RK SERIES

DVR and NVR

Installation Manual - Menu 6.0

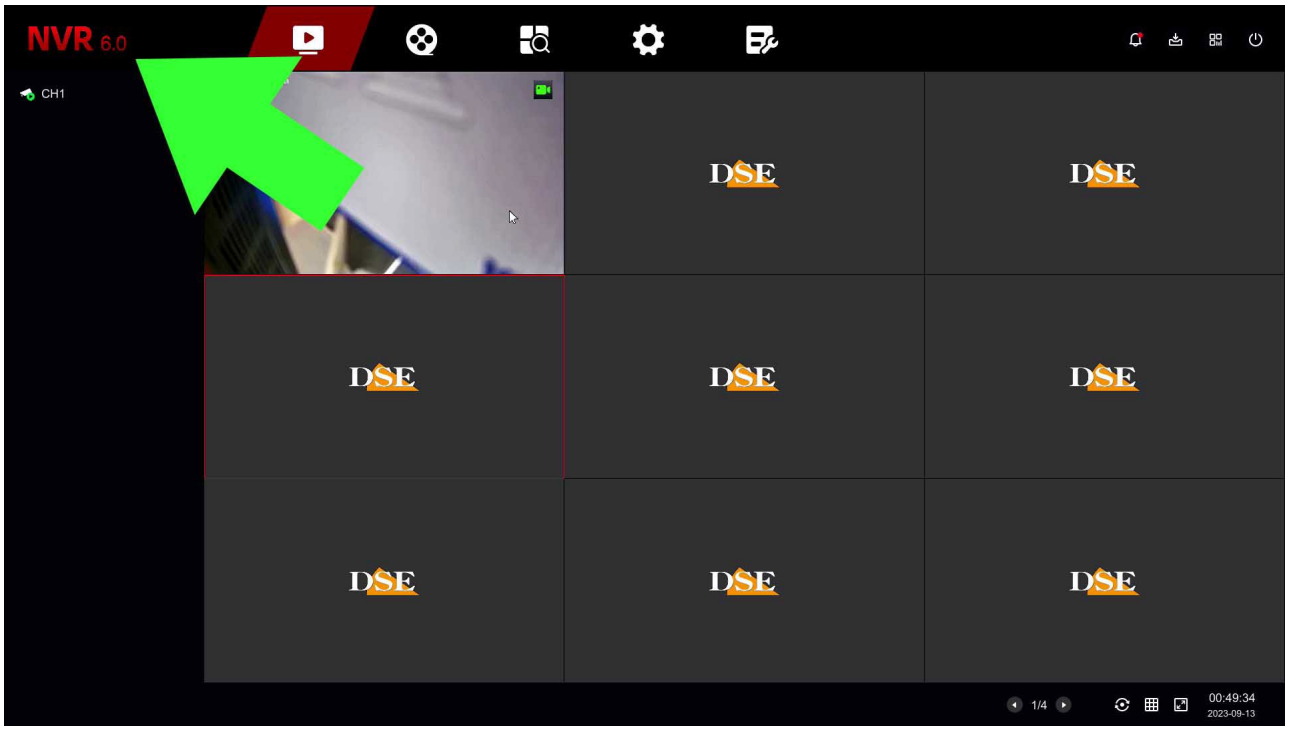
How to install the system
How to network and connect cameras How to use live and playback
How to connect with common clients

Contents of the manual

The RK series DVRs and NVRs are video recording systems for CCTV video surveillance.
NVR models are used to connect IP cameras
DVR models have BNC inputs to connect analog AHD, CVI, TVI, CVBS cameras but
They can also manage IP cameras.
This manual explains how to install the video recorder, how to connect the cameras and
how to use the essential functions. It also explains how to connect from a computer with the common client.

For advanced configuration, remote access from IoVedo.RK app and IoVedo.RK software do refer to specific manuals.

This manual refers to NVR/DVR with**graphical interface Version 6.0**what you see here under



If your NVR/DVR has a different interface, such as 5.0 or earlier, you can download the specific manual for your version, or you can continue reading this manual considering that you will find the same options on your screen, just with different graphics.

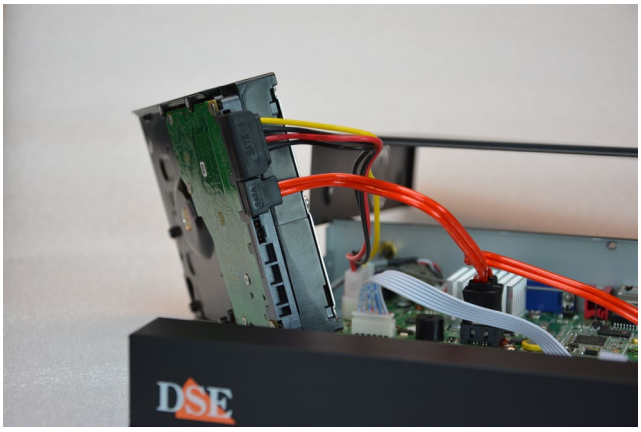
Prepare the cameras

Before installing a DVR or NVR you must have the cameras to connect. If
If you connect analog cameras you have to supply them with power and then connect the video signal with a coaxial cable or a twisted pair with balun. If you connect IP cameras to the network you must first configure their IP address.
For these operations you must follow the camera manual.

Install the Hard Disk

If you want your system to be able to record, you need to install a hard disk inside the video recorder. Any 3.5" SATA computer hard disk will do, but for a larger duration it would be advisable to purchase a model specifically for video recording.
The maximum hard disk capacity you can mount is 8 TB.
Depending on the model, you can fit 1 to 8 hard disks inside the video recorder. You can
You can easily understand which way the disk should be mounted by looking at the holes on the bottom of the DVR/NVR.

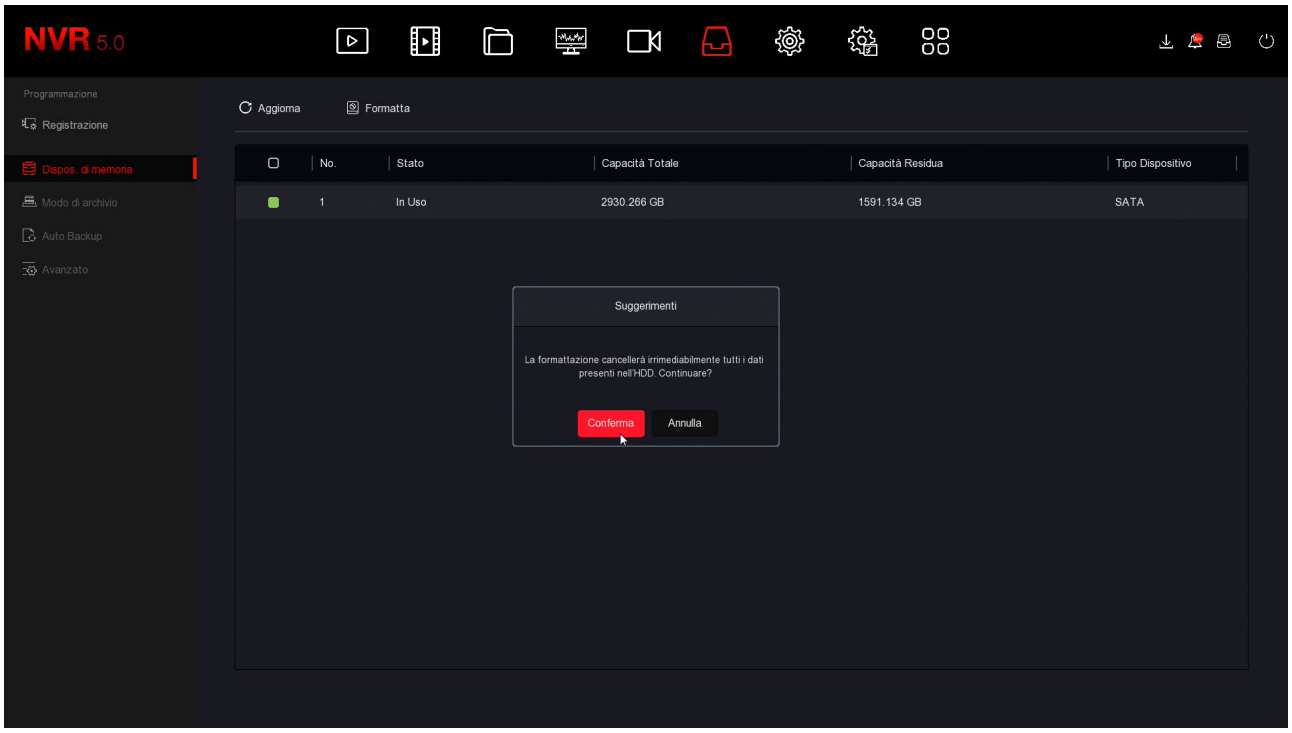
Remove the cover by unscrewing the side screws and rear



Connect the hard disk with the two cables power and data that you find inside. If there there are multiple doors, choose any pair.

Secure the hard disk with the 4 screws provided screw from under the video recorder

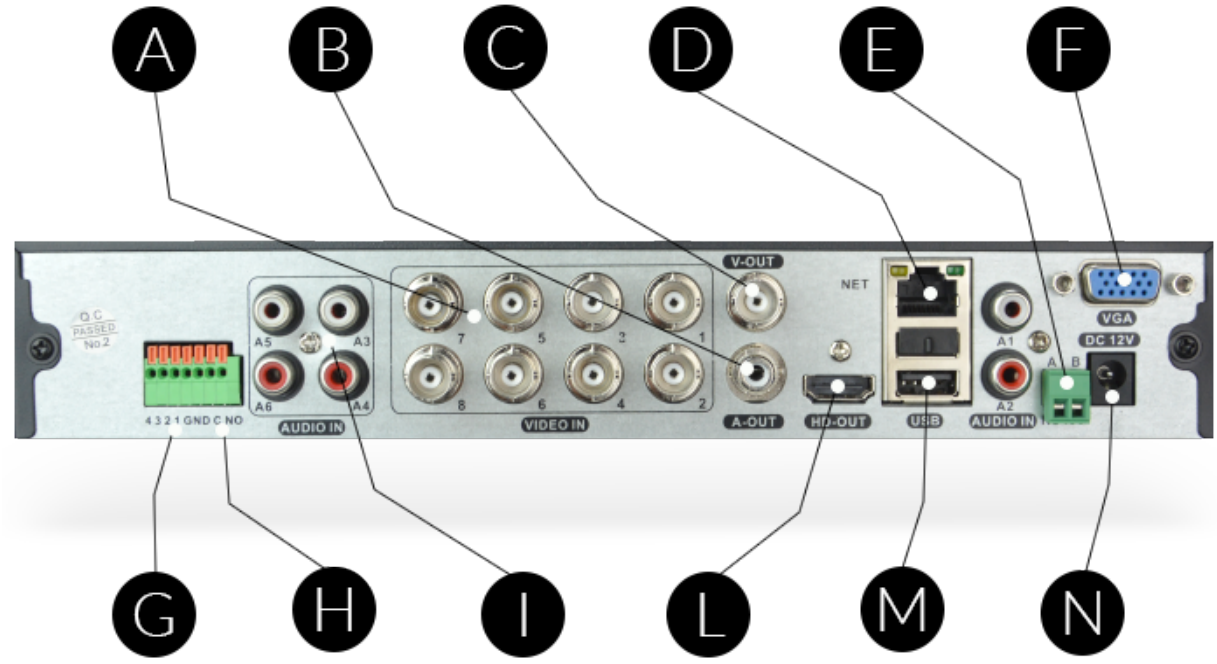
On the next boot, the NVR/DVR will detect the newly installed hard disk and ask you to start the formatting to be able to use it.



CAUTION – The power consumption of a hard disk varies greatly depending on its capacity. Our video recorders are supplied with a power supply suitable for a normal hard disk 1 or 2TB, usually the most used size. If you install a larger hard disk or more than one hard disk it is advisable to replace the standard power supply with a more powerful one.

Connect a DVR

If you have purchased a DVR, your device can handle both analog cameras, with its BNC inputs, both IP cameras, via the network port.
These are the rear connections. The equipment varies depending on the model you purchased.



A | VIDEO IN–You can connect any type of camera to these BNC video inputs. analog in AHD, CVI or TVI technology, up to the maximum resolution managed by your model of DVR. You can also connect old analog CVBS cameras. The only cameras with BNC connection that you cannot connect are SDI digital cameras.
B | A OUT–You can connect a speaker to this RCA connector to broadcast the audio of the DVR. Remember that the HDMI monitor output also carries audio so if you connect a TV via HDMI You can hear audio without connecting a speaker to this output.
C | V-OUT–To this BNC output you can connect an analog monitor, the AV input of a TV and any device capable of receiving CVBS analog video. This output has low resolution and it is not recommended to use it for the main monitor. The resolution of this output it is not sufficient to be able to operate in the configuration menu.
D | NET–It is the RJ45 network port. To be able to view your cameras via the Internet, or to

To connect IP cameras, you need to connect the DVR to your network. You need to use a regular network cable straight type and insert it on one side into the NET port of the DVR and on the other into a free port of your router or switch. The DVR is factory set to automatically configure itself on the network (DHCP).

And | AB RS485–This is the RS485 serial port to which you can connect the control cable for control motorized cameras of analog or AHD type. Although our latest Motorized analog cameras support movement control along the video cable selecting UTC command protocol, older motorized analog cameras require these two additional cables for the command. The RS485 BUS is a twisted pair that cascade all the analog motorized units of your system. You can find it in the manual of the camera more information on how to connect it always respecting the terminal A(+) and B(-) that you find on the camera. You will then have to configure the transmission protocol, in the DVR PTZ configuration, depending on the camera. You need to select the protocol, of PelcoD standard, the speed, usually 1200,2400,4800 or 9600 bauds, and the address on the bus, of factory 1. Please refer to your motorized camera manual for more information.
Motorized IP cameras do not require this connection because they are controlled via network cable.

F | VGA–You can connect a computer monitor that has this type of output to this output. of port. This output supports the maximum resolution of 1920x1080 FullHD.

G | ENTRANCES–You can connect alarm contacts to these terminals as explained below.

H | EXIT–You can connect the alarm output to these terminals as explained below

I | A1..A4–You can connect audio signals from cameras to these RCA inputs. analog or microphones. Remember that these audio inputs are active only for BNC channels because IP cameras require the microphone to be connected to the camera.

L | HD OUT–This is the HDMI output for the monitor. Almost all TVs and PC monitors have this connection port. If you connect a TV, to see the images you must remember to select the external HDMI input on your TV that you used for the NVR. Typically this is by pressing the SOURCE button on the remote control. These DVRs come factory-equipped with a low output resolution that you can increase up to 4K to match the maximum monitor resolution. This operation is explained further on in the manual.
Remember that the HDMI cable cannot be longer than a few meters. To connect a monitor HDMI remote from NVR you need to use an HDMI transmission device.

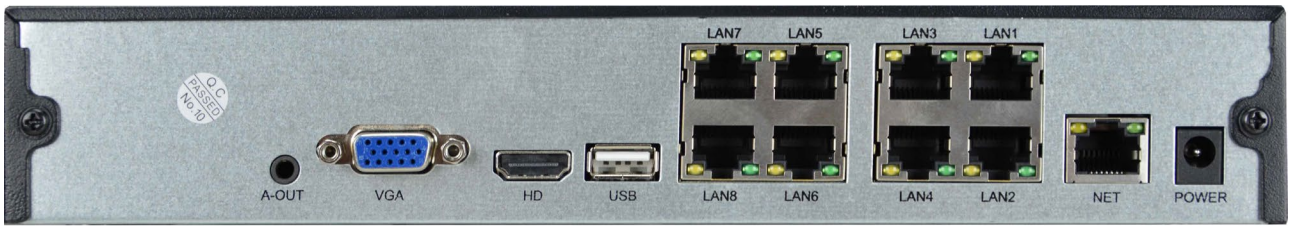
M | USB–To the USB ports you can connect the mouse included with the DVR and USB memories, such as USB sticks or hard disks to back up video files. All DVRs also have of a front USB port.

N | DC 12V–Connect the included 12VDC power supply here. Be careful not to confuse the DVR/NVR power supply, which has at least 2A of power, with other smaller ones that you have

purchased perhaps for the cameras, because this would cause malfunctions. If you power the DVR with our centralized power supply in the box you must consider that the individual outputs are limited to 1A and it is therefore necessary to connect at least 3 of them in parallel to be able to supply adequate power to the DVR.

Connect an NVR

If you purchased an NVR your video recorder can only manage IP network cameras.
These are the rear connections. The equipment varies depending on the model you purchased.



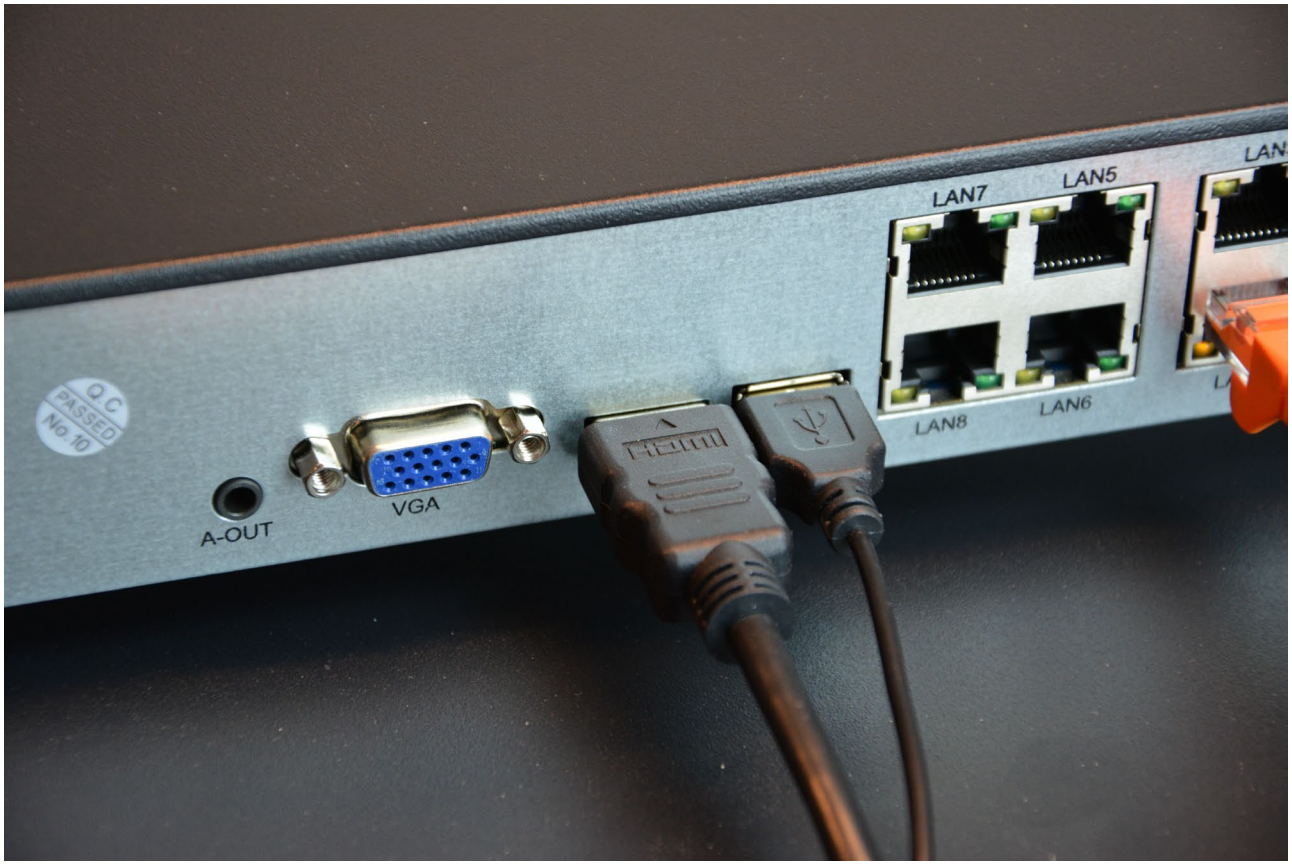
A-OUT-You can connect an external speaker to this minijack connector to broadcast audio. Remember that the HDMI monitor output also carries audio so if you connect a TV via HDMI you can hear audio without connecting this output.
VGA–You can connect a computer monitor to this output. This output supports maximum resolution of 1920x1080 FullHD.
HD–This is the HDMI output for the monitor. Almost all TVs and PC monitors have this connection port. If you connect a TV, to see the images you must remember to select on your TV the external HDMI input that you used for the NVR. Typically this is done by pressing the SOURCE button on the remote control. These DVRs come factory-loaded with a resolution in low output that you can increase up to 4K to match the maximum resolution of the monitor.
Remember that the HDMI cable cannot be longer than a few meters. To connect a monitor to distance from the NVR you need to use an HDMI transmission device.
USB–To the USB ports you can connect the mouse included with the DVR and USB sticks for back up video files. Many DVR/NVRs also have a front USB port. You can also connect USB drives to record to external HDDs
NET or LAN or WAN–It is the RJ45 network port. To be able to view your cameras via the Internet, or to connect external IP cameras, you need to connect the NVR to your network, for example to your router, through this port. You need to use a normal straight-through network cable and insert it from a side into the network port of the NVR and the other to a free port of your router or switch. The NVR is factory set to automatically configure itself to the network (DHCP).
LAN1..8or**POE1..8**– Some NVR models have POE ports to connect the cameras. You can connect the IP cameras you want the NVR to manage here. The NVR provides POE power to the cameras. If you connect our RK Series cameras to these ports, are configured automatically (plug and play). If you connect other cameras you will have to First assign them an IP address suitable for the NVR's internal network.
You cannot connect other network devices, such as switches or routers, to these ports.

DC 12V–Connect the included 12VDC power supply here

Connect the monitor

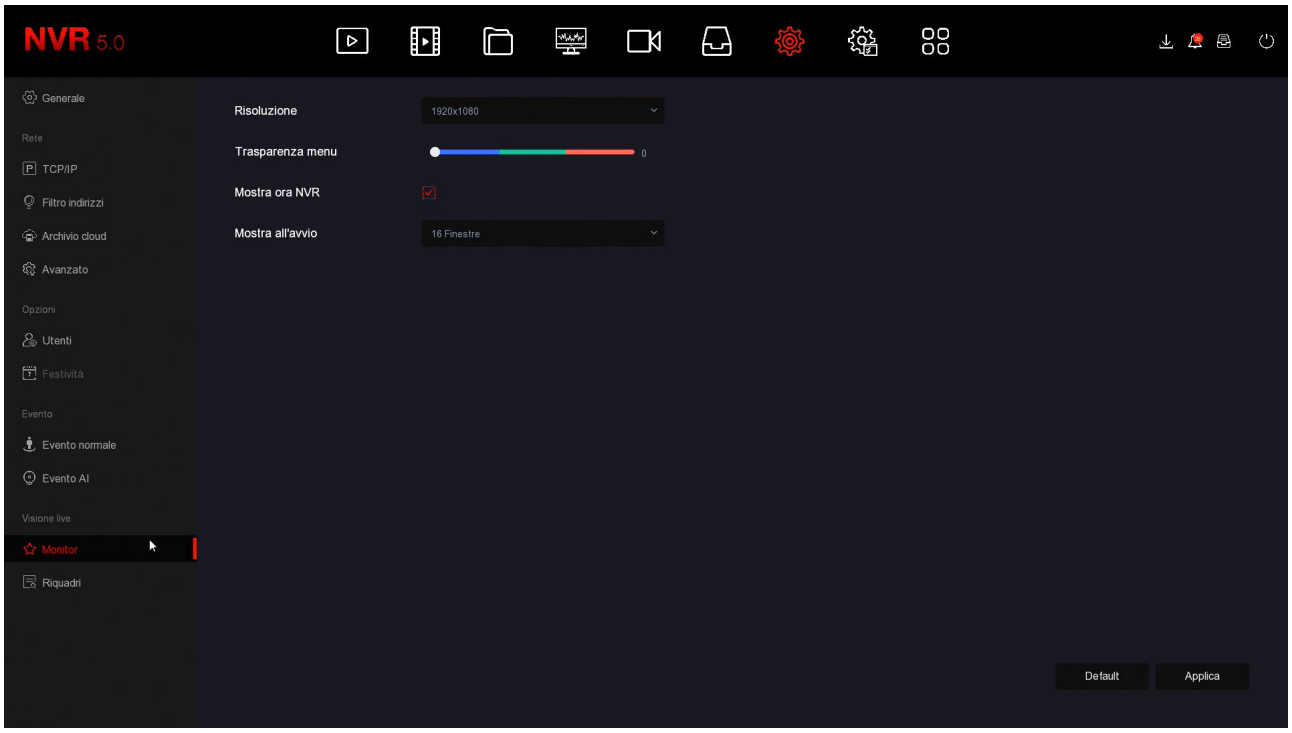
Although the DVR/NVR can work without a monitor, you must connect one, at least for configuration operations.

