120	Excellent	5	**230**	**5**
160 * 120	Good	15	**300**	**13**
160 * 120	Good	5	**115**	**5**
160 * 120	Medium	15	**170**	**13**
160 * 120	Medium	5	**65**	**5**

APPENDIX B
Space required for registration

B.1. NTSC CCD IPCamera

B.1.1. MPEG4 Storage Requirement GB / channel / day @ 30fps

Quality	704 * 480	352 * 240	176 * 120
Excellent	**21.1**	**8.4**	**2.1**
Detailed	**9.0**	**2.6**	**0.8**
Good	**4.7**	**1.6**	**0.6**
Standard	**3.7**	**1.2**	**0.5**
Medium	**2.6**	**0.9**	**0.4**

B.1.2. MPEG4 Storage Requirement GB / channel / day @ 15fps

Quality	704 * 480	352 * 240	176 * 120
Excellent	**10.5**	**4.2**	**1.1**
Detailed	**4.5**	**1.3**	**0.4**
Good	**2.3**	**0.8**	**0.3**
Standard	**1.8**	**0.6**	**0.2**
Medium	**1.3**	**0.5**	**0.2**

B.1.3. MPEG4 Storage Requirement GB / channel / day-Size Image

	Bitrate Settings	Frame-Rate Setting	Storage Requirement
704 * 480	2048	30	**23.0**
704 * 480	2048	15	**22.1**
704 * 480	1536	30	**18.5**
704 * 480	1536	15	**17.9**
704 * 480	1024	30	**11.1**
704 * 480	1024	15	**11.6**
704 * 480	512	30	**5.5**
704 * 480	512	15	**6.9**
352 * 240	1536	30	**15.8**
352 * 240	1536	15	**16.9**
352 * 240	1024	30	**11.6**
352 * 240	1024	15	**11.6**
352 * 240	512	30	**5.6**
352 * 240	512	15	**6.3**
176 * 120	1024	30	**10.5**
176 * 120	1024	15	**9.5**
176 * 120	512	30	**5.6**
176 * 120	512	15	**5.8**
176 * 120	128	30	**1.6**
176 * 120	128	15	**1.6**

B.1.4. MJPEG Storage Requirement GB / channel / day @ 15fps

Quality	704 * 480	352 * 240	176 * 120
Excellent	**79.1**	**29.5**	**10.5**
Detailed	**52.7**	**15.8**	**7.4**
Good	**36.9**	**10.5**	**5.3**
Standard	**21.1**	**8.4**	**4.2**
Medium	**13.7**	**5.3**	**3.2**

B.1.5. MJPEG Storage Requirement GB / channel / day-Size Image

	Quality Setting	Frame-Rate Setting	Current Bitrate
704 * 480	Excellent	15	**79.1**
704 * 480	Excellent	5	**42.2**
704 * 480	Good	15	**36.9**
704 * 480	Good	5	**15.8**
704 * 480	Medium	15	**13.7**
704 * 480	Medium	5	**5.8**
352 * 240	Excellent	15	**29.5**
352 * 240	Excellent	5	**12.7**
352 * 240	Good	15	**10.5**
352 * 240	Good	5	**4.7**
352 * 240	Medium	15	**5.3**
176 * 120	Medium	5	**2.3**
176 * 120	Excellent	15	**10.5**
176 * 120	Excellent	5	**4.2**
176 * 120	Good	15	**5.3**
176 * 120	Good	5	**2.1**
176 * 120	Medium	15	**3.2**
176 * 120	Medium	5	**1.1**

B.2. PAL CCD IPCamera

B.2.1. MPEG4 Storage Requirement GB / channel / day @ 30fps

Quality	704 * 480	352 * 240	176 * 120
Excellent	**19.4**	**4.3**	**1.1**
Detailed	**6.5**	**1.6**	**0.5**
Good	**4.3**	**1.1**	**0.4**
Standard	**3.2**	**0.9**	**0.3**
Medium	**2.2**	**0.6**	**0.2**

B.2.2. MPEG4 Storage Requirement GB / channel / day @ 15fps

Quality	704 * 480	352 * 240	176 * 120
Excellent	**9.7**	**2.2**	**0.5**
Detailed	**3.2**	**0.8**	**0.3**
Good	**2.2**	**0.5**	**0.2**
Standard	**1.6**	**0.4**	**0.2**

Medium	**1.1**	**0.3**	**0.1**

B.2.3. MPEG4 Storage Requirement GB / channel / day-Size Image

	Bitrate Settings	Frame-Rate Setting	Storage Requirement
704 * 480	2048	30	**21.6**
704 * 480	2048	15	**22.7**
704 * 480	1536	30	**17.3**
704 * 480	1536	15	**18.4**
704 * 480	1024	30	**11.9**
704 * 480	1024	15	**13.0**
704 * 480	512	30	**5.9**
704 * 480	512	15	**7.0**
352 * 240	1536	30	**16.2**
352 * 240	1536	15	**17.3**
352 * 240	1024	30	**11.9**
352 * 240	1024	15	**11.9**
352 * 240	512	30	**5.9**
352 * 240	512	15	**6.5**
176 * 120	1024	30	**10.8**
176 * 120	1024	15	**10.8**
176 * 120	512	30	**5.9**
176 * 120	512	15	**6.5**
176 * 120	128	30	**1.6**
176 * 120	128	15	**1.6**