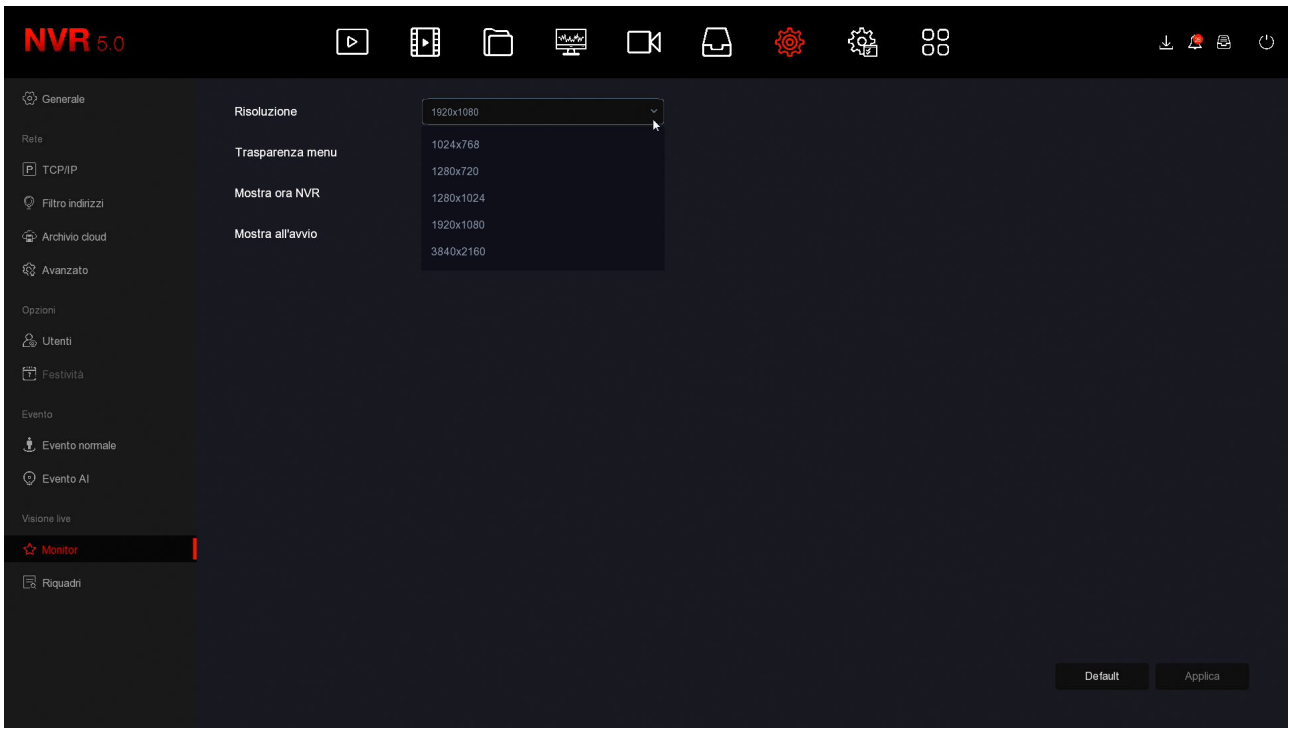
You can use a computer monitor or a TV. The main monitor port, with higher resolution, It is the HDMI port that you find in all modern televisions and computer monitors. There's also a VGA port if you need to connect an older PC monitor.



DVRs/NVRs are factory programmed to provide a low resolution (1280x1024) so to be compatible with all monitors. Once you have connected the monitor and started the DVR/NVR you It is advisable to increase the video output resolution to the maximum supported by your monitor (usually FullHD 1920x1080 or 4K 3840x2160).

If when you start the DVR/NVR you only see the DSE logo and then nothing else, it is because the monitor does not support the video resolution of the device. You need to connect another monitor and then possibly change video resolution in the configuration



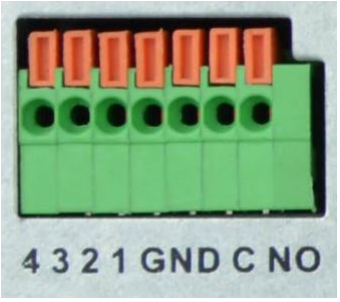


Remember that the HDMI cable cannot be longer than a few meters. To connect a monitor to distance from the NVR you need to use an HDMI transmission device.

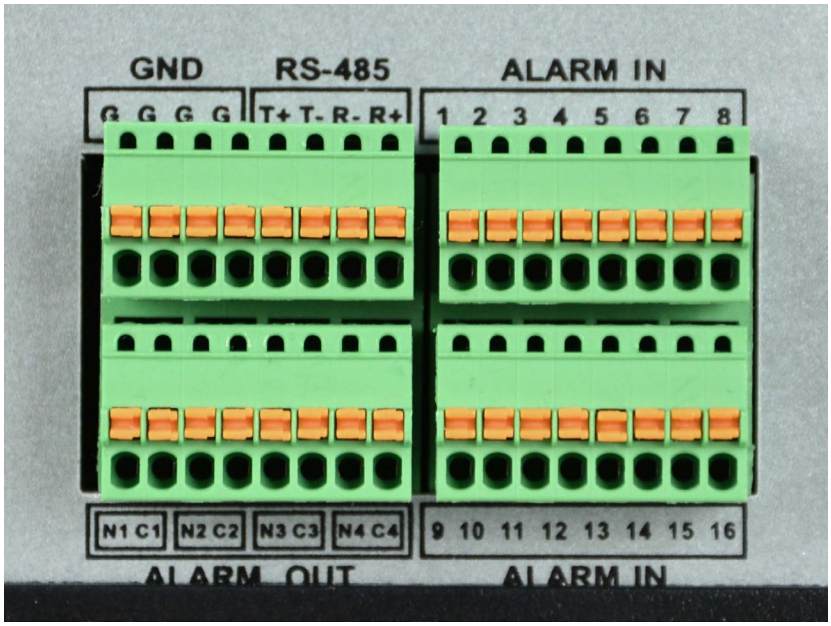
Connect Alarm I/O

Some DVRs/NVRs are equipped with alarm inputs and outputs and have a dedicated rear terminal block. The arrangement of the terminals varies from model to model, here we see two examples.

Example 4I+1O



Example 16I+4O



ALARM IN – The alarm inputs are used to connect external contacts that can activate alarms with which to start recording and send reports. The contact must be connected between the input terminal (1,2,3,4 etc) and a GND terminal in the terminal block. If the terminal block has of more G or GND terminals you can choose any one.
In configuration you can set the NO or NC operation (normally open or (normally closed) of the input so as to trigger the alarm when the contact closes (NO) or when it opens (NC).

ALARM OUT – The alarm outputs are used to activate external devices such as alarms.

acoustic, lighting etc. The outputs are clean Normally Open (NO) contacts from
connect between the two output terminals. In models with a single output you will use the C and NO terminals.
Models with multiple outputs have two terminals for each output (C1-N1, C2-N2 etc.).
In the DVR/NVR configuration you can set the events that cause the DVR/NVR to close.
output contact and also the duration of the closure.

Make the first ignition

As soon as you connect the power plug, the DVR/NVR starts up and displays an image on the screen. DVRs and NVRs for video surveillance do not have a power switch because they are designed to stay on all the time. If you don't see the image you need to check the cable and monitor settings. If your monitor has a particular resolution, it may not be compatible.

When you first turn it on, a**Wizard**which helps you configure the options main features of your system in minutes.

This part of the manual briefly describes the options available in the wizard. A more detailed description can be found in the configuration manual.

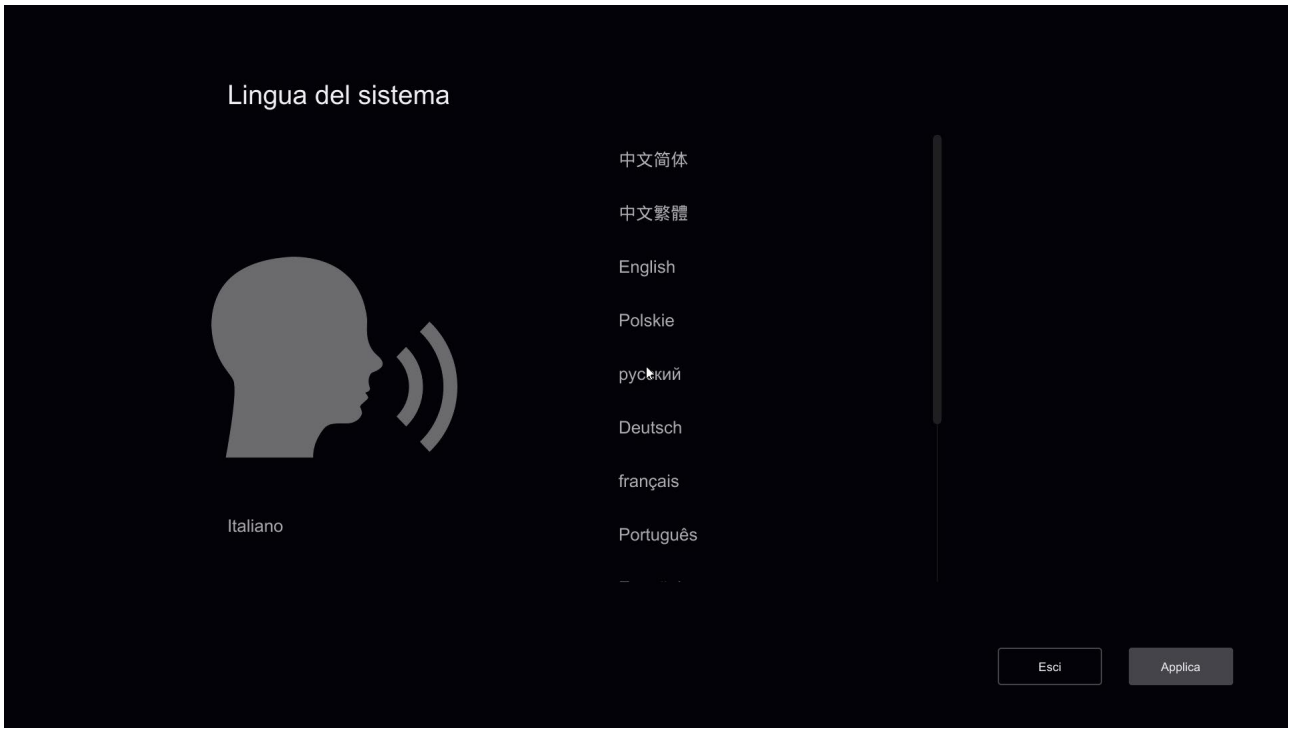
All options that are configured in the wizard are also accessible in a second moment in the configuration menu.

Wizard

1 – CHOOSE THE LANGUAGE

When you turn it on, the setup wizard starts. After using it once, you can disable it in the DVR/NVR configuration to avoid it appearing in future startups.

The first option to choose is the menu language. There are over 20 languages available. In this manual refers to the Italian factory language.



2 – LOG IN TO THE SYSTEM

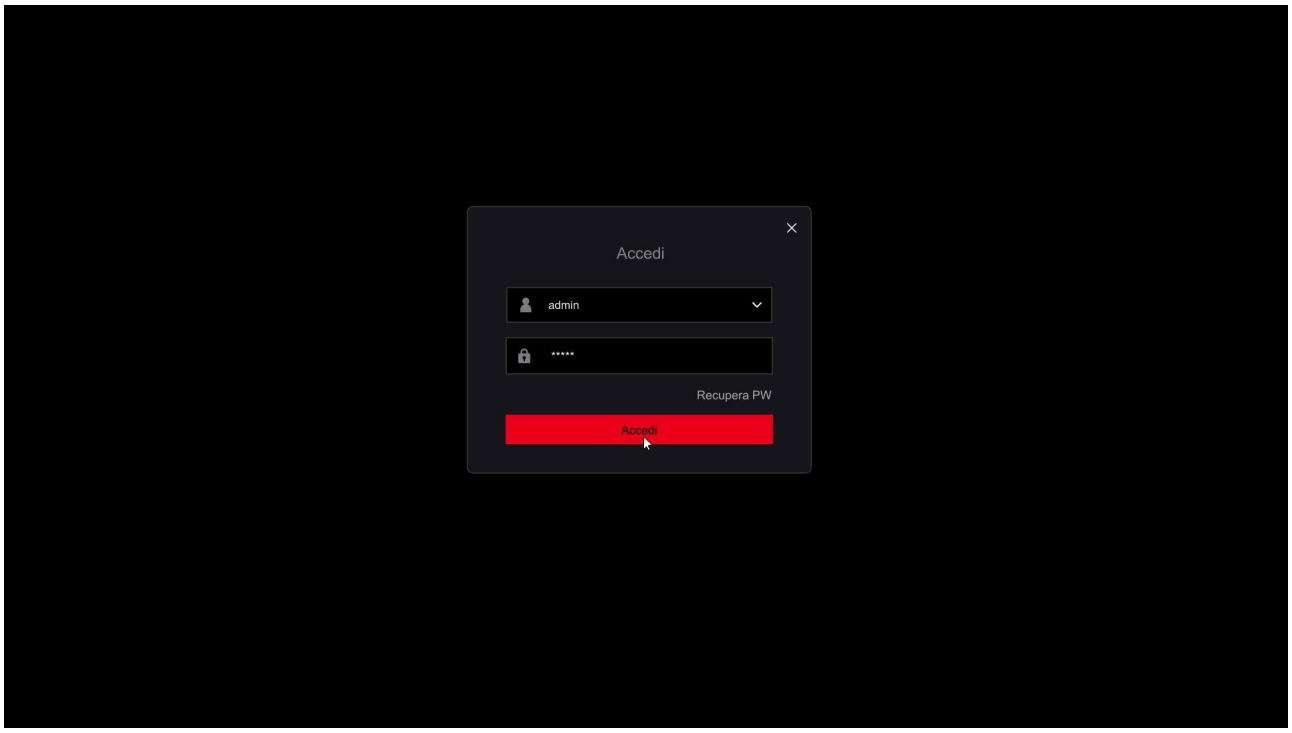
Enter the factory password to access the DVR/NVR:

USER: admin
PASSWORD: 123456

Then press LOGIN.

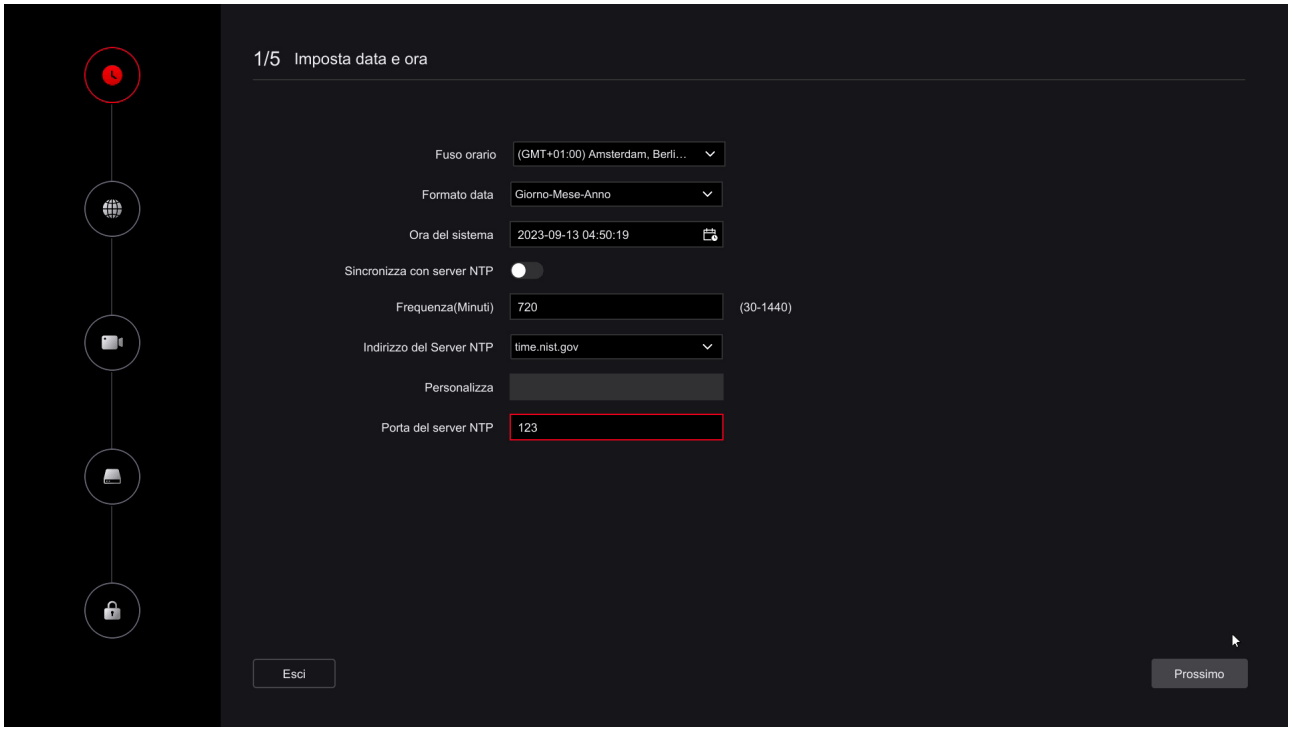
Some firmware, prior to 2025, use password

USER: admin
PASSWORD: 12345



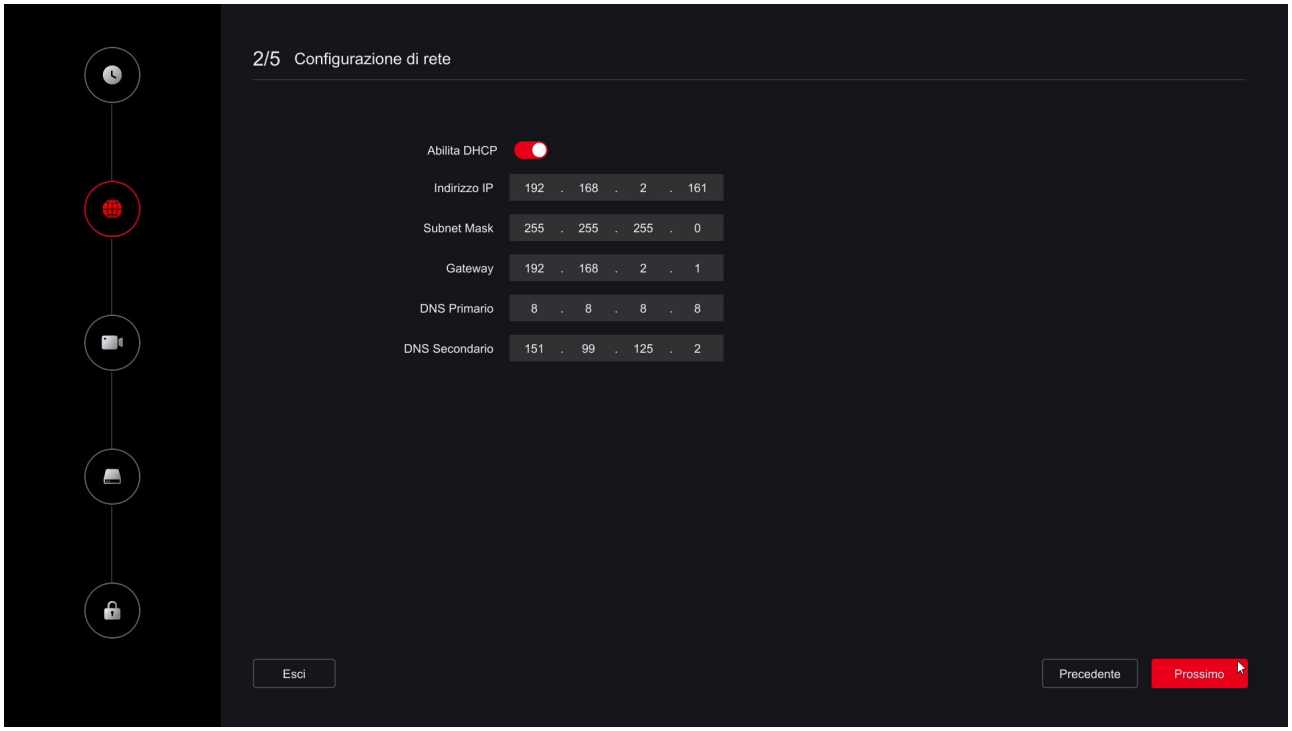
3 – SET DATE AND TIME

First you need to set the system date and time. Choose the Italian time zone GMT+1 and Day/Month/Year format. Other items are explained in the setup manual and you can also activate them later.



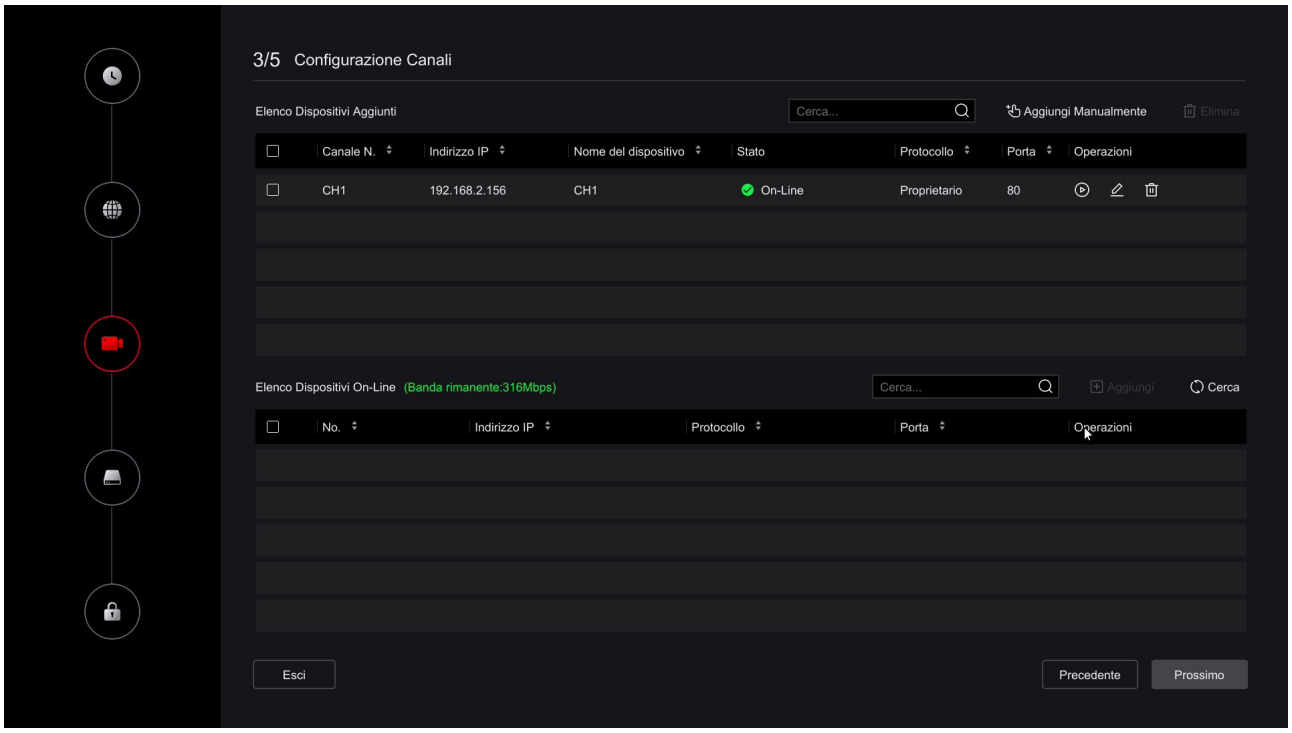
4 – SET UP THE NETWORK

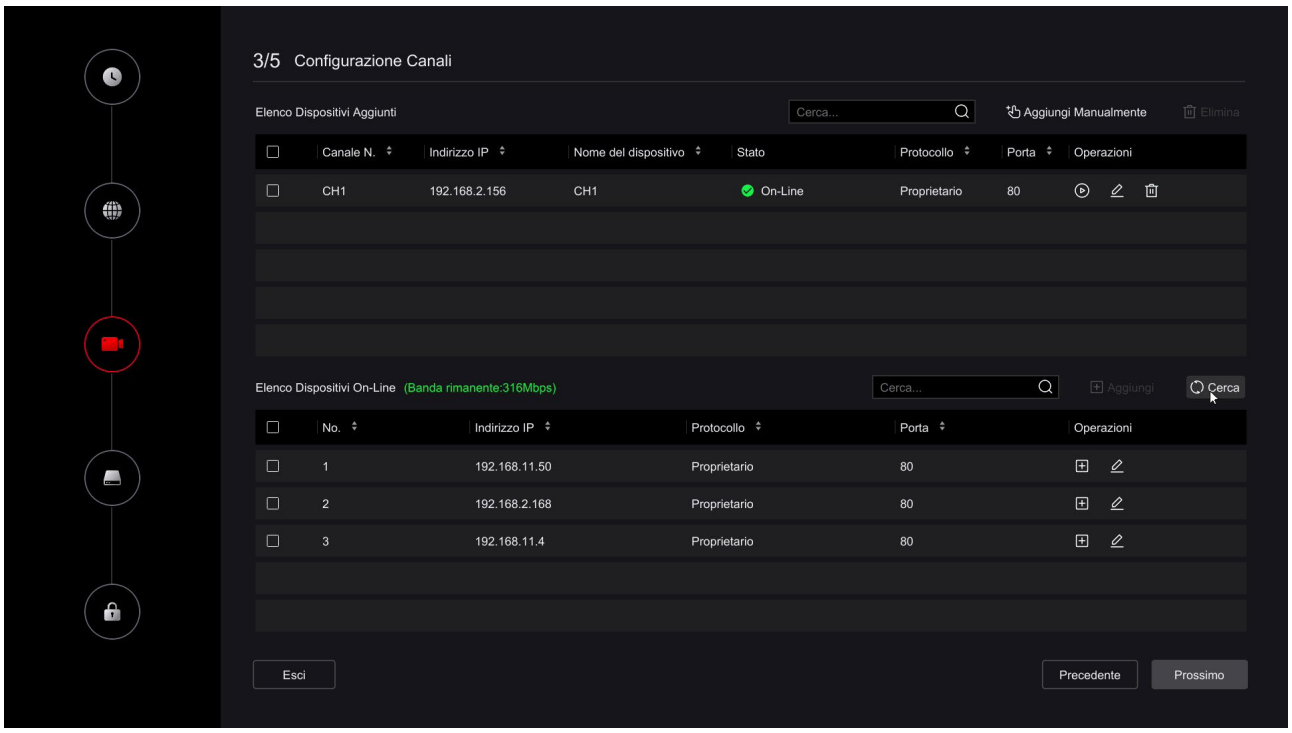
In this step you can set the network parameters for the DVR/NVR that allow it to communicate with the external network connected to its network port, mainly with the router. If if you are not sure what parameters to enter, leave the DHCP factory option active which allows DVR/NVR to get parameters automatically from the network router. You can always modify them later.



5 – ADD CAMERAS

Analog cameras connect to BNC ports and are immediately available. Even the IP cameras that you connect to the POE ports of NVRs that are equipped with them, are configured automatically. Cameras already added to the NVR appear in the table above.
If you want to connect IP cameras connected to an external network to your DVR/NVR, these are not they can self-configure, you must first configure them appropriately in the network external. In this section of the procedure, you can add the IP cameras that you have connected on your network outside the recorder. You need to press the button**near**to track the cameras in the network, which will appear in the table below, where you can select them by add them to the DVR/NVR. The details of this operation, with the various cases, are explained later and also in the setup manual. If you are not ready to add the cameras you can go ahead and do it later.





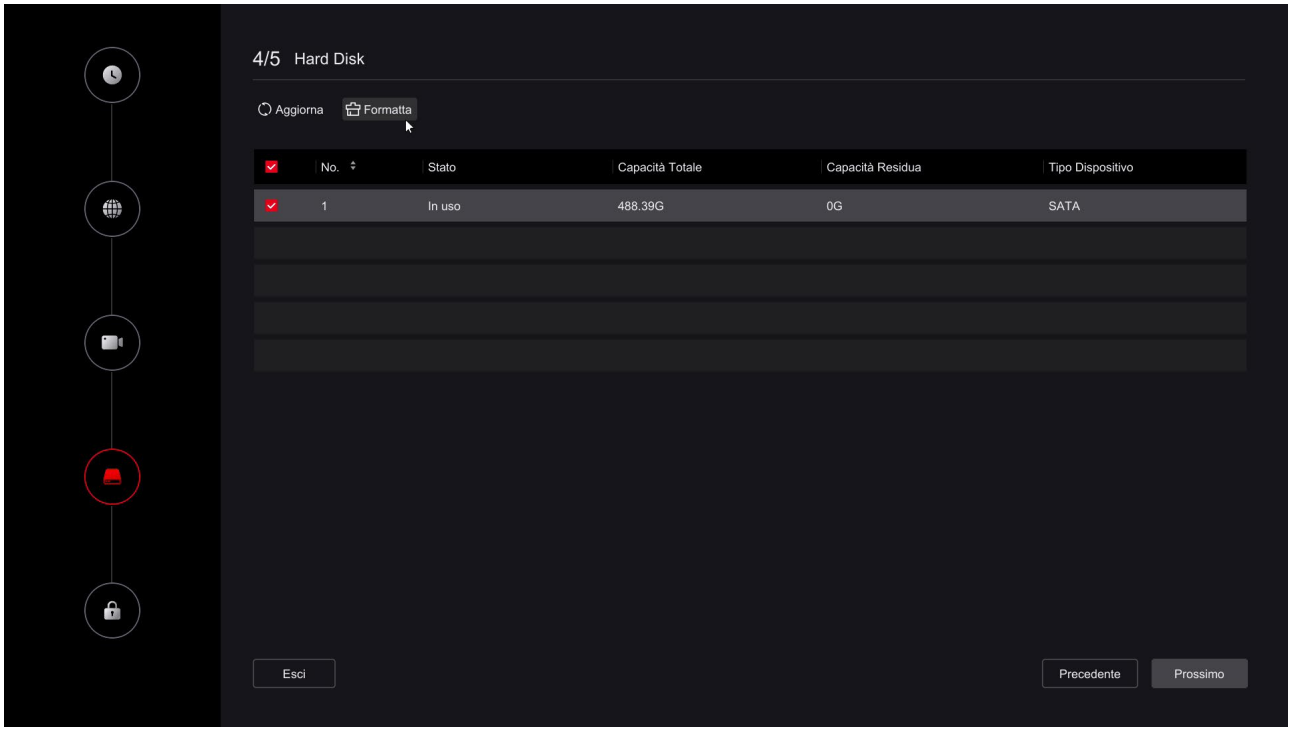
6 – FORMAT THE HARD DISK

In this step you should find the hard disk you inserted into the DVR/NVR.

Select it and click FORMAT to make the DVR/NVR able to use it. If you don't find

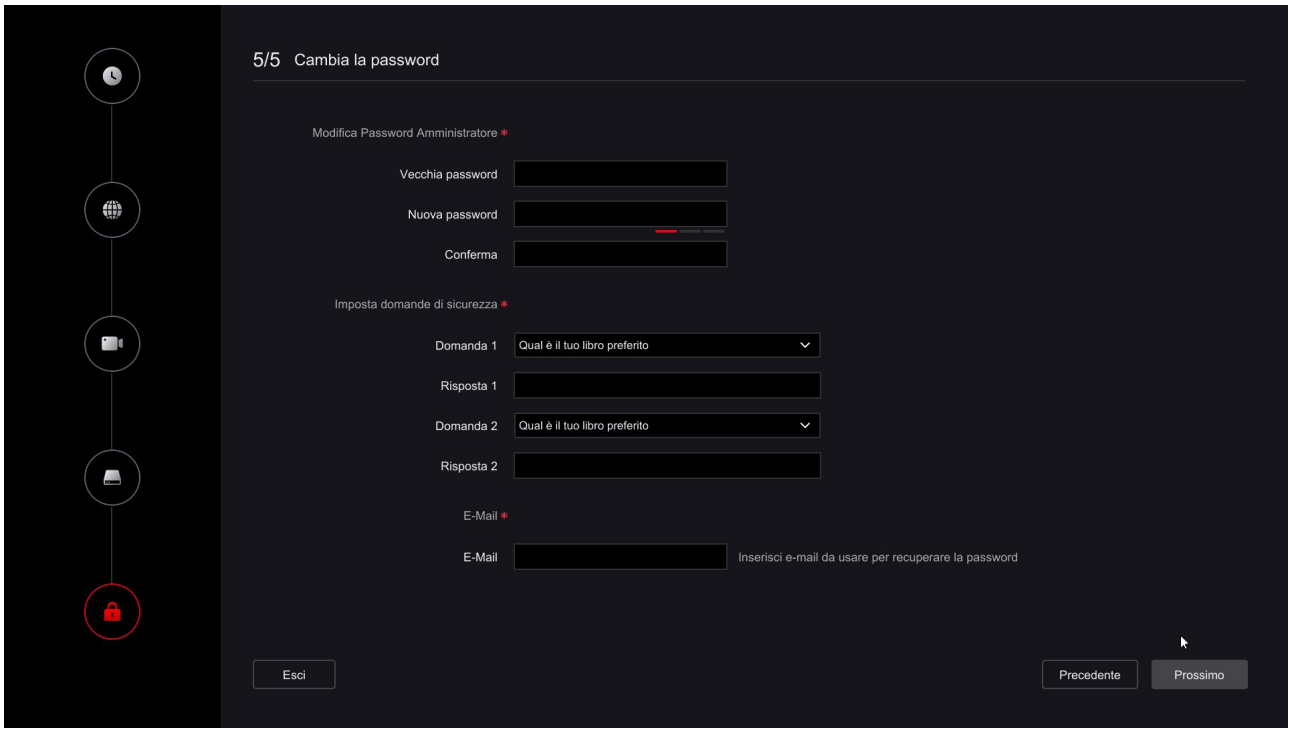
the hard disk in the list check that the two internal cables are connected and that the power supply of the

DVR/NVR is the correct one, possibly try to replace the hard disk because it could
to be broken.



7 – SET THE PASSWORD

In this final step you can optionally change the password for accessing your
NVR/DVR. If you want to do this, the first thing you need to do is make sure you don't forget it, because it
This is a security device and to recover a forgotten password, you will need to
contact us and go through a rather laborious procedure.
Password must contain at least 8 characters with a letter and a number in between.
You also need to set up your security question answers and a recovery email, which you
will allow you to easily recover your password via email, should you forget it.
If you are not ready to change your password you can press EXIT



FINISHED!

At the end of the wizard your CCTV system is already working. Later in the manual you will find other basic configurations. In the configuration manual you will find all the options of the advanced configuration menu.

Connect the NVR to your network

To be able to connect to the surveillance system via PC or mobile phones or to manage IP cameras installed on the network you need to connect the DVR/NVR to your network. To do this use a network cable and connect**the external NETWORK port,**which depending on the model is indicated as **NET, LAN or WAN,**to an available port on your router or switch. Check that the port LEDs are on turn on, this means that the hardware connection is correct.

If your NVR has POE LAN ports for cameras, do not use them to connect external network because it won't work. The external network, to your Internet router, should be connected to the port of external network, which is the only one in your DVR/NVR or in any case separate from the others.

Check the network parameters of your DVR/NVR

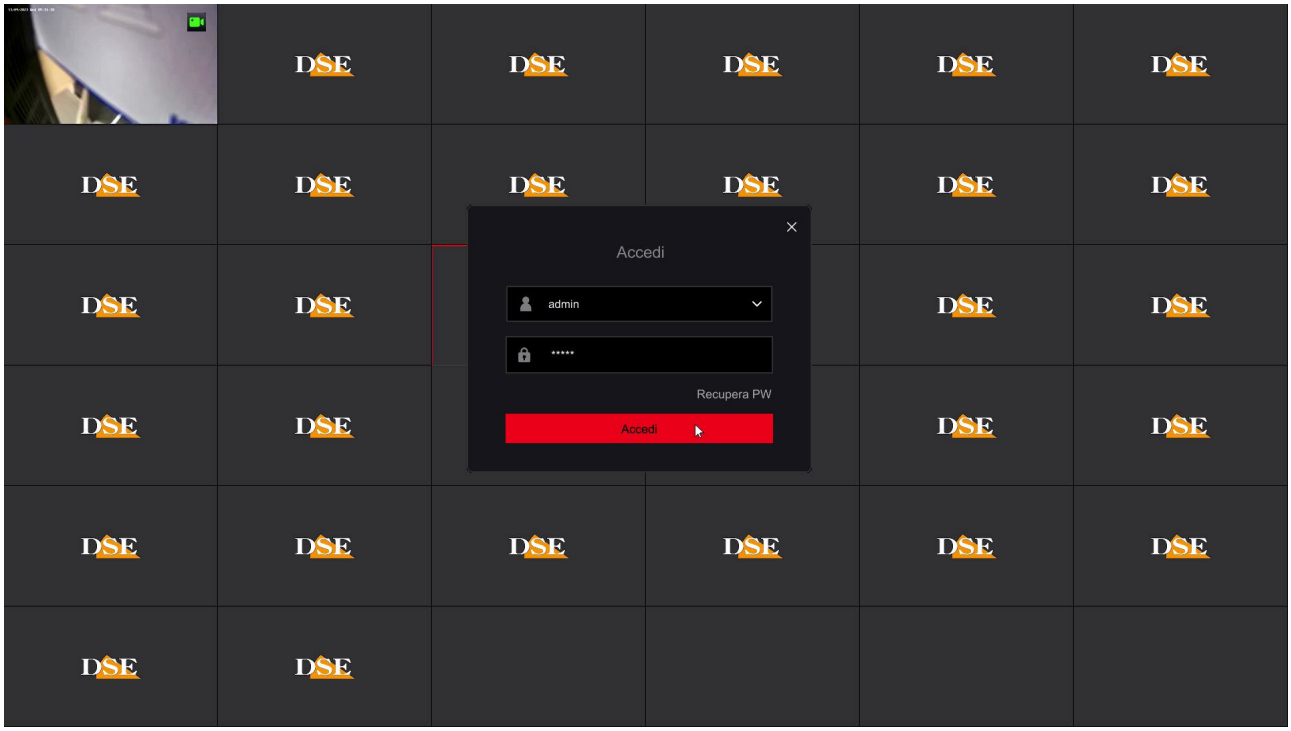
Your DVR/NVR automatically configures itself to the network (DHCP), so it receives data directly address and network configuration from your router. You don't have to worry about entering any parameter.

However, before connecting remotely with PCs and cell phones, it is a good idea to check the network situation.

To do this follow these instructions

1 – ACCESS THE NVR MENU

Right click and log in



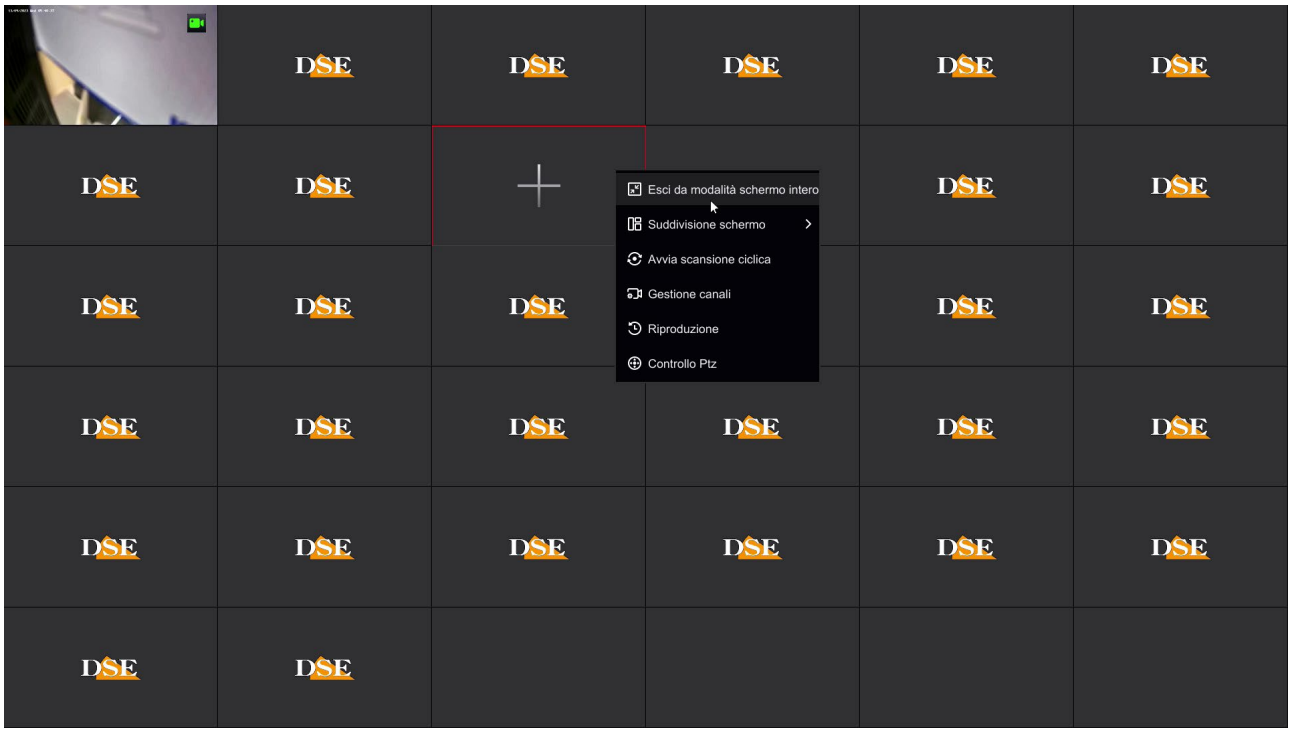
Enter the factory password:

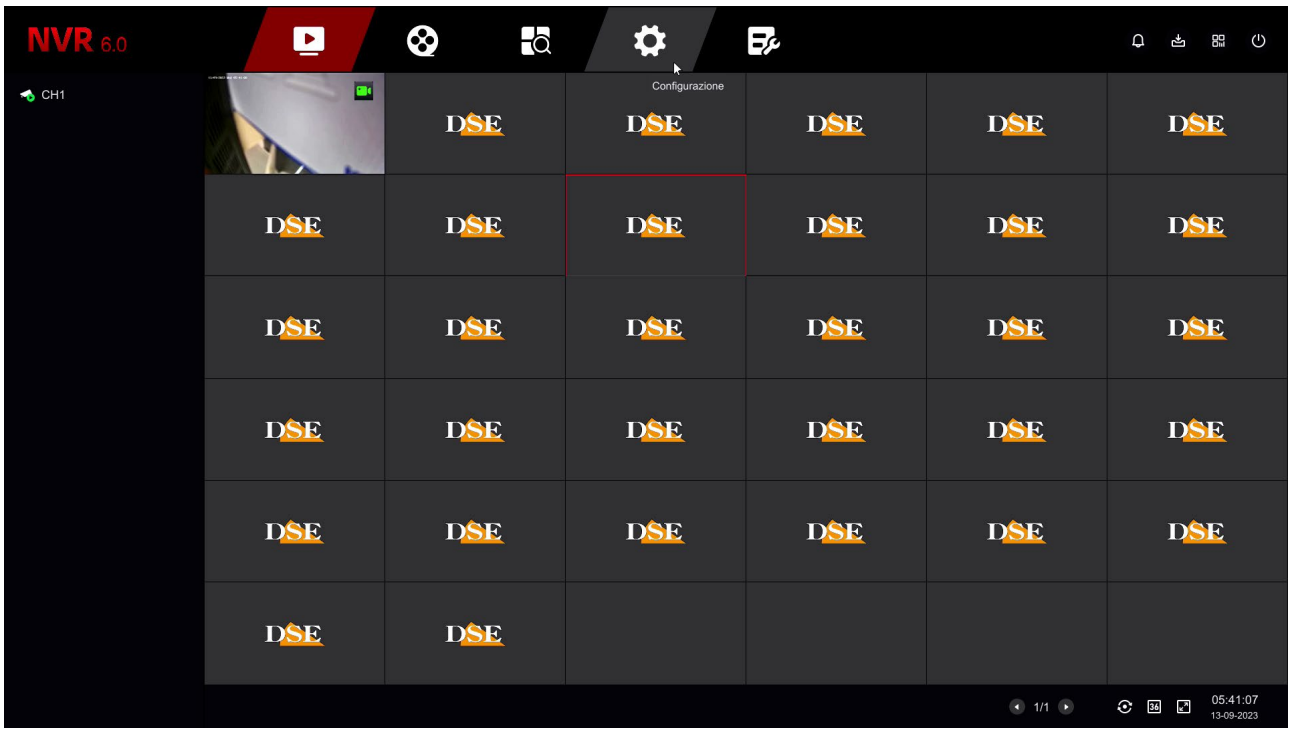
USER: admin
PASSWORD: 12345

Or your new password that you set.

2 – SHOW CONTROL MENU

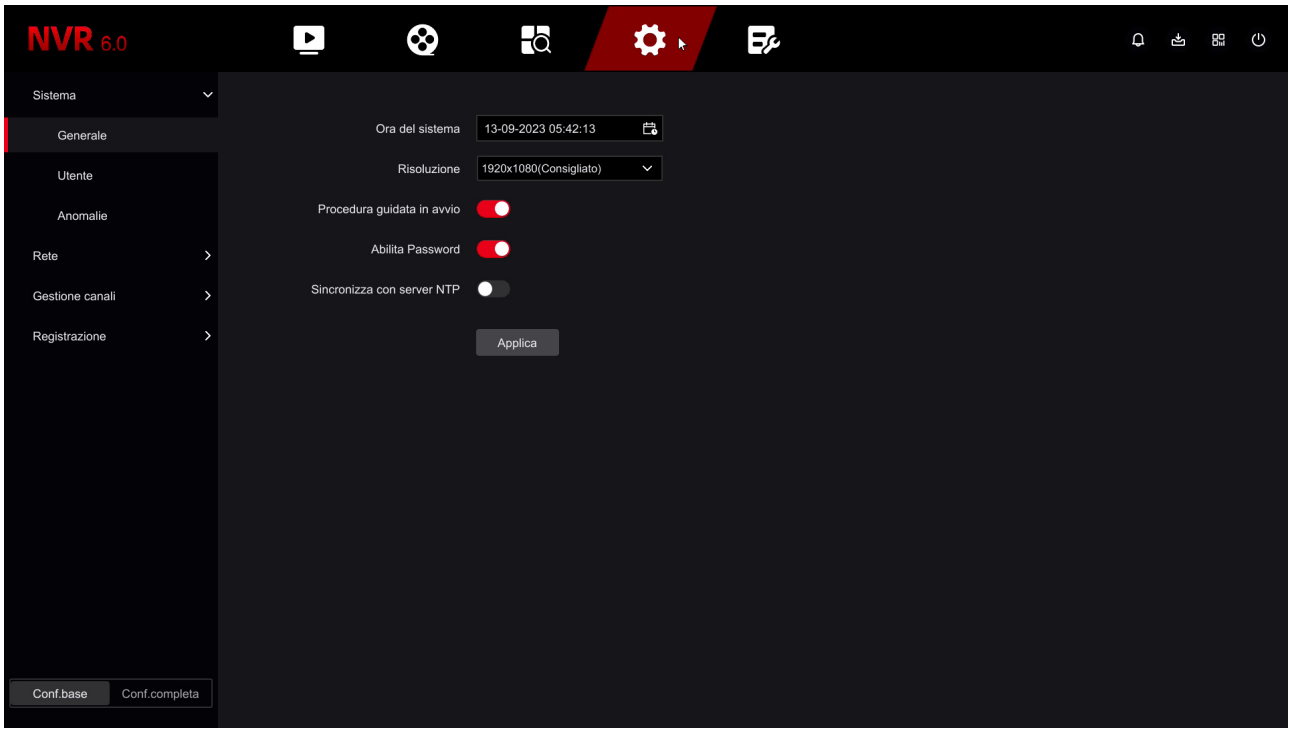
Right-click to exit full-screen mode and show the menu buttons



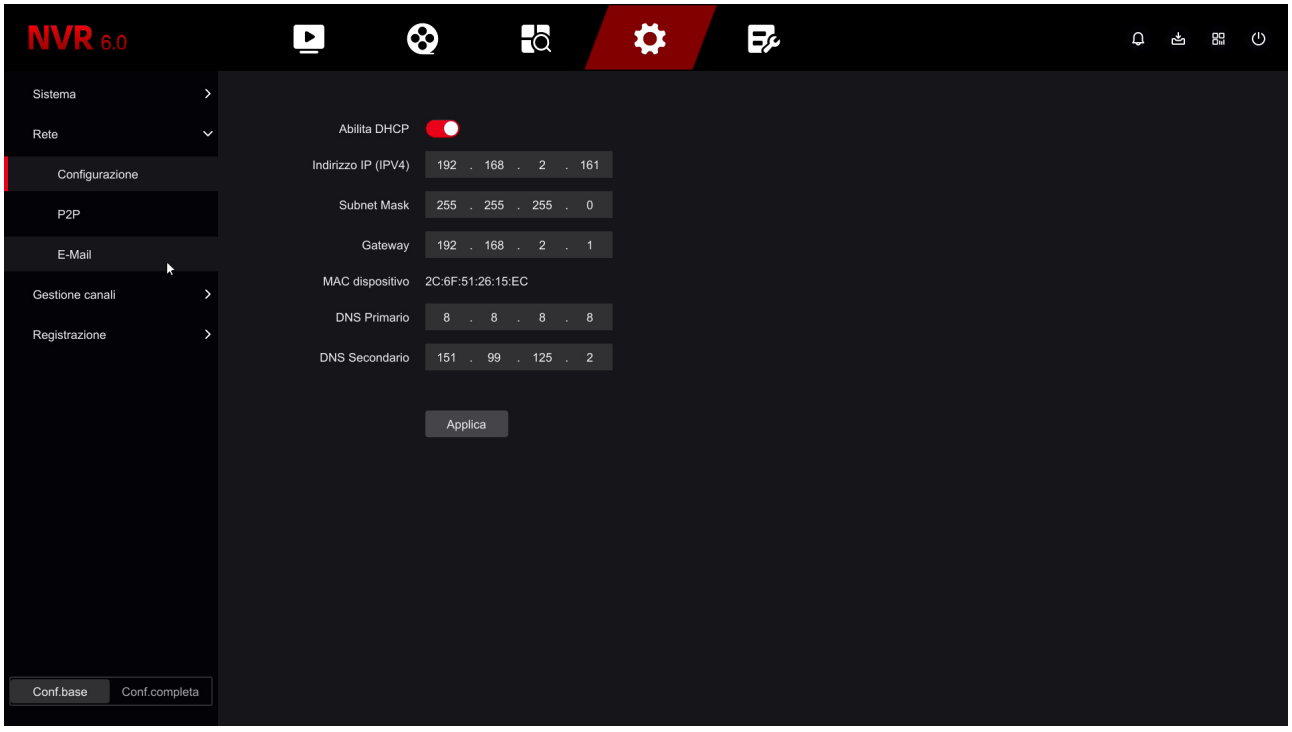


3 – OPEN THE NETWORK WINDOW TO CHECK THE IP ADDRESS

Click the SETTINGS ICON at the top by clicking the gear icon.