B.2.4. MJPEG Storage Requirement GB / channel / day @ 15fps

Quality	704 * 480	352 * 240	176 * 120
Excellent	**84.2**	**18.4**	**7.0**
Detailed	**46.4**	**10.8**	**4.9**
Good	**27.0**	**7.0**	**3.8**
Standard	**14.0**	**4.9**	**2.7**
Medium	**10.8**	**3.2**	**1.9**

B.2.5. MJPEG Storage Requirement GB / channel / day-Size Image

	Quality Setting	Frame-Rate Setting	Current Bitrate
704 * 480	Excellent	15	**84.2**
704 * 480	Excellent	5	**43.2**
704 * 480	Good	15	**27.0**
704 * 480	Good	5	**13.0**
704 * 480	Medium	15	**10.8**
704 * 480	Medium	5	**5.4**
352 * 240	Excellent	15	**18.4**
352 * 240	Excellent	5	**9.7**
352 * 240	Good	15	**7.0**
352 * 240	Good	5	**3.6**

352 * 240	Medium	15	**3.2**
176 * 120	Medium	5	**1.7**
176 * 120	Excellent	15	**7.0**
176 * 120	Excellent	5	**3.2**
176 * 120	Good	15	**3.8**
176 * 120	Good	5	**1.6**
176 * 120	Medium	15	**1.9**
176 * 120	Medium	5	**0.8**

B.3. CMOS IPCamera

B.3.1. MPEG4 Storage Requirement GB / channel / day @ 30fps

Quality	640 * 480	320 * 240	160 * 120
Excellent	**10.5**	**3.2**	**0.9**
Detailed	**4.2**	**1.6**	**0.5**
Good	**3.2**	**1.1**	**0.3**
Standard	**2.6**	**0.7**	**0.3**
Medium	**2.6**	**0.6**	**0.2**

B.3.2. MPEG4 Storage Requirement GB / channel / day @ 15fps

Quality	640 * 480	320 * 240	160 * 120
Excellent	**5.3**	**1.6**	**0.4**
Detailed	**2.1**	**0.8**	**0.3**
Good	**1.6**	**0.6**	**0.2**
Standard	**1.3**	**0.4**	**0.1**
Medium	**1.3**	**0.3**	**0.1**

B.3.3. MPEG4 Storage Requirement GB / channel / day-Size Image

	Bitrate Settings	Frame-Rate Setting	Current Bitrate
640 * 480	2048	30	**23.0**
640 * 480	2048	15	**22.2**
640 * 480	1536	30	**18.5**
640 * 480	1536	15	**17.9**
640 * 480	1024	30	**10.5**
640 * 480	1024	15	**10.5**
640 * 480	512	30	**5.3**
640 * 480	512	15	**6.3**
320 * 240	1536	30	**15.8**
320 * 240	1536	15	**16.9**
320 * 240	1024	30	**10.5**
320 * 240	1024	15	**10.5**
320 * 240	512	30	**5.8**
320 * 240	512	15	**6.3**
160 * 120	1024	30	**10.0**
160 * 120	1024	15	**7.9**
160 * 120	512	30	**5.3**

160 * 120	512	15	**0.5**
160 * 120	128	30	**1.4**
160 * 120	128	15	**1.5**

B.3.4. MJPEG Storage Requirement GB / channel / day @ 15fps

Quality	640 * 480	320 * 240	160 * 120
Excellent	**42.2**	**15.8**	**6.3**
Detailed	**25.3**	**9.5**	**4.2**
Good	**16.9**	**6.9**	**3.2**
Standard	**13.7**	**5.3**	**2.5**
Medium	**9.5**	**3.7**	**1.8**

B.3.5. MJPEG Storage Requirement GB / channel / day-Size Image

	Quality Setting	Frame-Rate Setting	Current Bitrate
640 * 480	Excellent	15	**42.2**
640 * 480	Excellent	5	**16.9**
640 * 480	Good	15	**16.9**
640 * 480	Good	5	**6.9**
640 * 480	Medium	15	**9.5**
640 * 480	Medium	5	**3.8**
320 * 240	Excellent	15	**15.8**
320 * 240	Excellent	5	**5.8**
320 * 240	Good	15	**6.9**
320 * 240	Good	5	**2.7**
320 * 240	Medium	15	**3.7**
160 * 120	Medium	5	**1.4**
160 * 120	Excellent	15	**6.3**
160 * 120	Excellent	5	**2.4**
160 * 120	Good	15	**3.2**
160 * 120	Good	5	**1.2**
160 * 120	Medium	15	**1.8**
160 * 120	Medium	5	**0.7**