Now, in the left menu, choose NETWORK



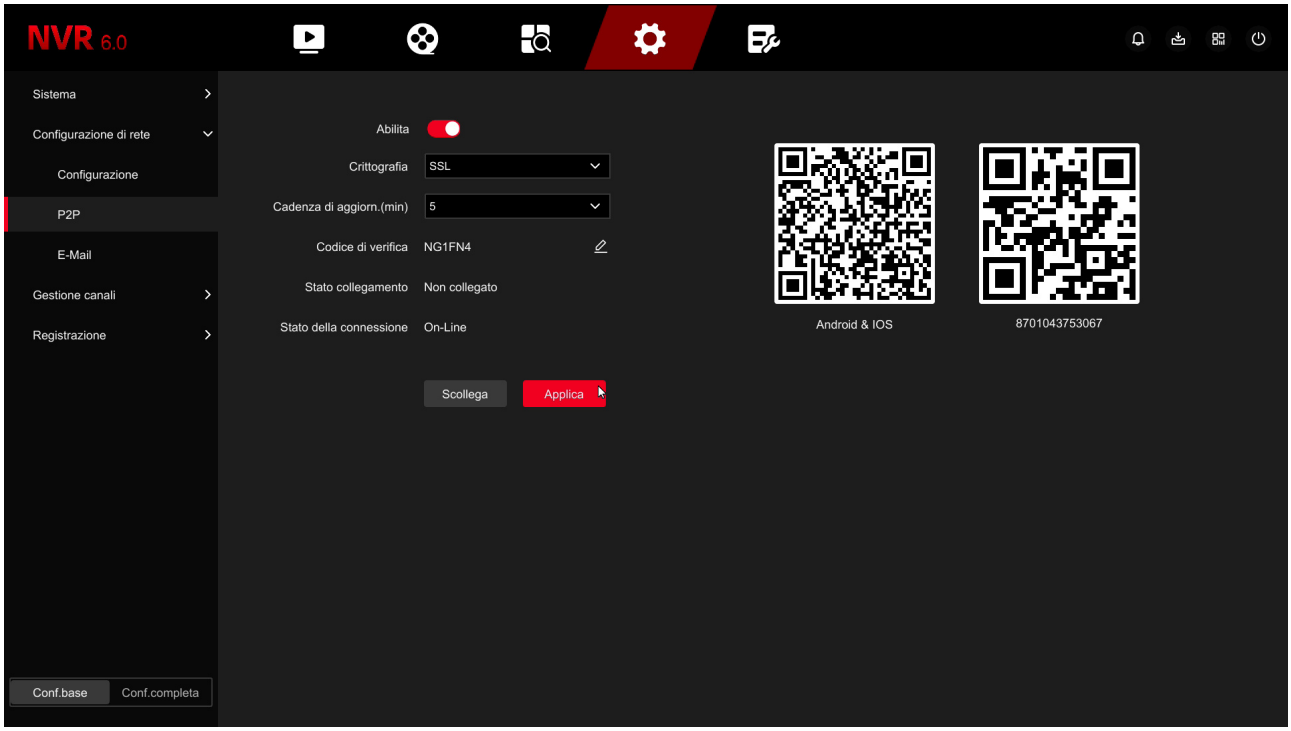
In this window, check that the DHCP checkbox is active and take note of the IP address that your NVR has taken over the network (top line). This will be useful if you want to access to the NVR from within your network, without going through the Internet.

If your network is not connected to a router, or other device that acts as a DHCP server,

you cannot use the DHCP option and you have to set a manual address. This situation is better explained in the configuration manual.

4 – GO TO THE P2P WINDOW TO CHECK THE CONNECTION TO THE SERVER

After checking the IP address of your NVR, still in the NETWORK section, open the folder P2P



On this page you need to enable the P2P function, which is essential to be able to connect easily with our app. After enabling the function, with the selector at the top, wait a few minutes then exit and re-enter this page to check that it**state of the connection to the server is ONLINE**, as in this example above. This means that The NVR is communicating well via the Internet with our P2P cloud server which will allow you to access via the Internet without configurations or static IP. If the status is not ONLINE but OFFLINE Please double check your network configuration because it means your DVR/NVR fails to access the Internet.

The VERIFICATION CODE box is the captcha code that is needed to load the device in our IoVedo.RK app. If you do not enter anything in this box, the captcha code to use in the app it will be the factory one that you find on the product label. If you want you can customize the 6 letter/number captcha code by typing it in this box. If you want the device can be added to the app without requiring the captcha enter the code in this box ABCDEF.

The CONNECTION STATUS shows if the device has already been connected to an account on the app. If

the device appears to be linked to an app account that is not yours, such as the previous one owner, you can disconnect it with the UNCONNECT button to be able to reload it into your account.

Connect analog cameras

If you have purchased a DVR from this range, you will find the BNC ports on the back to connect the cameras. DVRs support all analog video formats available today:

AHD, CVI, TVI up to 8MP and traditional CVBS.

By default, the DVR is programmed to automatically recognize the video format, so

There is no need to configure anything and you just need to connect the rear BNC connector.

ATTENTION: HD-SDI digital cameras, although they use the same BNC connector as analog cameras, they are not compatible.

When you connect a new camera, the DVR will overlay the camera for a few seconds. format and resolution of the camera's video signal. Many analog cameras allow you allow you to change the video format and its resolution by acting on the button on board of the camera.

UTC MENU CONTROL OF ANALOG CAMERAS

The latest AHD, CVI and TVI cameras have an internal configuration menu that

It is usually controlled with the button on the camera.

These DVRs allow you to control the camera's internal OSD menu with your mouse.

DVR thanks to the UTC protocol that passes along the video cable. It is necessary that the camera you support the UTC protocol to use this feature.

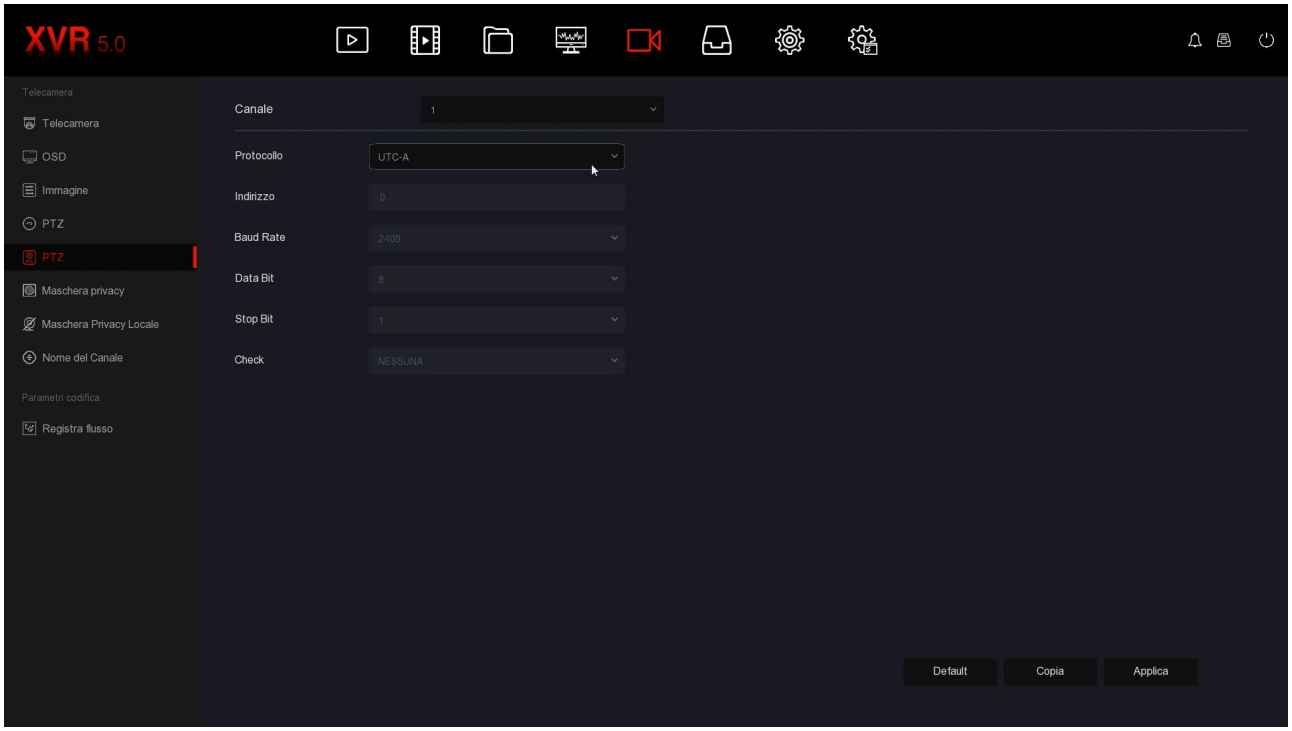
The UTC protocol is a standard that allows you to send commands to the camera along the video cable, without having to arrange additional cables in addition to the traditional video+power cables.

Works on all types of analog video cabling, both coaxial and twisted pair.

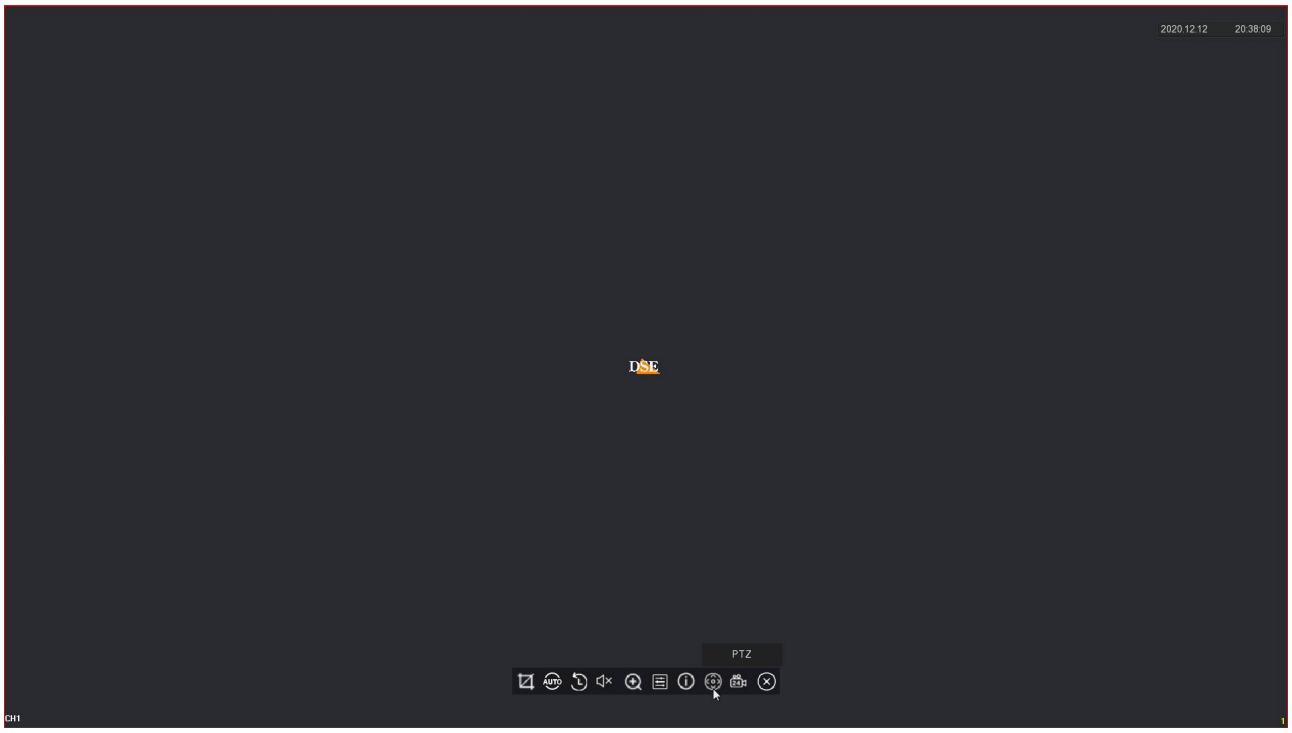
with balun.

To use UTC control you need to enable UTC protocol in the channel PTZ settings.

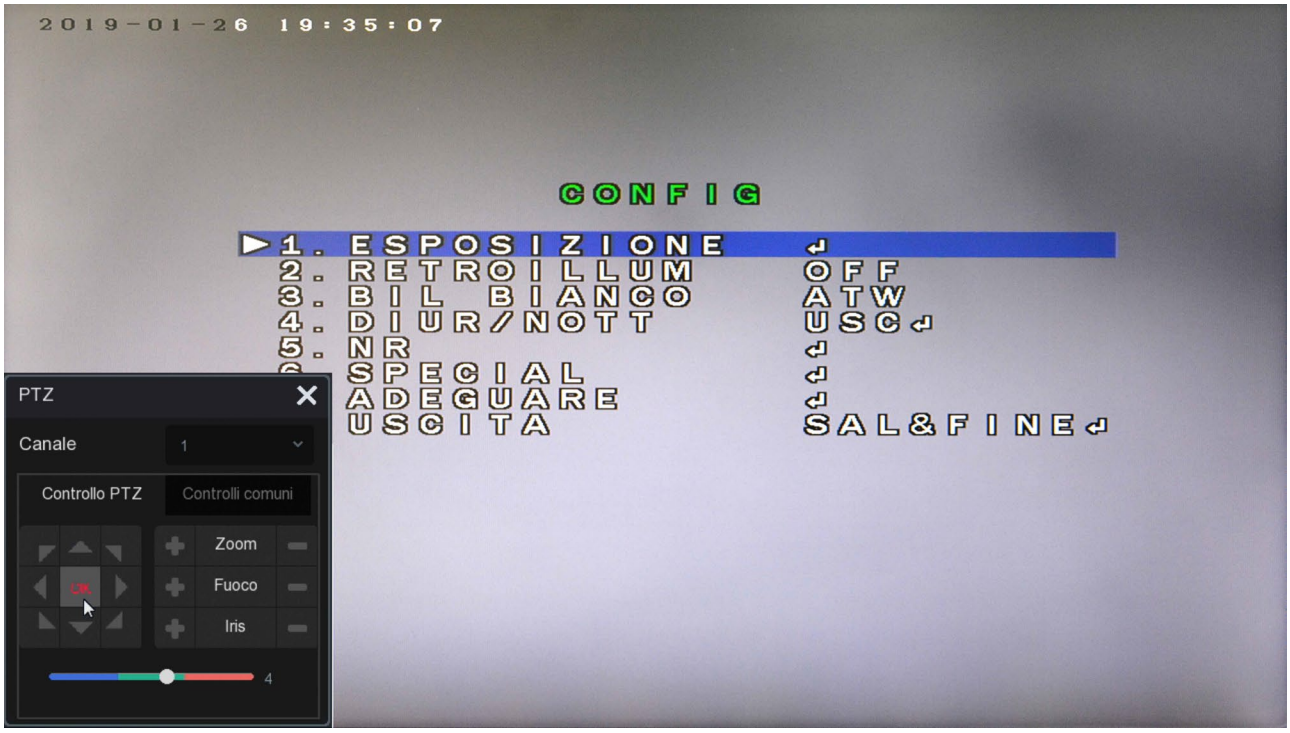
By default this protocol is already set on all channels, so you can just do a simple verify.



To control the camera's OSD menu you need to bring the camera to full screen,
Click to bring up the channel menu and then choose PTZ to open the control panel.
PTZ control.



To open the camera's OSD menu you need to press the central ENTER button in the middle of the arrows.



UTC ZOOM CONTROL IN ANALOG CAMERAS

Many analog cameras are equipped with a motorized lens that is adjusted by acting on the

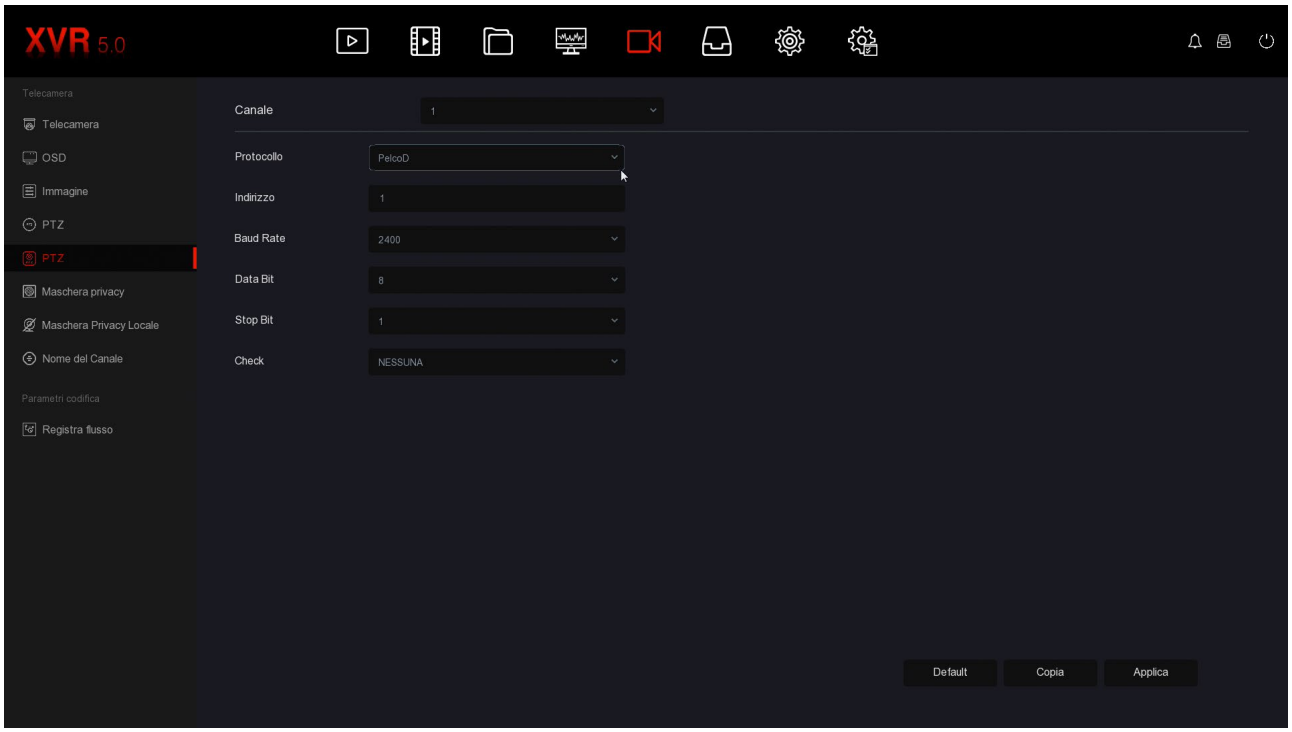
button located on the camera cable. These DVRs also allow you to adjust the
remote zoom, via the UTC protocol, which passes together with the video signal and does not require additional cables. The camera must support UTC zoom control for
to be able to use this function.
The UTC protocol is already enabled on all channels by default, as seen above, so
you don't have to do anything in the settings but just open the PTZ panel and control the zoom with +/- buttons

PTZ CONTROL VIA UTC IN ANALOG CAMERAS

The latest motorized analog cameras in our range accept the command
of movements via the UTC protocol that passes along the video cable. Please note that only
Some analog motorized cameras accept this type of command, others require
an additional RS485 twisted pair.
These DVRs allow you to control the camera movements remotely via the
UTC protocol, which passes along with the video signal and does not require additional cables.
The UTC protocol is already enabled on all channels by default, as seen above, so
you don't have to do anything in the settings but just open the PTZ panel and control the movements with the arrows and the target with the +/- buttons

PTZ CONTROL OF ANALOG CAMERAS VIA RS485

Analog motorized cameras that do not support UTC commands are controlled
via commands sent through the rear RS485 port. These cameras require a
twisted pair control cable in addition to the traditional Video+Power wiring.
First you need to set the communication parameters that allow the DVR to
communicate with the camera. By entering the channel menu and PTZ settings. Our
DVRs support RS485 commands with PelcoD and PelcoP protocols supported by almost all
motorized cameras with transmission speed from 2400 to 921600 baud



CHANNEL – Select the camera input you want to control

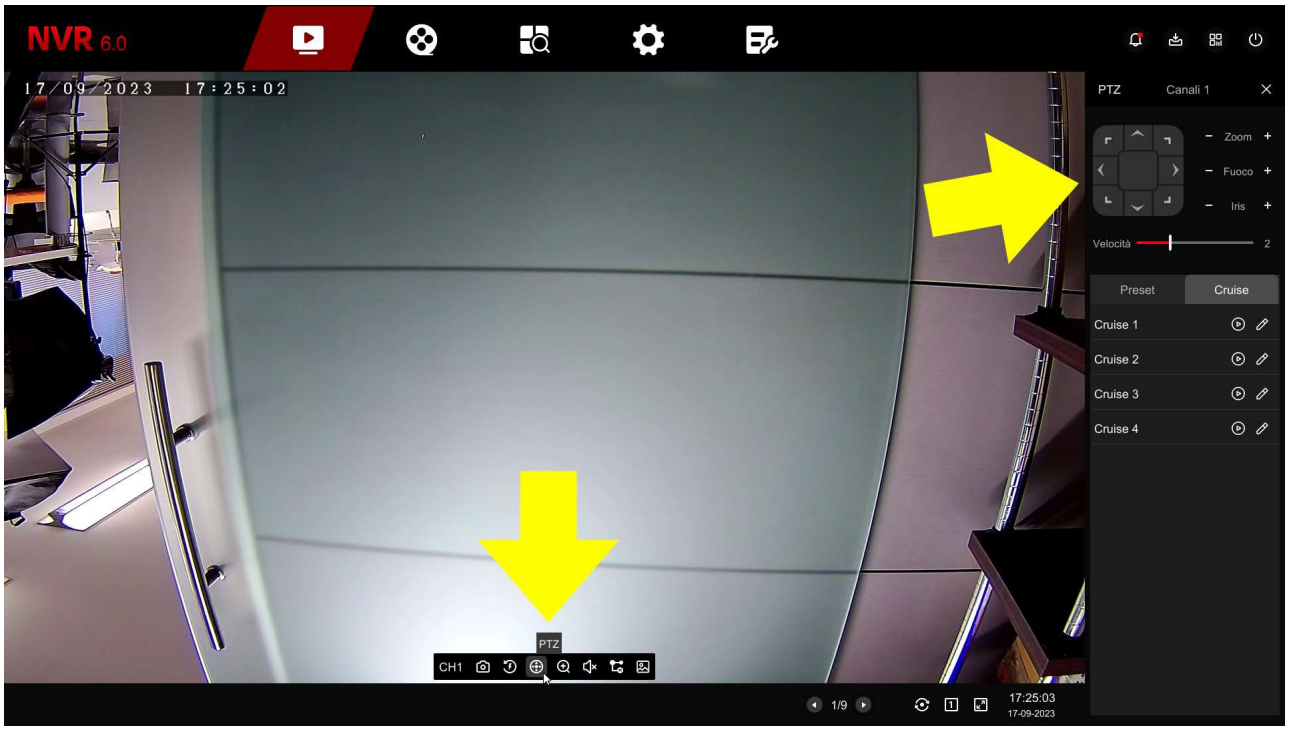
PROTOCOL – Choose PelcoD for all our PTZ cameras. You can also choose PelcoP for cameras from other manufacturers.

ADDRESS – Each camera placed along the RS485 bus must have an ID address from 1 to 255. Normally the cameras have the factory address 1 but you can change it by acting on the camera.

BAUD RATE / DATA BIT / STOP BIT / CHECK PARITY – These are the parameters of communication that the DVR will use to communicate with your camera. The most important is the speed (Baud Rate) that you can choose in the camera. The most common speeds are 2400, 4800, 9600 bps. Check your PTZ camera manual for the parameters to insert. Usually the address and speed in the camera are set with microswitches and are often displayed as an overlay when the camera starts up.

To control the movements of motorized cameras you have to bring the camera to full screen, right click to bring up the command bar, and then click PTZ.

This opens the window for controlling movements on the right.

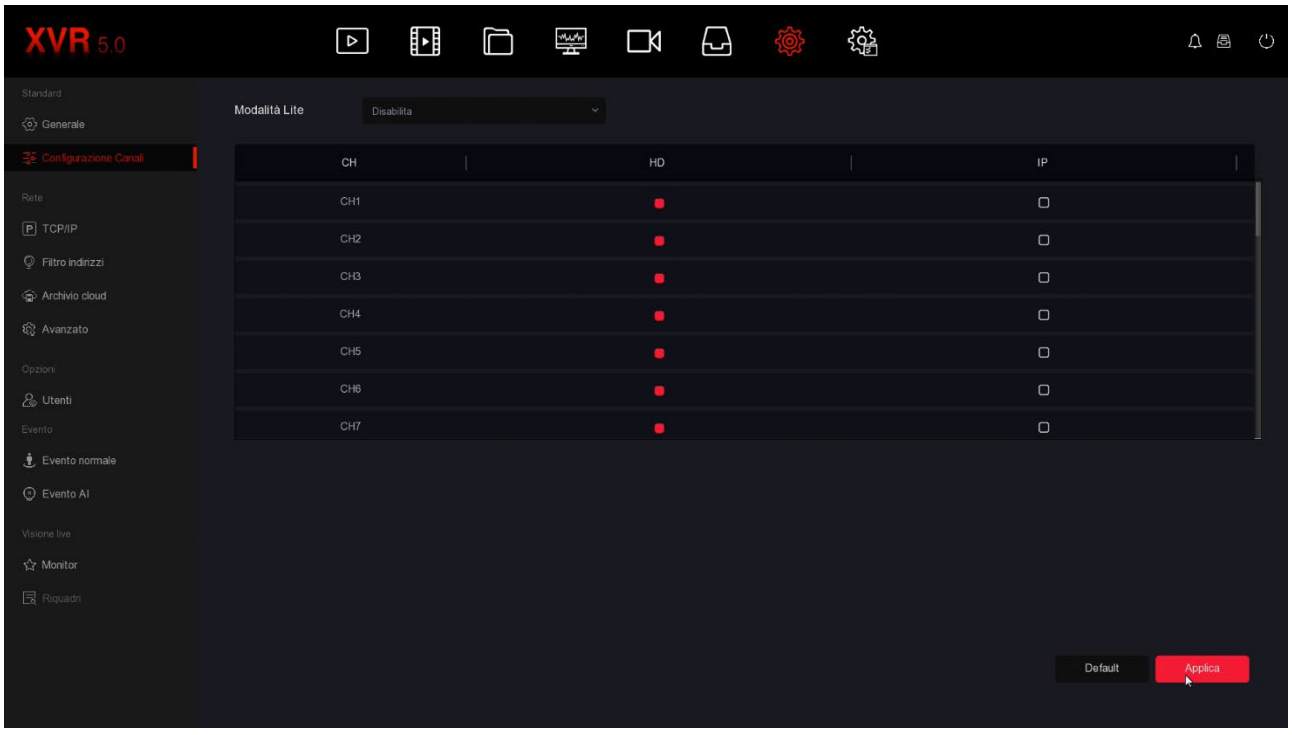


You can rotate the camera with the arrows and control the lens with the Zoom, Focus, buttons. Iris. You can also recall and set preset and cruise automatic movements. The controls of This window is explained in detail in the configuration manual.

Enable IP channels on your DVR

If you have purchased an NVR you can only manage IP cameras that you must have in advance installed on the network, each with its own address.

DVRs with BNC ports can also handle IP cameras in addition to BNC channels. You can also disable BNC channels that you do not use to increase the number of IP channels. To do this you need to click CONFIGURATION ... CHANNEL CONFIGURATION



DVRs come factory-equipped with all analog channels enabled so you can use all rear BNCs. Almost all of our DVRs also allow you to connect additional IP cameras, in addition to analog ones. Also, if you do not use some BNC channels you can disable them in this table and a certain number of IP channels will automatically be enabled.

Obviously if you disable an analog channel, the related BNC can no longer be used.

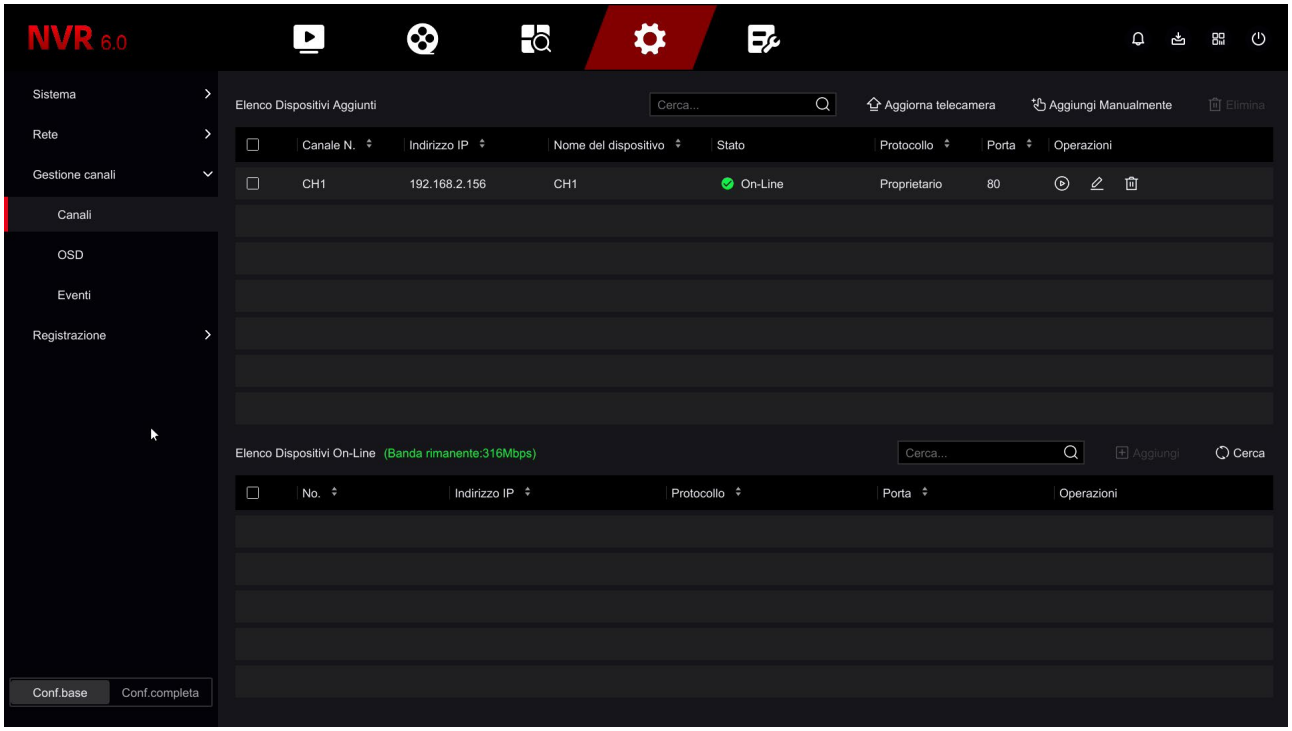
It seems like an obvious clarification, but it is worth remembering because if in the future you connect a BNC camera to that input and you won't see it working, you might think the DVR is breakdown and request a repair unnecessarily.

Connect IP cameras to network

If you have purchased an NVR or DVR you can manage IP cameras connected to your router's network via switch or wifi.

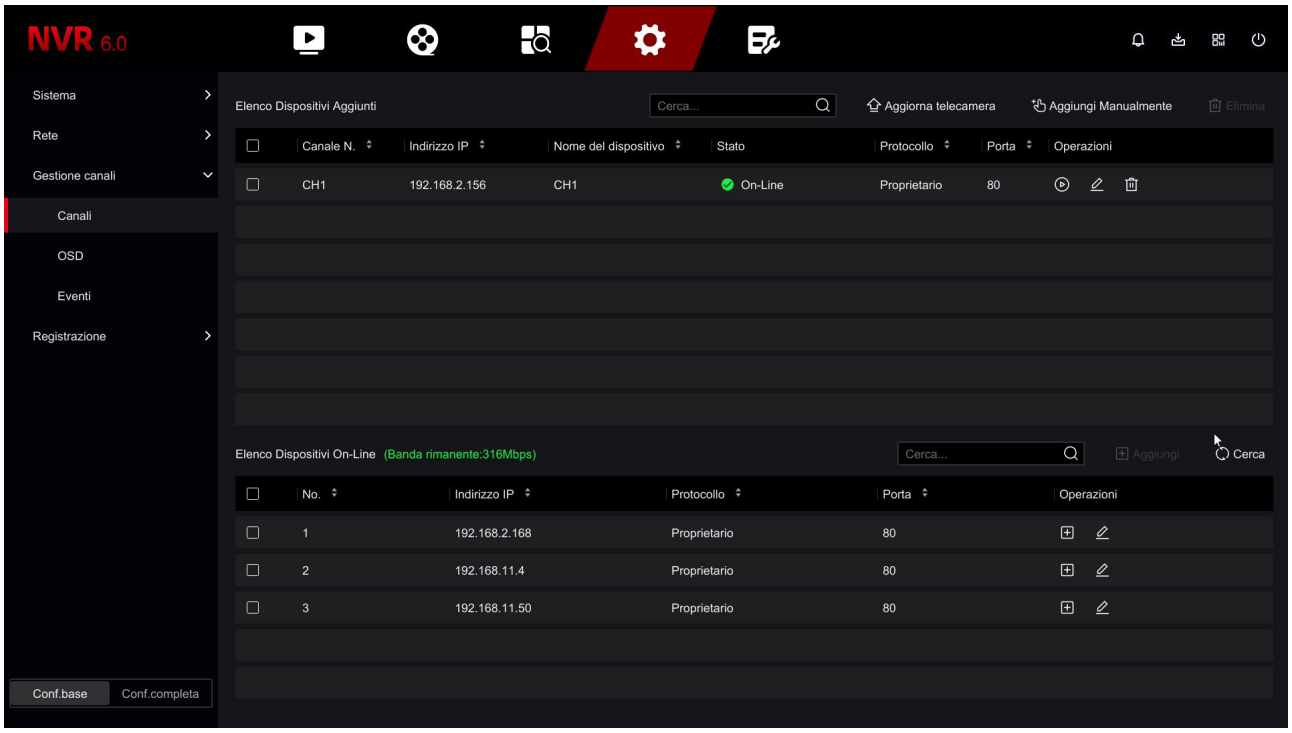
Before adding an IP camera you must have configured it on the network, using the appropriate configuration software, as explained in the camera manual.

To add an IP camera to your DVR/NVR you need to enter the settings menu, as already seen previously, and choose CHANNEL MANAGEMENT

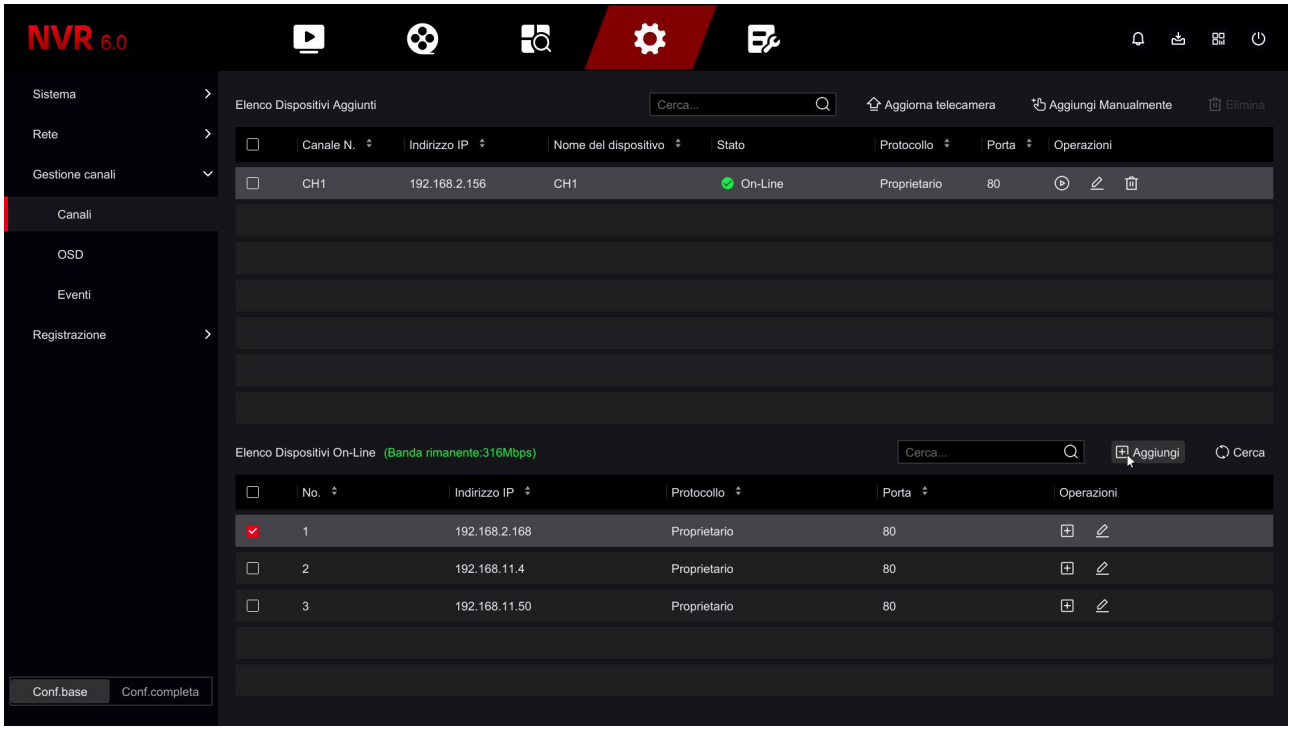


The window consists of a top table showing the devices already added to the NVR and a lower table, where the cameras present on the network appear. You have to click the button SEARCH to search for cameras on the network.

Wait for the search to complete and at the end you will find, in the list in the table below, all DSE cameras and also other brands ONVIF cameras that the DVR/NVR has detected on the LAN network to which it is connected.

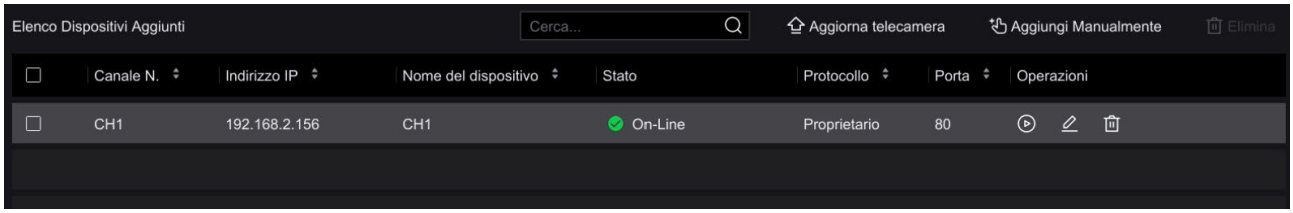


Select the camera you want in the table below and click ADD to insert it into the video recorder.

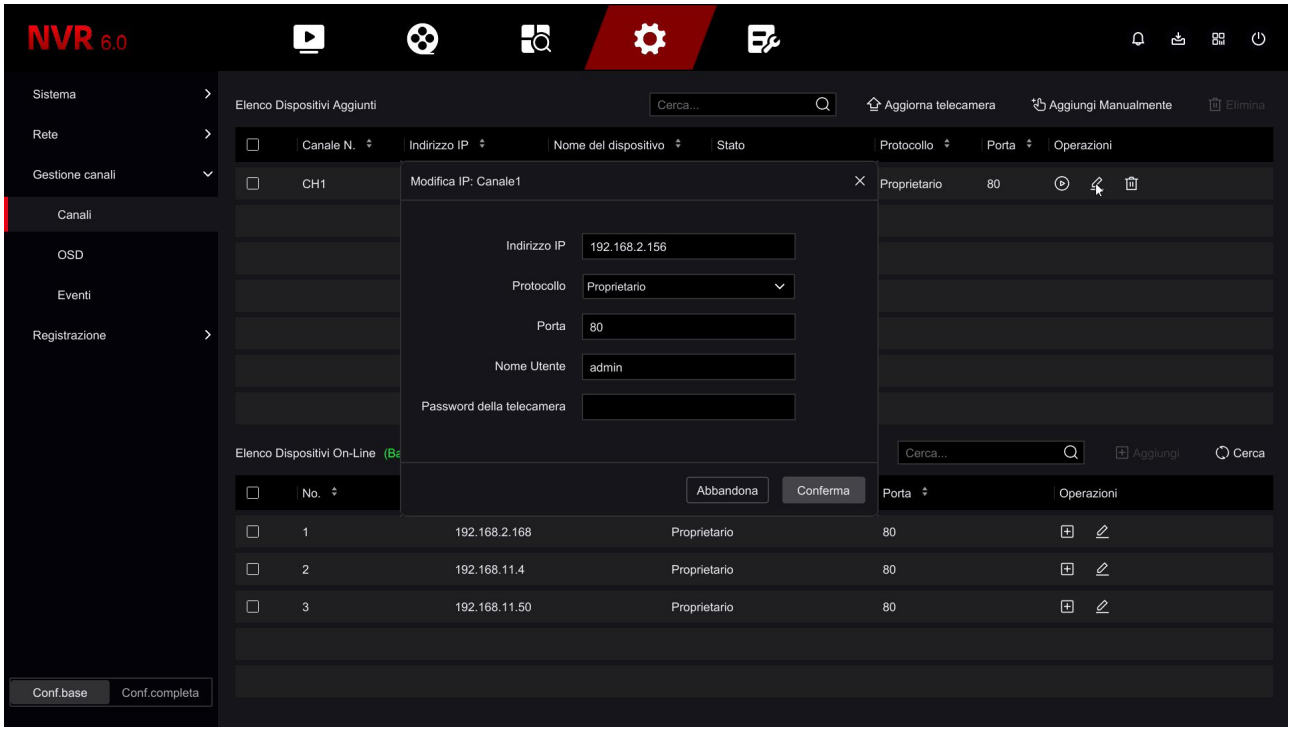


The camera appears in the table above.

Once the camera is added, check that the green ONLINE icon appears, as in the photo below, because this certifies that the connection has taken place.



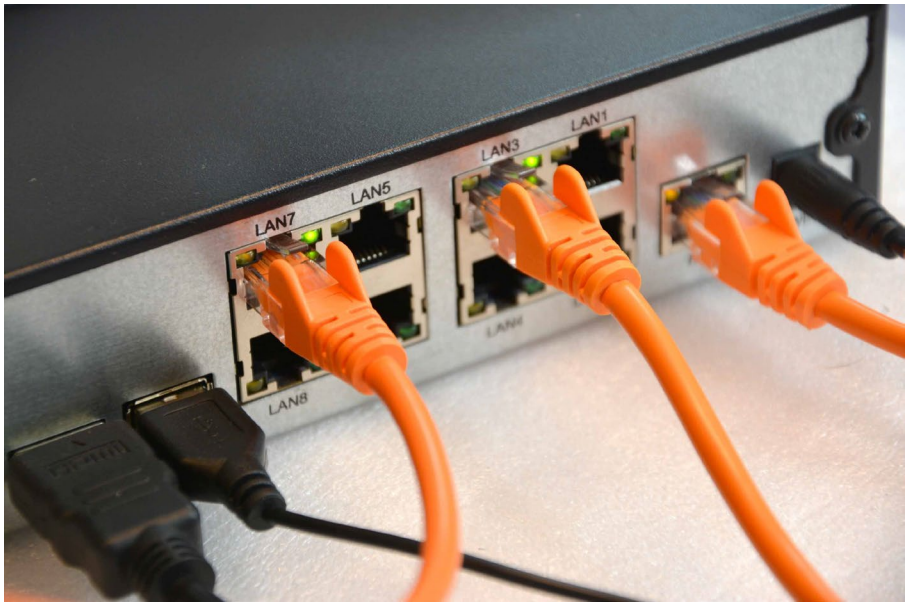
If the STATUS indicator remains in error, there is something wrong because the configuration automatic camera setup failed. You must then click on the button EDIT and change the connection parameters. Start by entering the password of correct access of the camera, then check in the manual the onvif port that yours uses camera.



If the camera does not connect even after checking the password and port, enter the camera setup with browser and check both main stream and substream have the same H264 or H265 compression and try using a different resolution.

Connect IP cameras to the POE ports of the NVR

If you purchased an NVR with integrated POE ports you can connect the IP cameras directly to the LAN ports on the back of the NVR. This is a very simple operation because the NVR configures the camera automatically.



ATTENTION - Unlike other DVRs and NVRs in this range, NVRs with POE ports are supplied with a special power supply that provides**52VDC**. Be careful not to mistake it for error with another of our standard 12VDC power supplies because the POE outputs for the cameras they wouldn't work properly

CONNECT RK SERIES CAMERAS (PLUG&PLAY)

If you connect one of our RK series cameras to the NVR with POE ports, the recognition is totally plug&play. You can take the new IP camera out of the box and connect it directly to a LAN port of the NVR without doing any preliminary configuration. The NVR provides automatically assign the address to the camera and correctly configure the network settings. Wait about a minute and you will see the camera image appear on the monitor, in the box corresponding to the POE port in which you inserted it.

CHECK THE NVR POE PORT CONFIGURATION

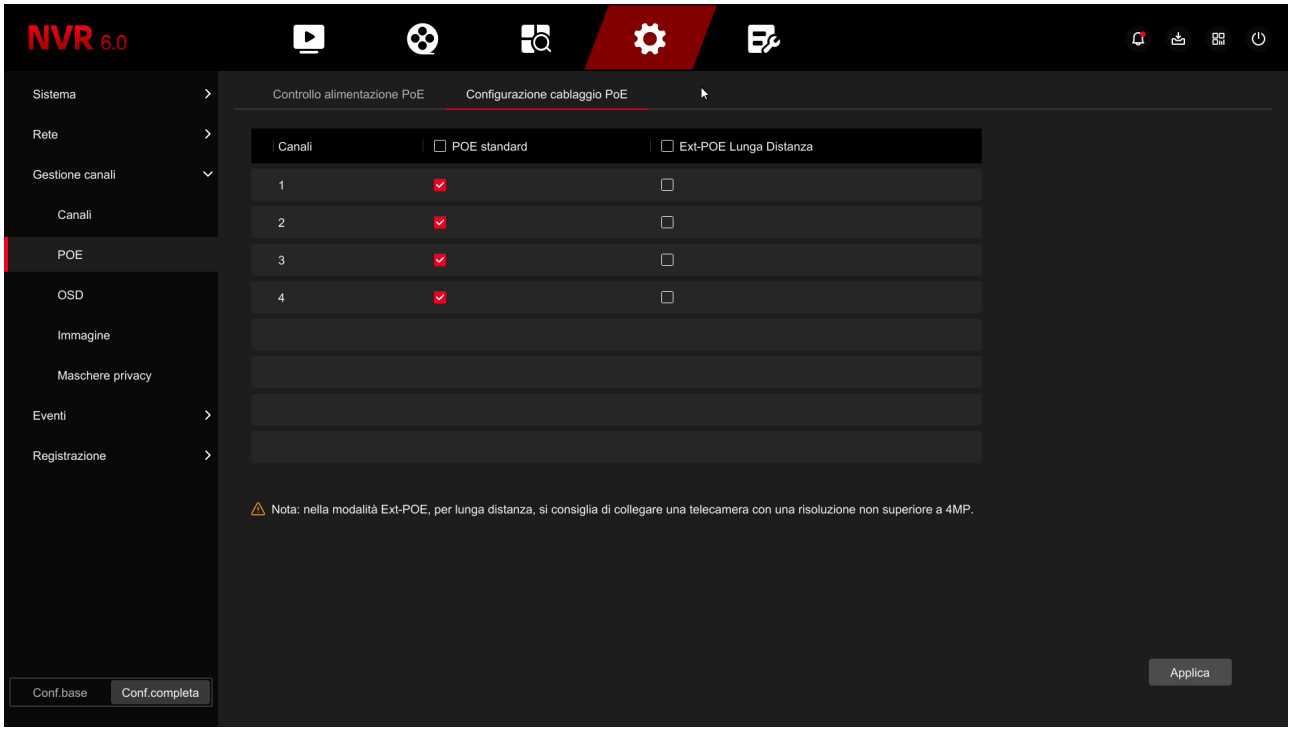
In video recorders with 4, 8 or 16 PoE ports, channels 1-4, 1-8 or 1-16, depending on the model, are factory-paired with the rear POE ports of the NVR to auto-configure the cameras

RK series that will be connected.

If you do not use some POE ports of the NVR, for example because you connect the cameras to your network

Instead of the NVR, you can untie some channels from the rear POE ports by intervening in this

CHANNEL MANAGEMENT/POE configuration page



In this example above we see the factory setting of an NVR with 4 POE ports.

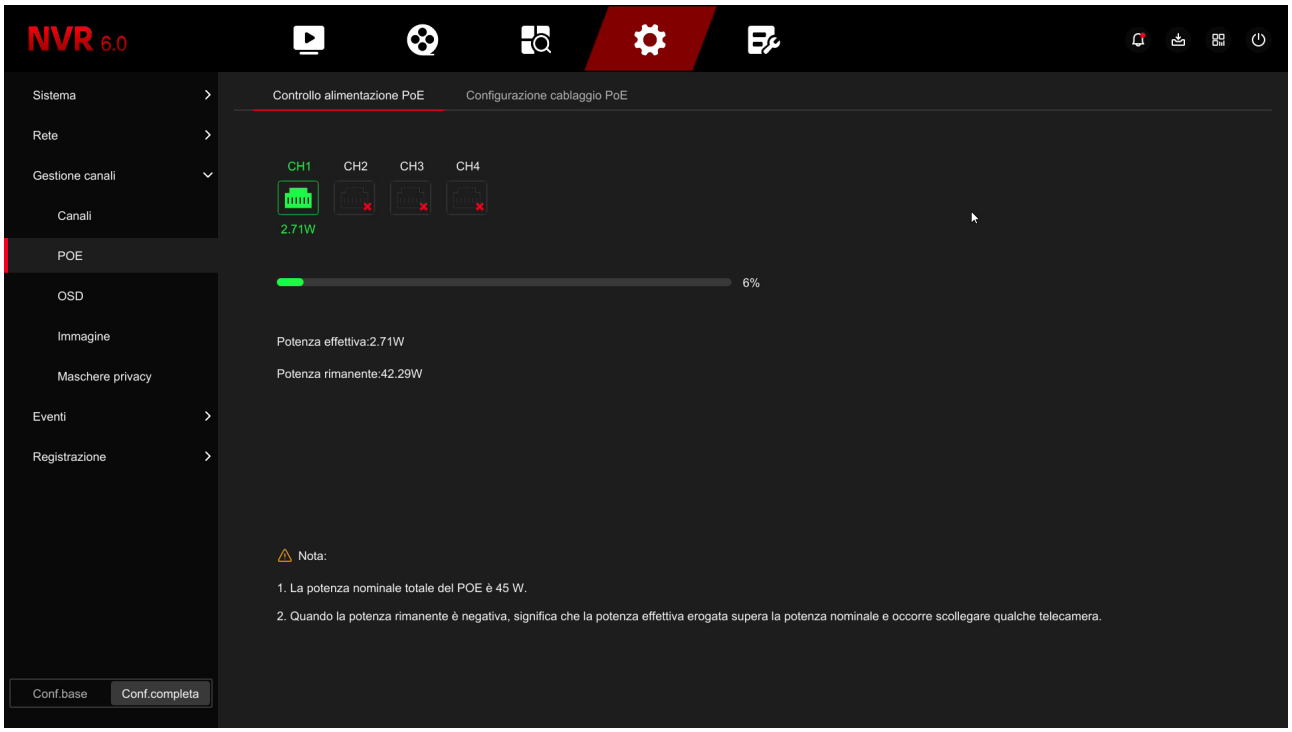
channels 1,2,3,4 are connected, with the red tick, to the rear POE ports for which it is expected standard POE wiring (max distance 100 meters). If, for example, you do not use the POE 3 ports and 4 you can uncheck the box next to these channels. So channels 3 and 4 will be free to be used with external cameras.

In this table you can also set one or more POE ports for use with wired **EXTENDED POE**, up to 250 m. The Extended POE mode allows you to reach 250 m of cabling, limiting the maximum channel bandwidth to 10 MB.

CHECK THE STATUS OF THE NVR POE PORTS

In video recorders with PoE ports you can check the power supplied situation for each

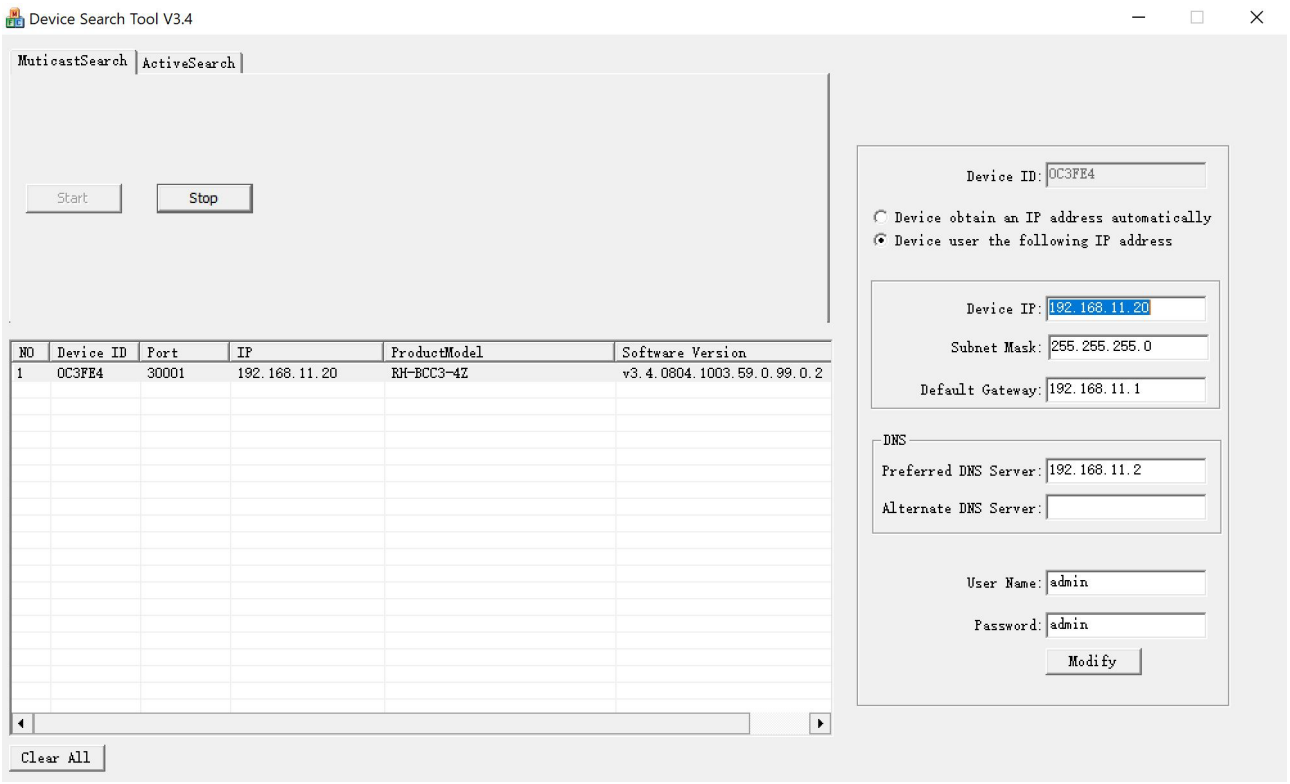
brings you to this page in real time



CONNECT ONVIF CAMERAS

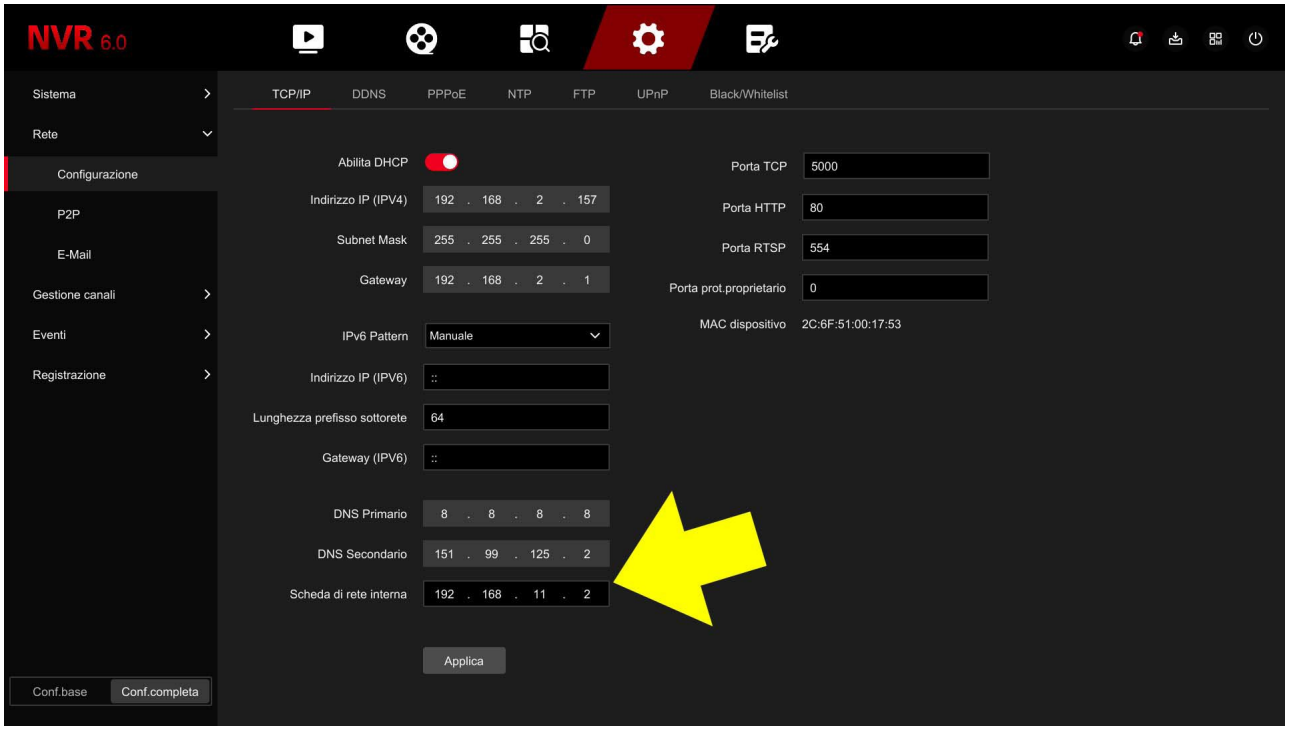
If you connect a camera of a different range than our RK series to the POE ports of the NVR, or an onvif camera of another brand, you must first configure it manually because the auto-configuration mode**Plug and play only works with our Series cameras RK**. Connect the camera to your external network and use the camera setup program camera to assign a fixed IP address like 192.168.11.---, for example 192.168.11.20.

192.168.11.--- is the address class that the factory NVR uses to manage its internal network. Enter the other network parameters as in the example below, where we use our own RH Series camera.

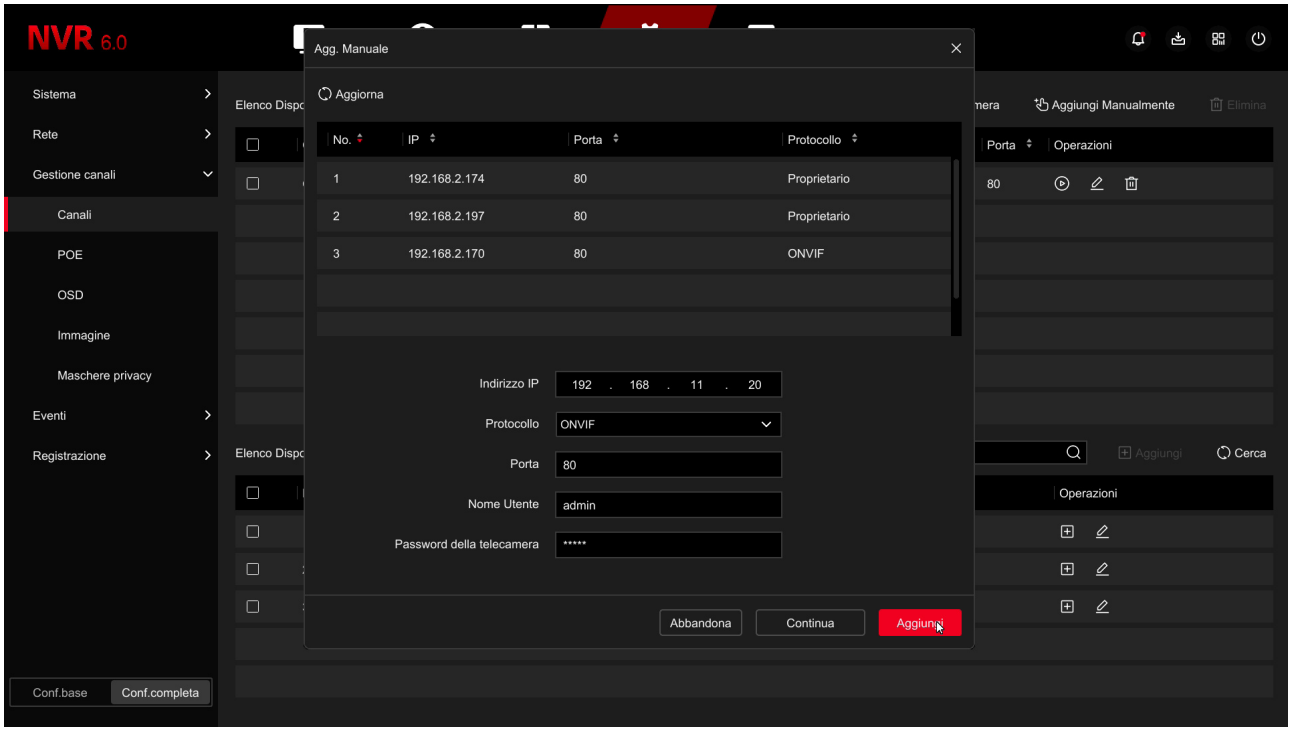


NVRs use this class 192.168.11.xxx to address cameras connected to its network.

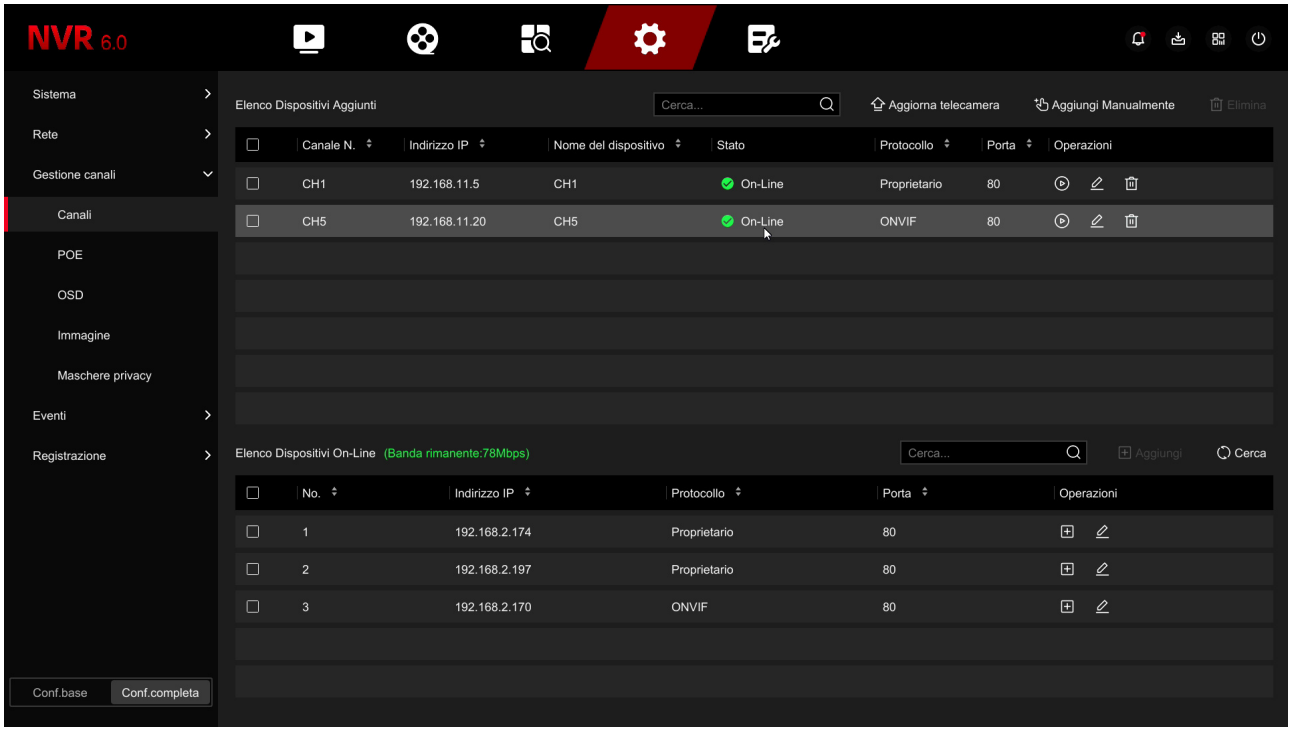
There is no particular reason to change this class, but if you want to do so you can do it in the NVR network configuration



Once you have assigned the IP to the camera, connect the camera to a POE port of the NVR, open CHANNEL MANAGEMENT and click the ADD MANUALLY button, entering the correct parameters connecting to the camera, as in the following example



Below you see the final situation of a RK camera connected in plug and play with protocol owner and a camera from other manufacturers connected with onvif protocol manually



Connect WiFi IP Cameras to WiFi NVRs

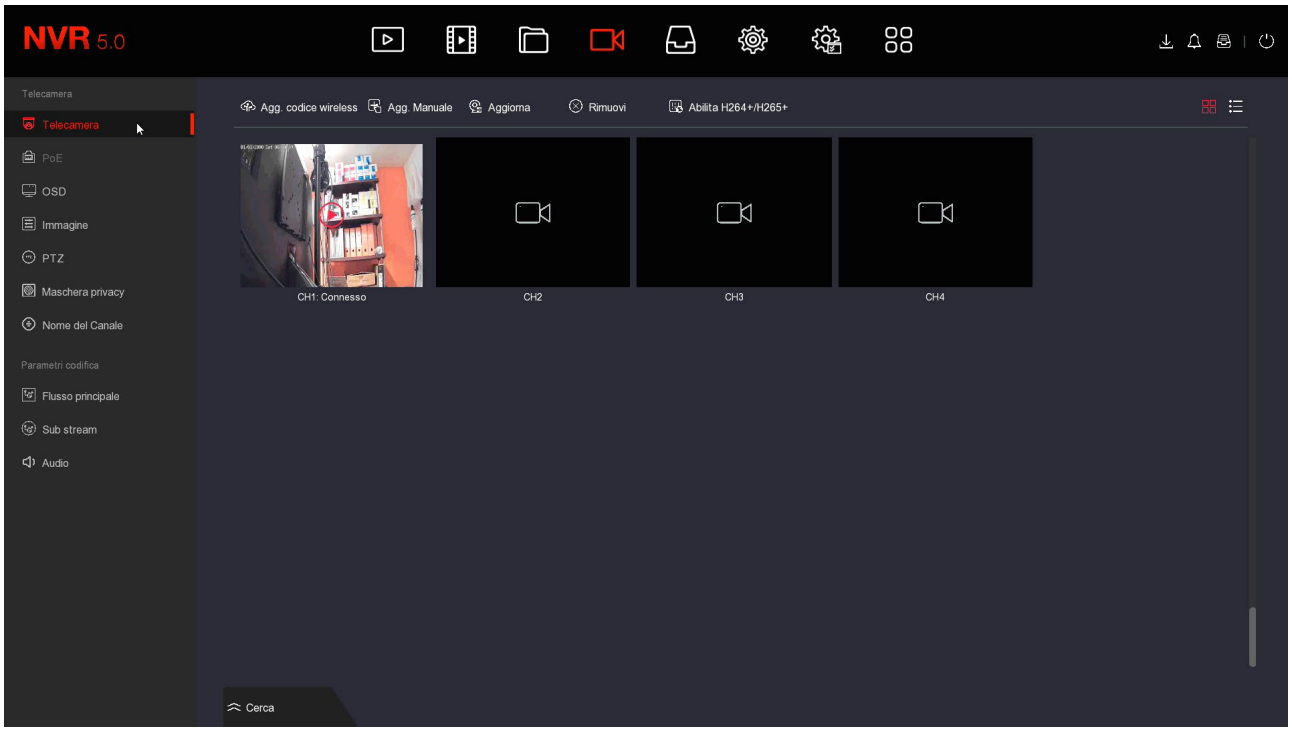
If you purchased an NVR with integrated wifi you can connect wifi cameras directly to the network NVR wifi without using your external wifi network.
Connecting wifi cameras is very simple and Plug&Play if you buy one of our cameras wifi RK or RKK series. If you want to connect a different type of onvif wifi camera you will have to proceed with manual configuration.

ADD A RKK SERIES CAMERA - WITHOUT A MAINS OUTLET

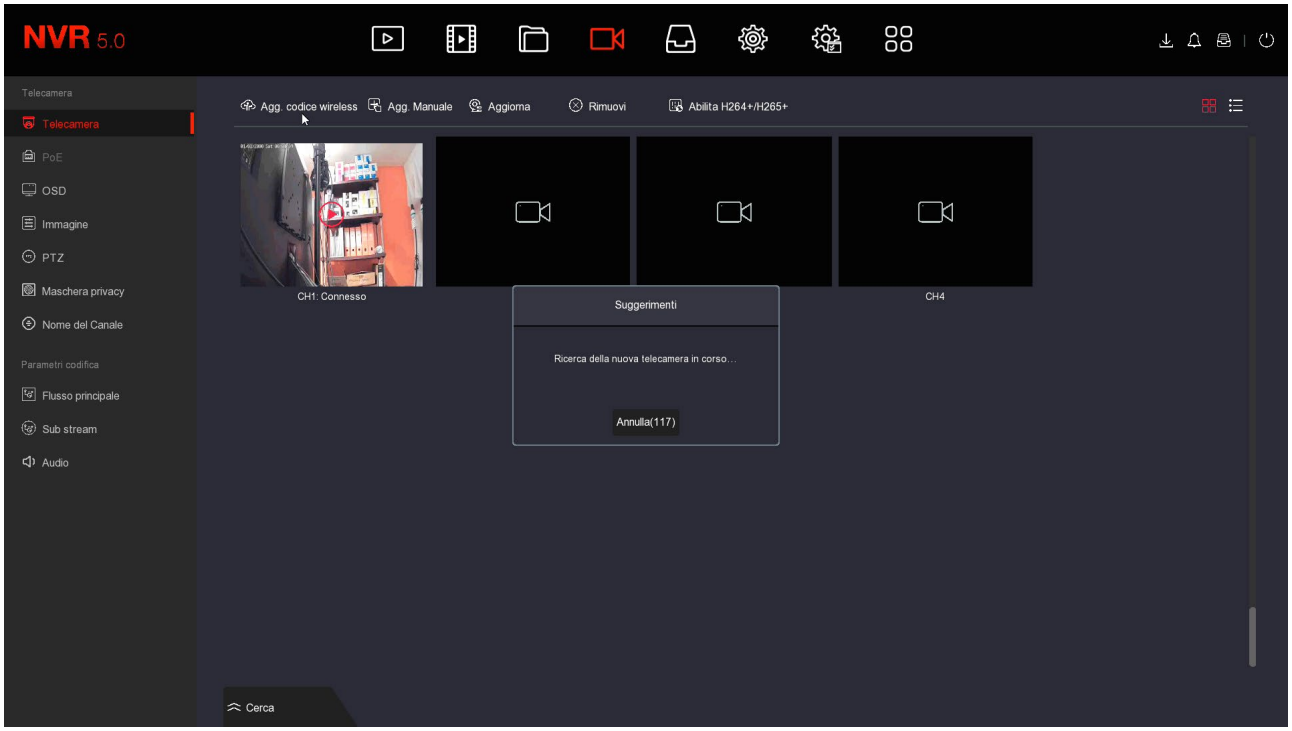
RKK cameras can only work with our WIFI NVRs and do not come with the network socket, but of a pairing button.

1 – Power the new camera with its power supply

2 – Open the NVR MENU and access the CAMERAS section
In this example we are dealing with a system with 2 cameras to which we want to add one third.



3 - Press the ADD WIRELESS CODE button to start searching for the camera from pair. A window opens with a 120-second timer.



4 – Before the 120 seconds expire, press the button located between the connections of the camera, next to the power connector. Press and hold for 10 seconds until when the camera LEDs start flashing.

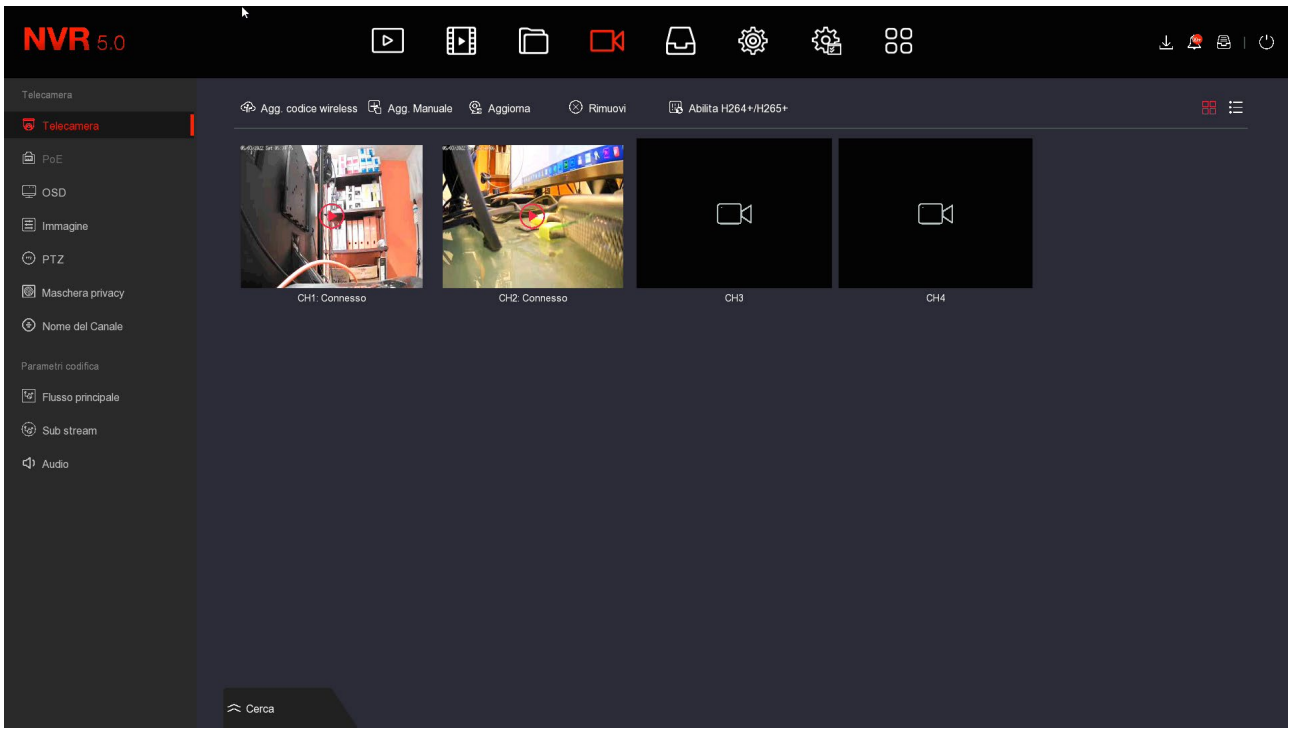
DONE – Wait for the automatic pairing to complete. The camera is now connected to the NVR and you can use it in wifi like the others.

CONNECT A RK SERIES WIFI CAMERA WITH NETWORK PORT

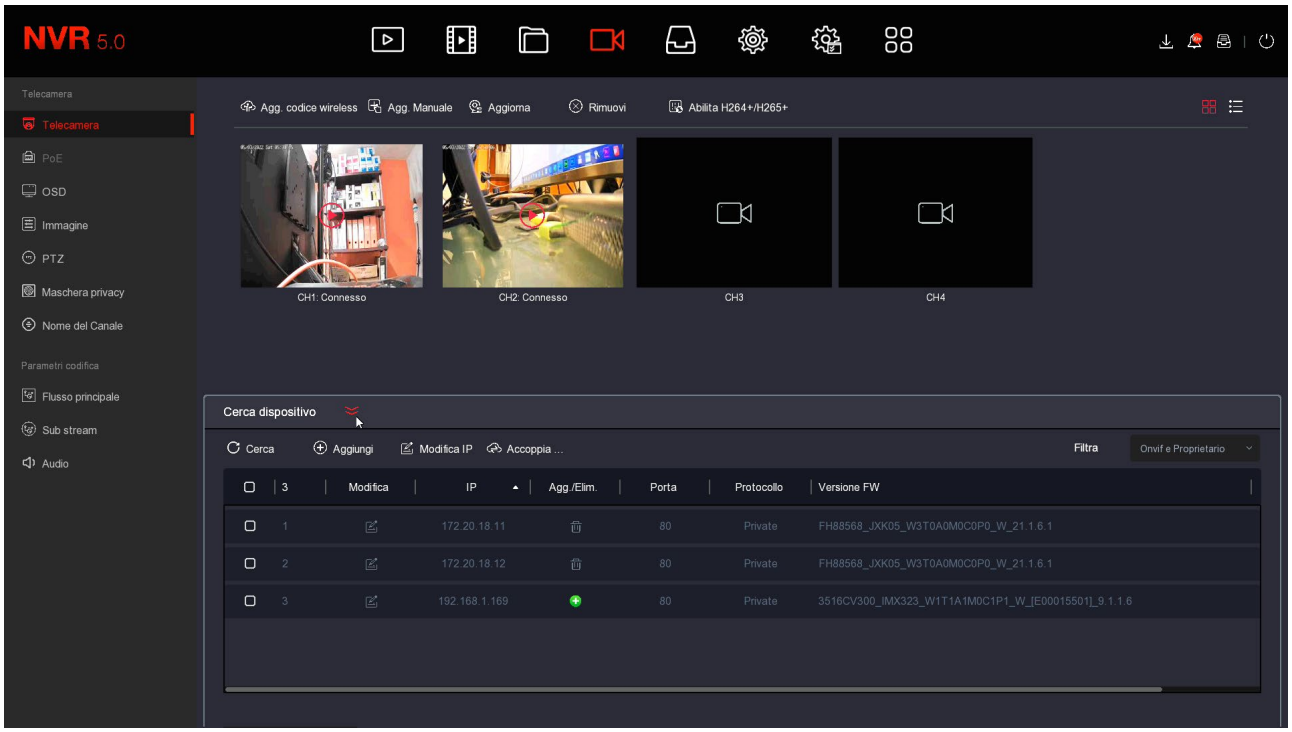
If you connect one of our standard RK series cameras, equipped with a network port, to the wifi NVR, Pairing to the wifi NVR is done by initially connecting the camera to the NVR via cable.
The recognition is totally plug&play. You can take the new IP camera out of the box and connect it directly by following these instructions.

1 – Power the new camera with its power supply and connect it with a network cable to a rear network port of the NVR. If your NVR only has one WAN network port, connect the new camera, temporarily disconnecting the external network or router.
If your NVR has a WAN network port and other LAN ports, connect the new camera to one any free door.

2 – Open the NVR MENU and access the CAMERAS section
In this example, it is a system with 2 cameras connected and functioning to which we want to add a third one.

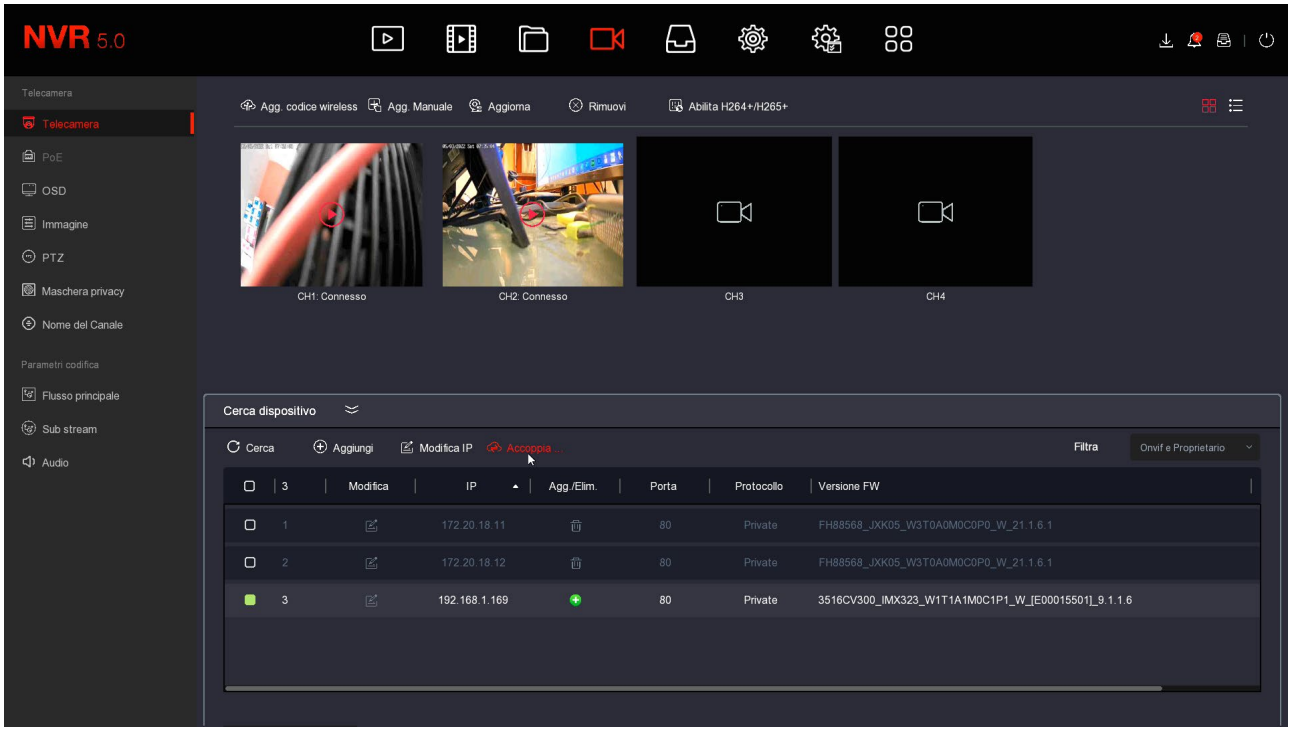


3 - Press the SEARCH button at the bottom of the window to start searching for the camera



In the FILTER box, top right, leave the basic setting ONVIF AND OWNER.
The NVR searches for RK cameras and will find, in addition to any WiFi cameras,
already installed, even the new one you connected with the cable. Probably this new one
camera will have a completely different address than those already installed, but not
don't worry; the NVR will configure the camera automatically.

4 – Select the new camera and then click the PAIR button. Wait for the complete pairing and close the window by right-clicking.



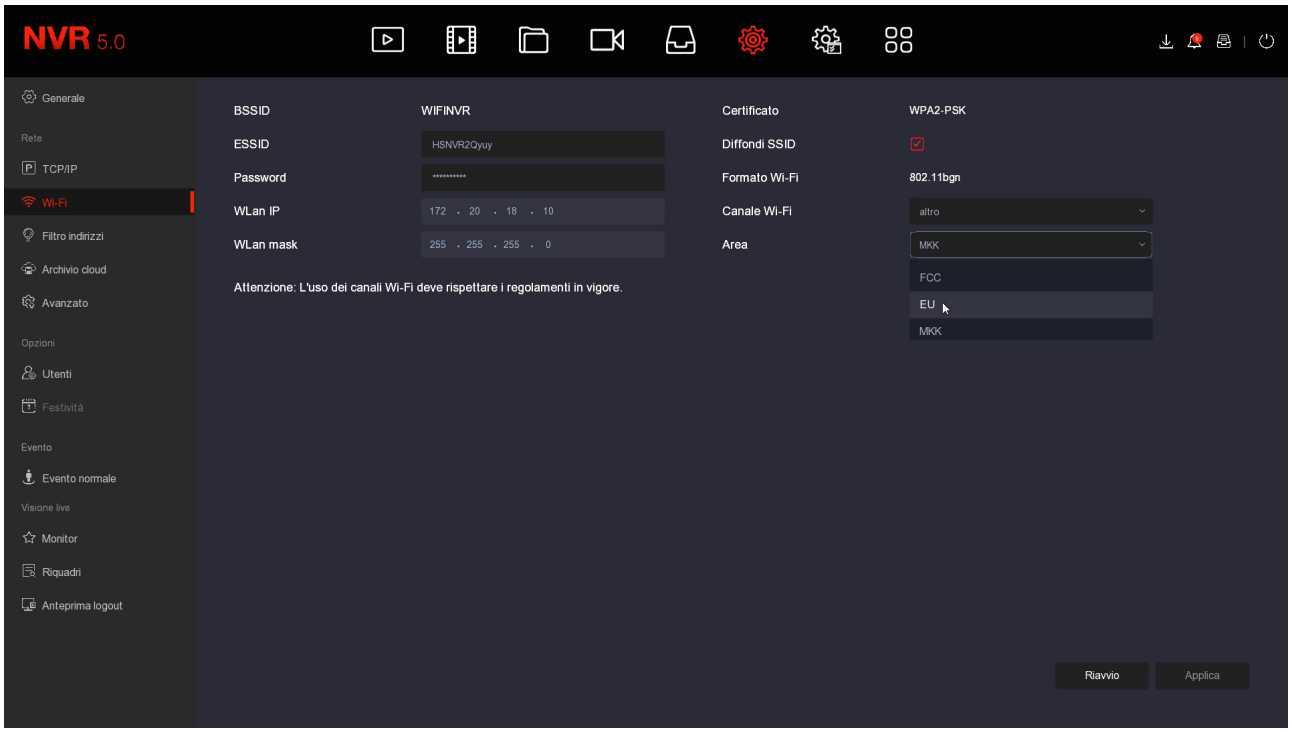
DONE – Now you can disconnect the network cable between the camera and the NVR and use the camera in WiFi like the others.

CONNECT ONVIF WIFI CAMERAS

If you want to connect an onvif wifi camera that is not part of our RK series to a wifi NVR, for example one of our PTZ wifi cameras, or a wifi camera from another manufacturer, you can do this by following the camera's instructions to connect the camera to a wifi network. Typically These instructions tell you how to connect the camera to your home wifi network, but you can do the same by connecting to the NVR's wifi network instead.

Before you can proceed, however, you must carry out some preliminary configurations in the NVR to make the wifi network he generates visible to the outside world.

1 – Enter the NVR menu SYSTEM CONFIGURATION - WIFI section. In this window move the wifi network reference area from MKK to EU. Then press confirm and reboot the NVR. Now The NVR's wifi network will also be visible to external devices. You can try to search for wifi networks with your smartphone to make sure this new network is present.



2 – Connect the camera to the NVR's wifi network following the camera's instructions. Typically you will have to enter the camera configuration from the computer and act in the configuration wifi.

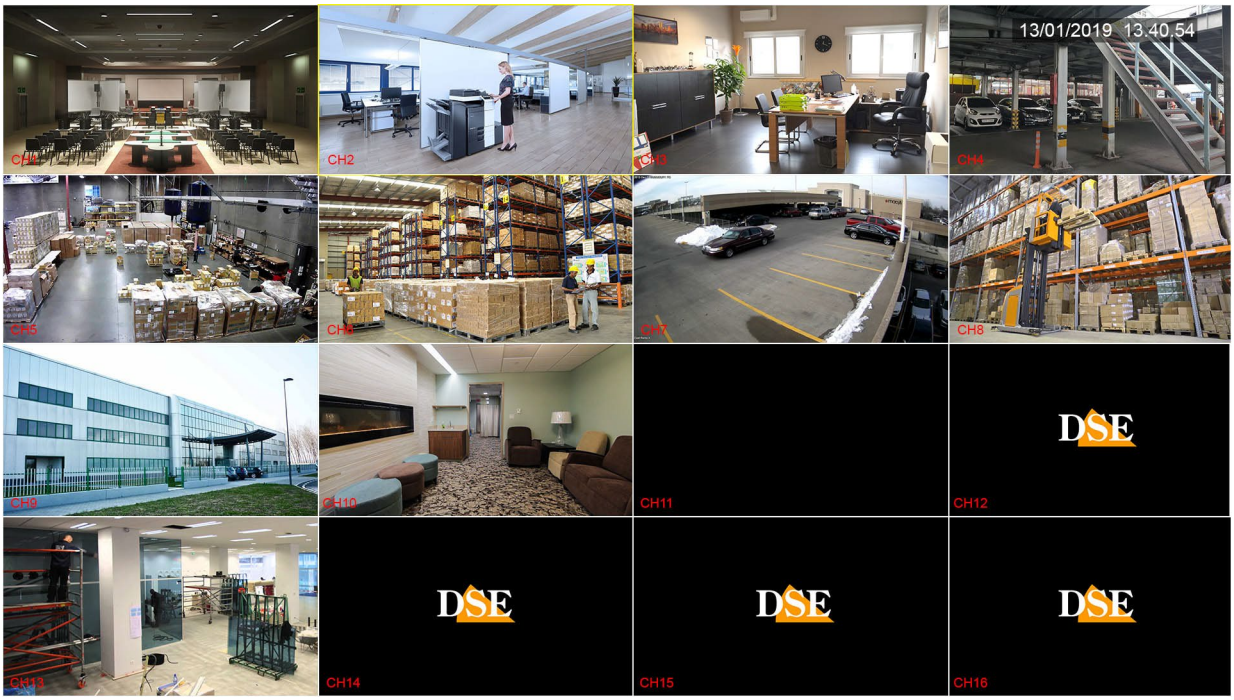
The NVR's WiFi page, which you see in the following photo, provides you with the network connection data. NVR wifi, which you need to use to connect the camera. The ESSID is the name of the NVR wifi network and the access password is revealed by pressing SHOW. The WiFi password of our NVRs is factory-set is “lspassword” making sure that the first letter is a lowercase L.

You can connect any onvif wifi IP camera and also different wifi devices to the NVR, such as example of WiFi signal repeaters to boost transmission range

3 – Now that you have connected your wifi camera to the NVR wifi network you can add it to the NVR channel configuration by searching for it on the network, like any network camera, like we have already explained at the beginning of this chapter.

Viewing live cameras

Now that you have installed your video recorder you can see the cameras on the monitor. In this chapter we give you some tips to make the most of live viewing.



The factory display provides full-screen multi-view of all cameras. You can easily change this basic view.

RIGHT CLICK MENU

In live view you can right-click to show the context menu.

EXIT FULL SCREEN MODE – Click to show all control buttons around to the live images

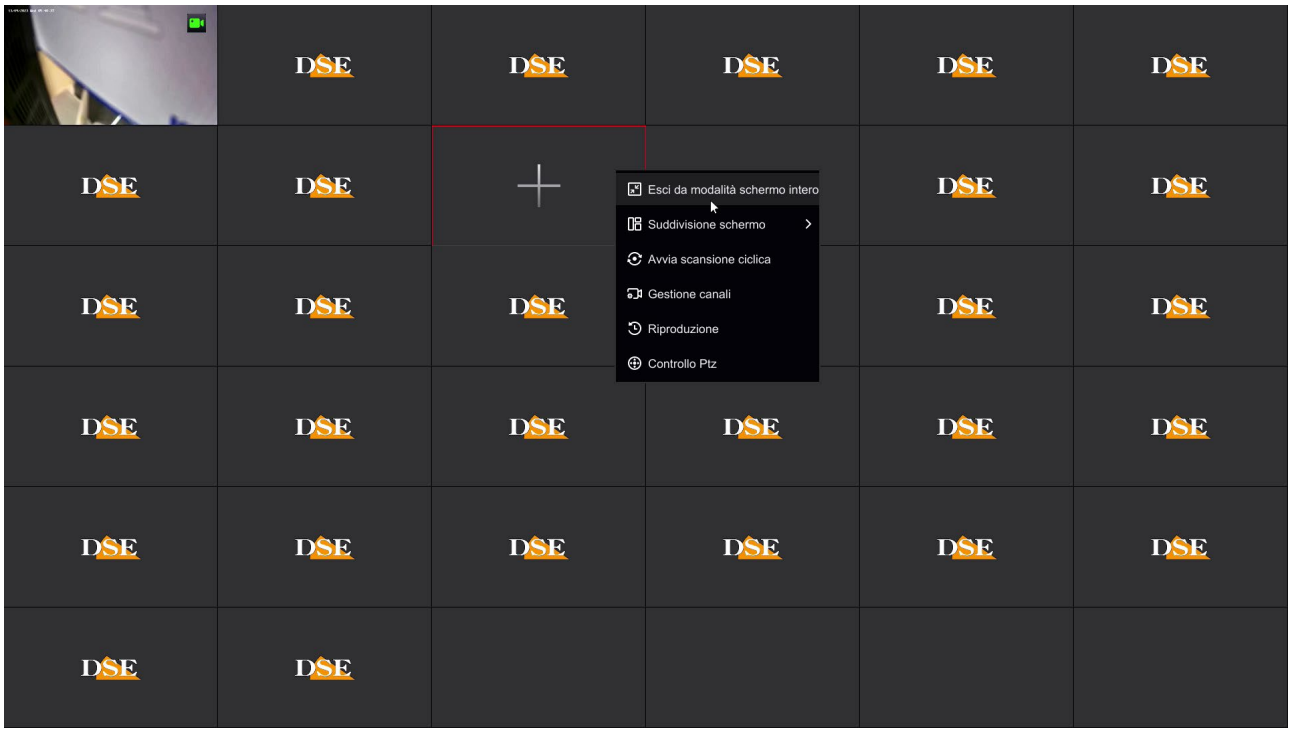
SCREEN SPLIT – Change the screen split to a different number of dials. Different divisions are available depending on the device.

START CYCLIC SCAN – This starts the cyclic scan of the cameras on the screen. Scan modes are configured in the settings

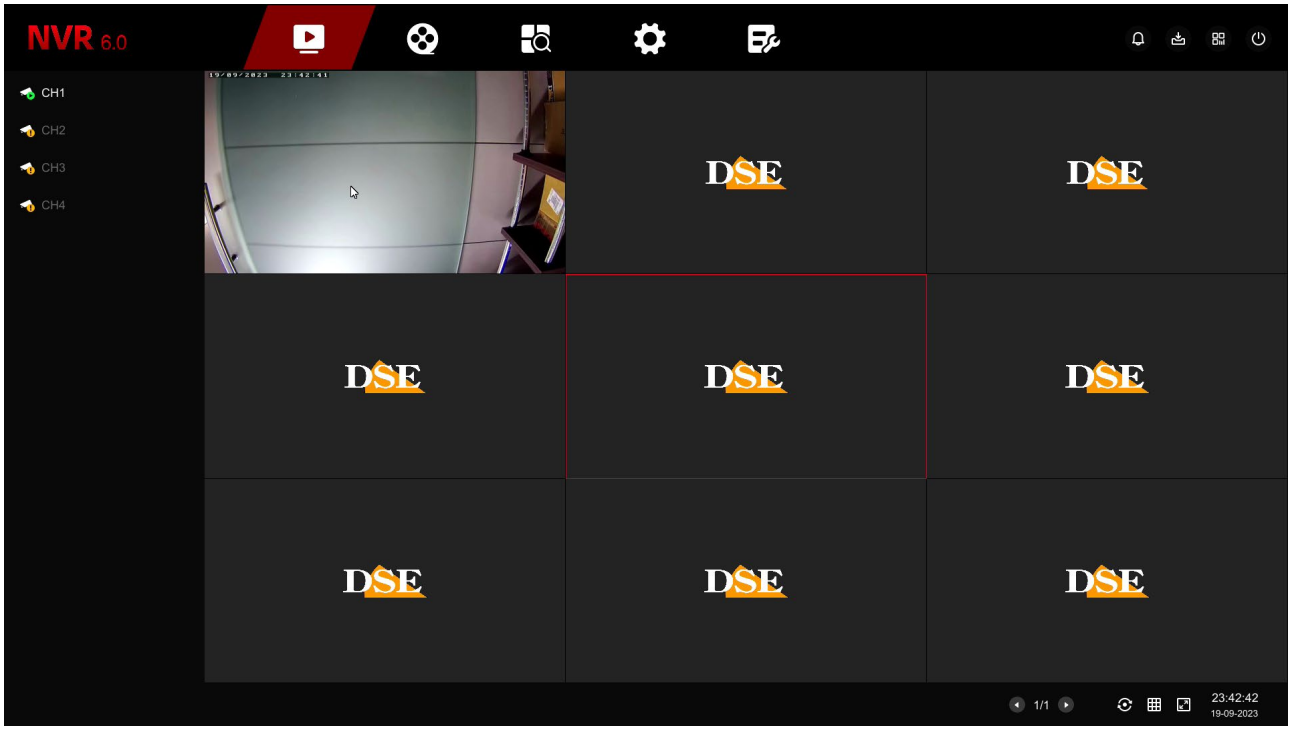
CHANNEL MANAGEMENT – Directly opens the channel configuration page to add channels cameras

PLAYBACK – Opens the playback page directly

PTZ CONTROL – Exits full screen mode and displays the control panel for the PTZ motorized cameras

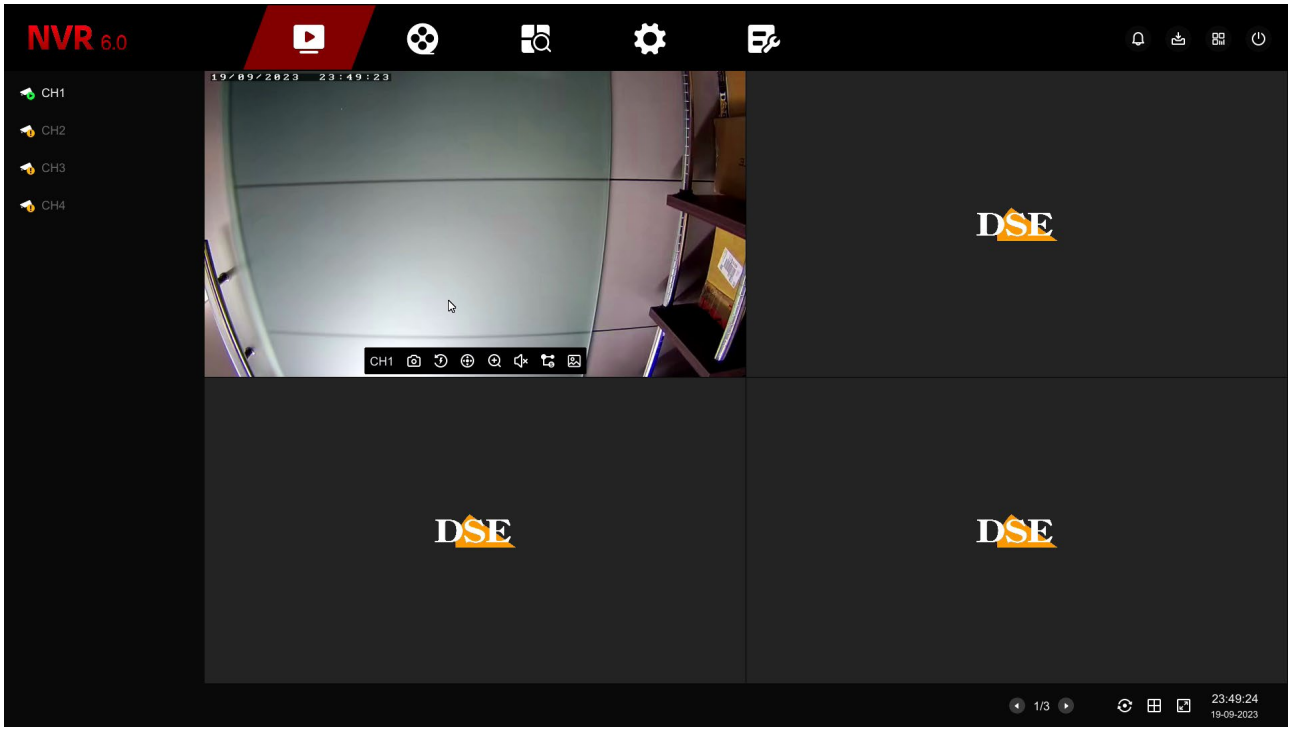


Exiting full screen mode displays the control buttons.



At the bottom right of the window are some of the commands that are present in the menu right click described above.

Hovering the mouse over a live tile brings up a control bar for that channel.



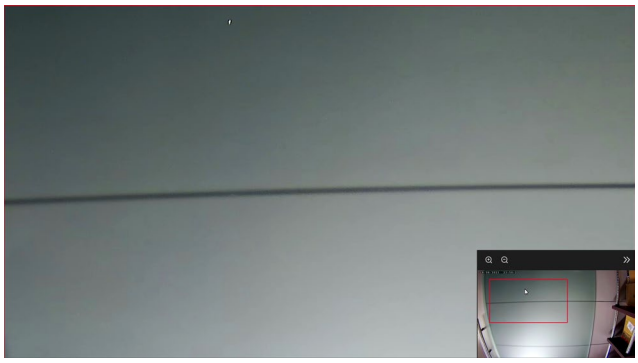
1 2 3 4 5 6 7

1 – CAPTURE – Save a photo of the image in real time

2 – QUICK PLAY – Pressing this icon automatically plays the last 5 minutes of recording. This is a very convenient function to immediately review what has been just happened.

3 – PTZ – With this button you open the panel for controlling PTZ of motorized cameras.

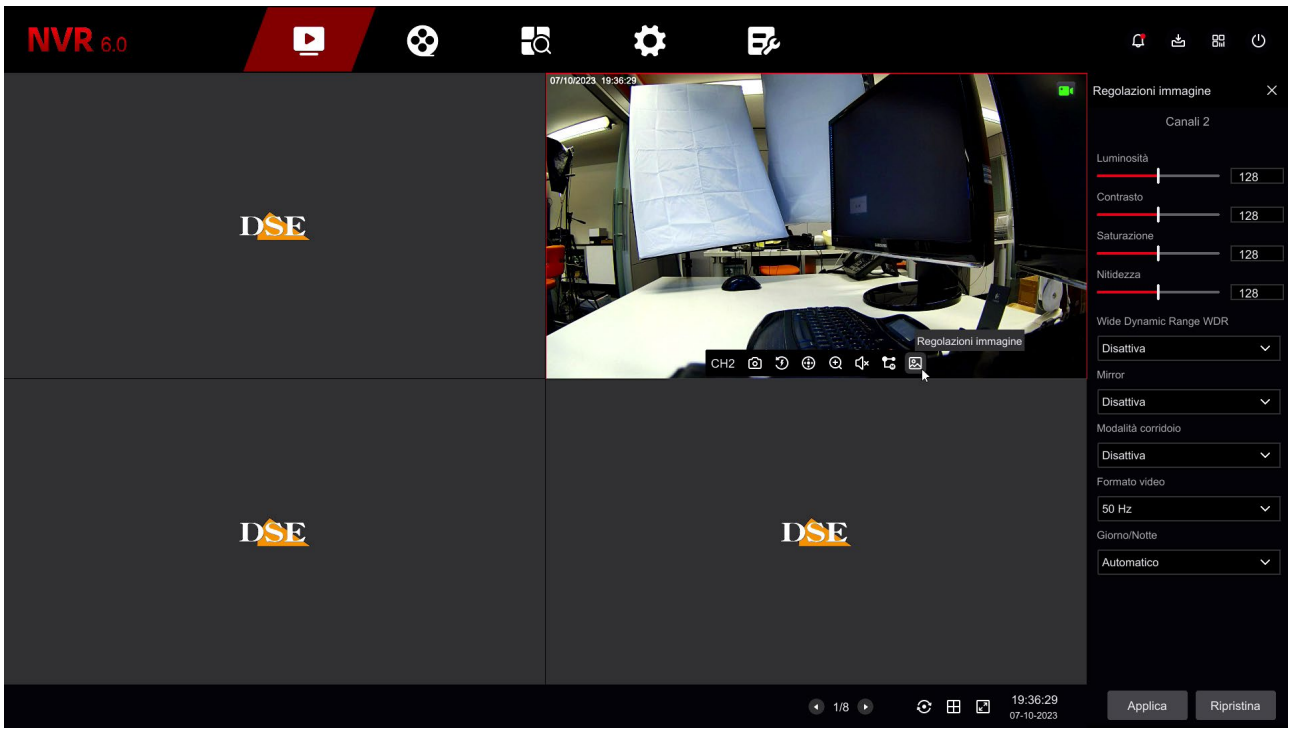
4 – DIGITAL ZOOM – If you activate this function you open the camera in full screen mode digital zoom where you can define a magnification box on the image and then move it on the screen like a magnifying glass. Right-click to return to normal vision.



5 – AUDIO – Press this icon to activate the channel audio playback and adjust the volume. To hear the audio you must have a speaker connected to the audio output of the DVR/NVR or a TV to the HDMI output.

6 – STREAM – Here you can choose whether to receive the main or secondary stream. Normally the DVR/NVR uses the main stream in full screen view and the secondary stream in multivision.

7 – ADJUSTMENTS - This button opens the panel for adjusting the video parameters of the image



CHANNEL ICONS

During live viewing, some overlay icons indicate the channel status.

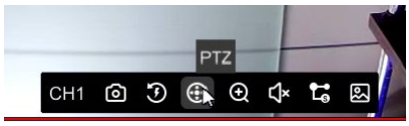
 Channel recording

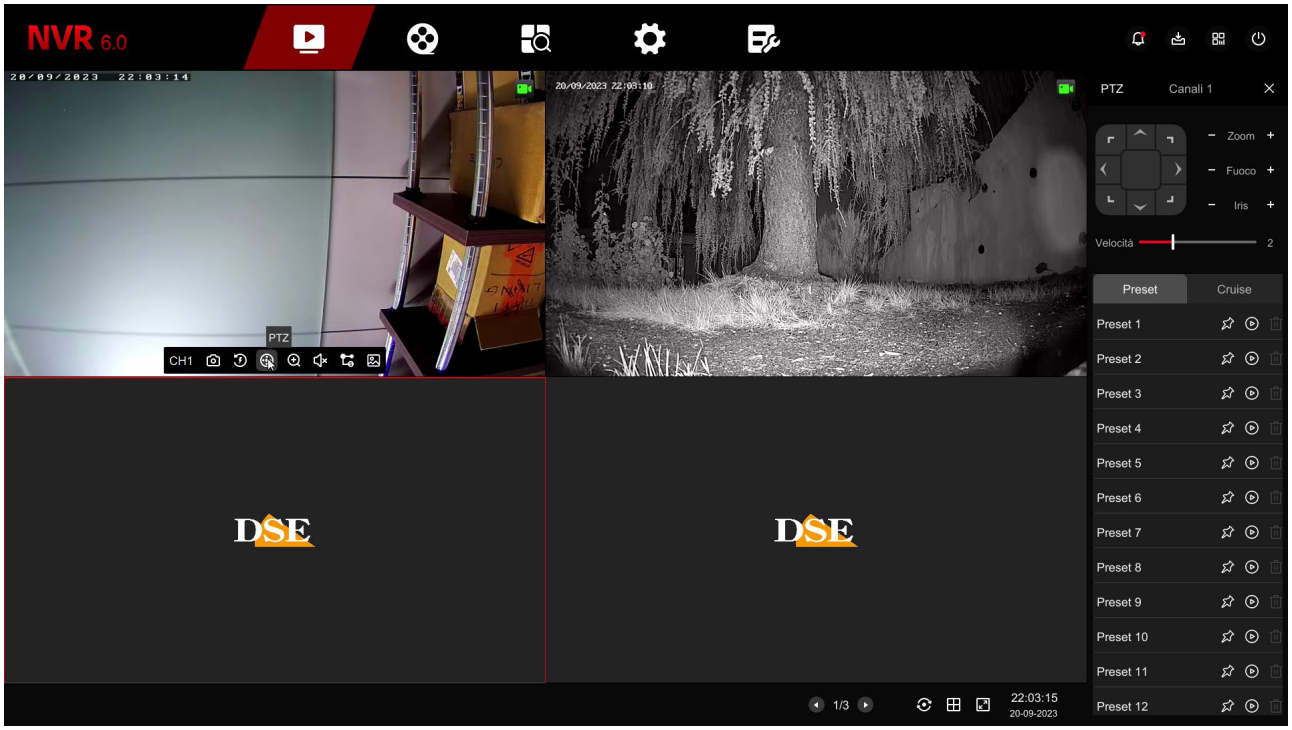
Motion detection alarm channel

Intelligent human detection alarm channel

PTZ CONTROL

With the PTZ button you open the PTZ control side panel to control the cameras.
motorized, both analog and IP. You can also use this panel to control the UTC menu
of analog cameras.
In order to use this panel with analog cameras, you need to set
correctly the PTZ settings as explained above in this manual.
The PTZ command is automatically executed on a single camera in full screen



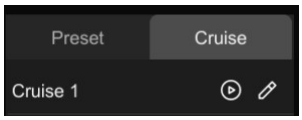


CHANNEL – Select the camera to control
ARROWS – Directional movements
SPEED – Adjusts the speed of movement, if the camera supports this adjustment
ZOOM – FOCUS – IRIS – Motorized lens controls. Some of these controls may

may not be effective depending on the camera settings.

PRESET – You can set and recall a preset, i.e. a pre-position, set in the camera. To set a preset, place the camera where you want and press the camera icon pin. To recall the preset press the play icon

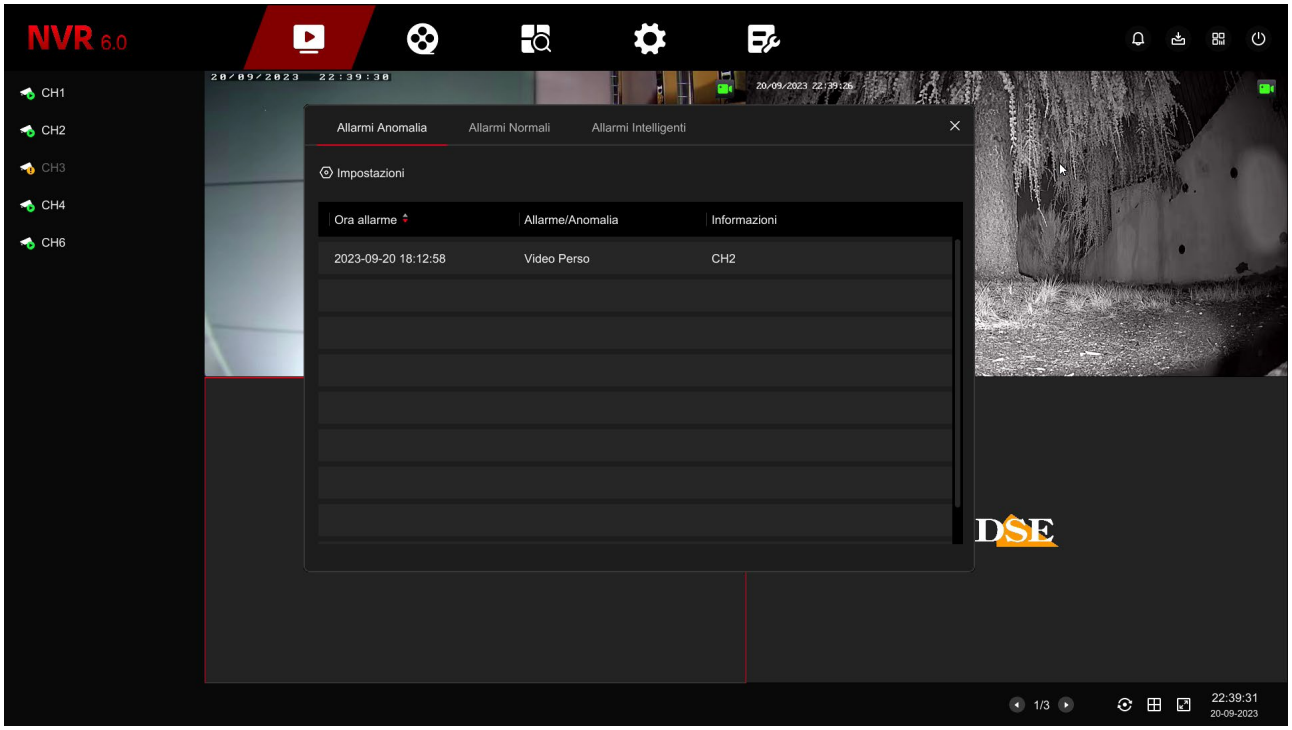
CRUISE – You can set and recall a tour or cruise, which is a pre-configured scan between different presets. Use the pencil button to set the cruise and add the different presets, each with its dwell time. You can start the cruise with the play icon.



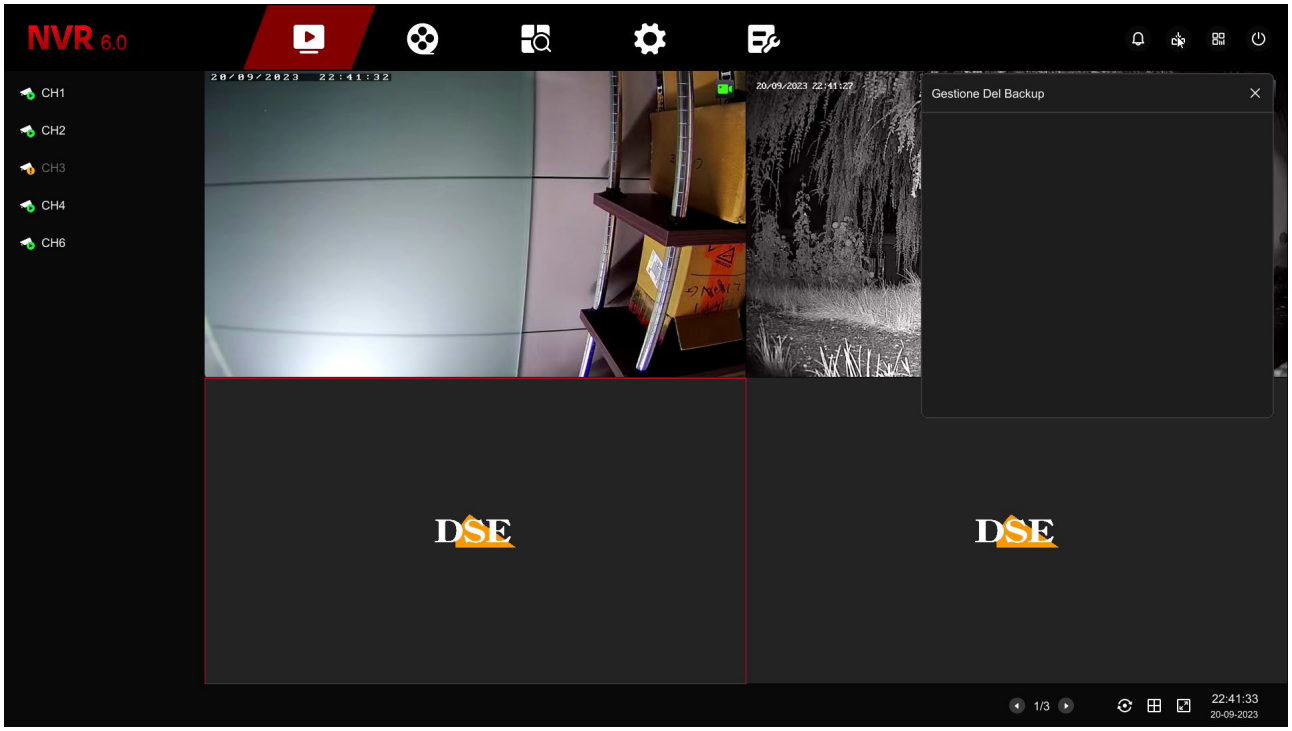
GENERAL BUTTONS

At the top right there are some buttons for quick access to pop-up windows

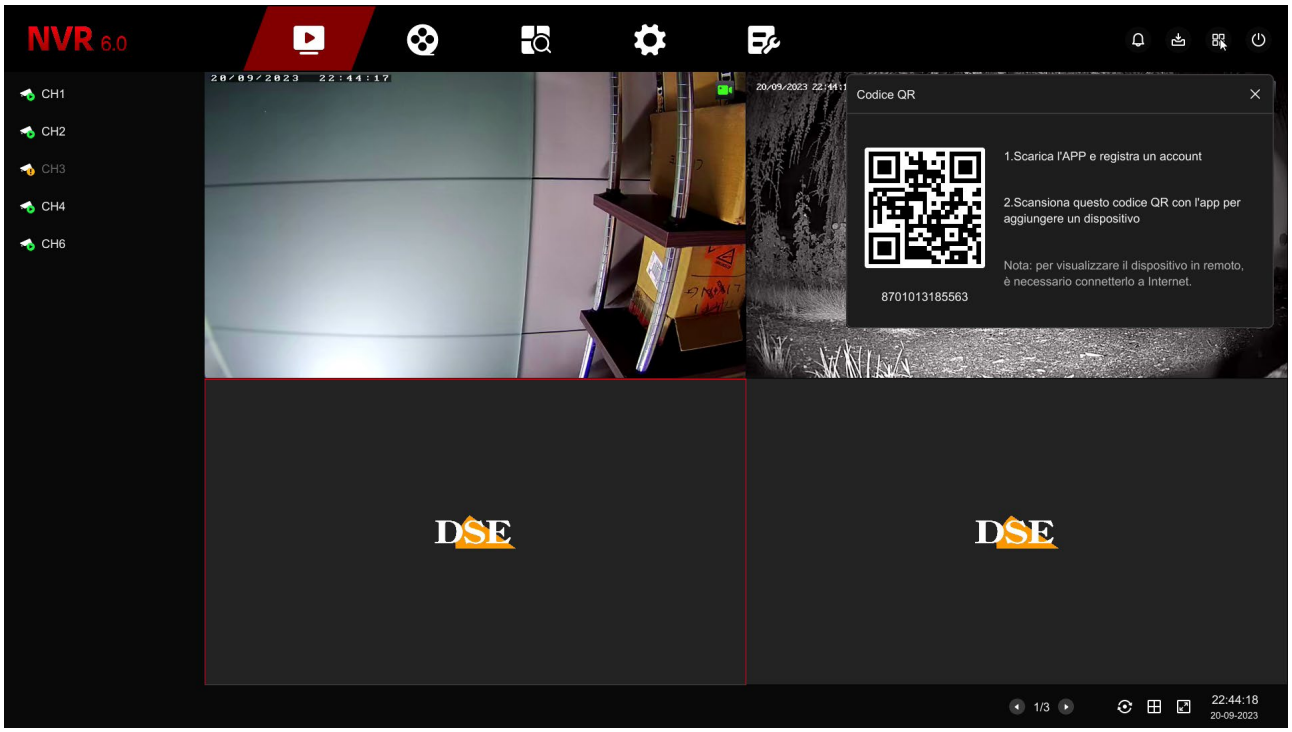
 opens a popup panel with the log of the latest Alarms divided by Anomalies - Motion - AI



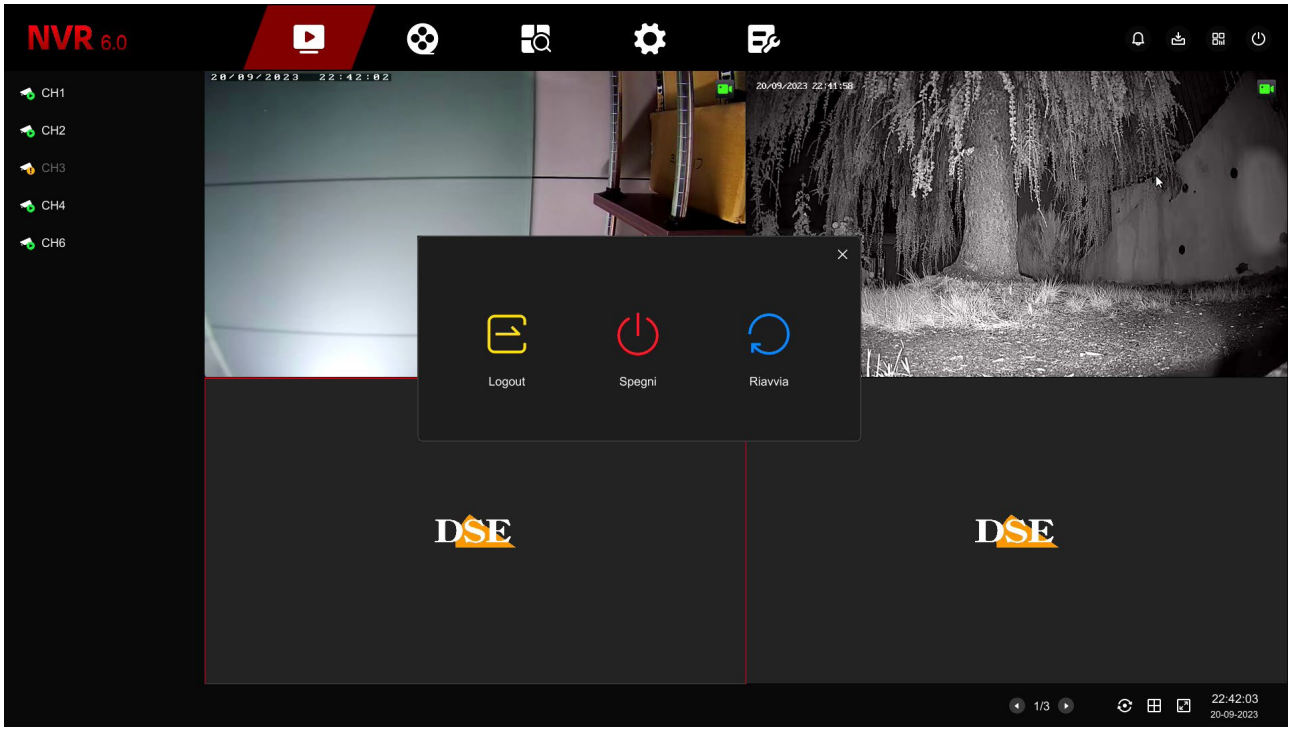
opens a popup panel that shows the progress of the ongoing backup



show the QR code with the device serial number, the same one shown on the product labels, which you will use to add the device to the IoVedo.RK app



 opens a popup panel where you can: Logout, Restart and Shutdown

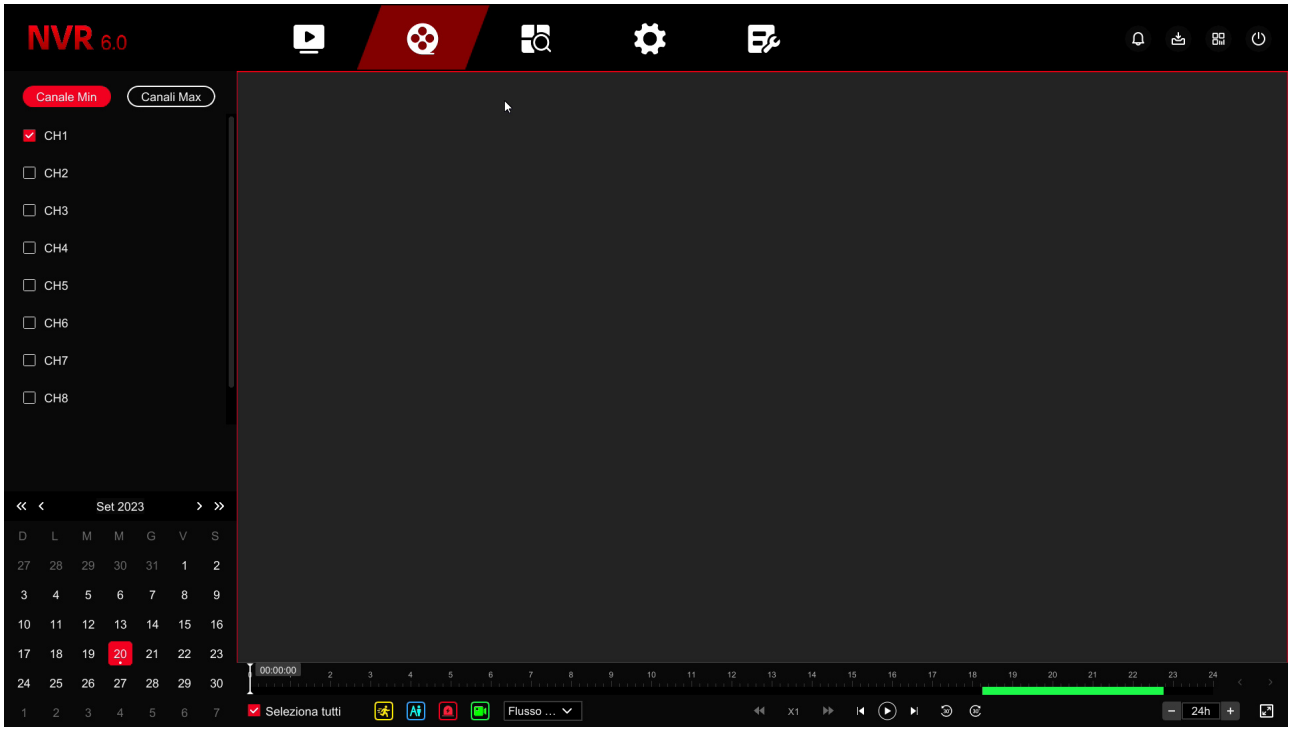


Review the recordings

To review archived recordings from your NVR/DVR, perform the following steps.

1 – OPEN THE PLAYBACK WINDOW

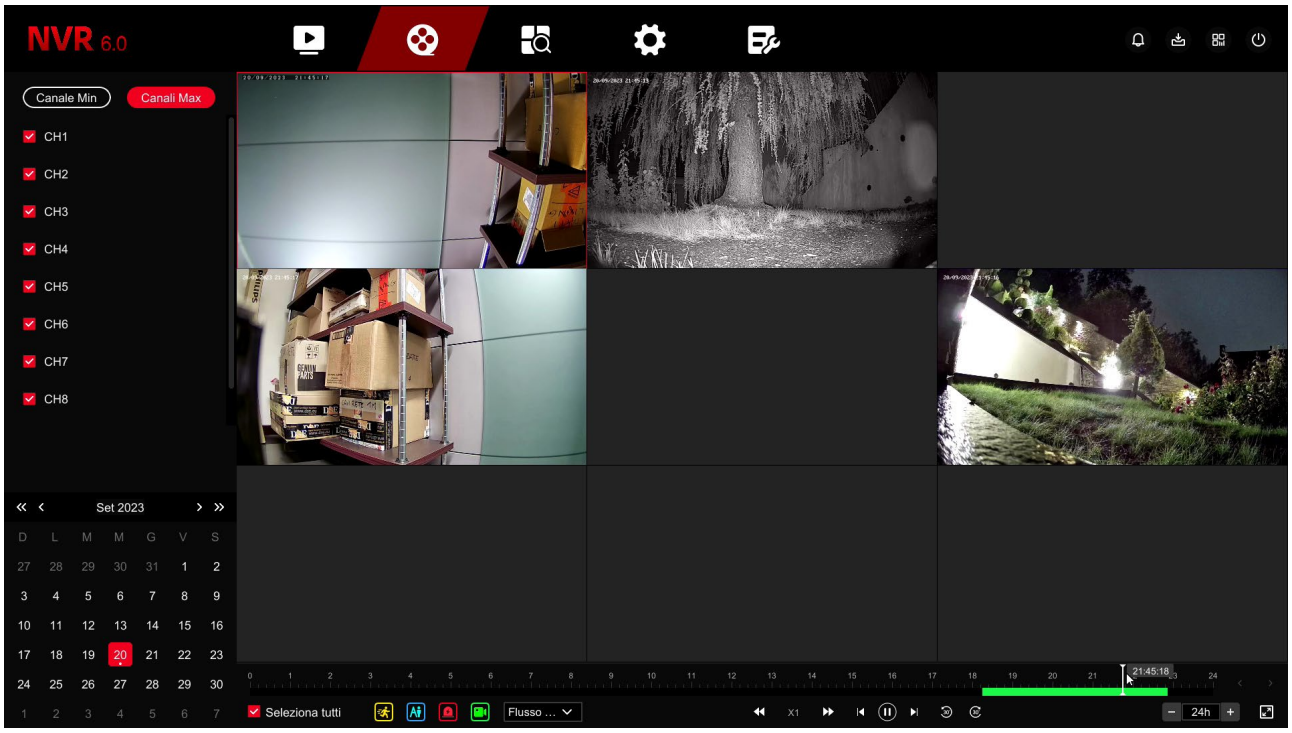
Click the PLAY icon, the second one in the top menu



2 – CHOOSE THE DAY AND THE CAMERA YOU WANT TO REVIEW

Select the day you want to review in the calendar on the left. The days that contain recordings are marked with a colored dot. Click on one of these. Above the calendar, select the channels you want to play. The channels will automatically appear recordings in the timeline below representing the 24 hours of the day

Each NVR/DVR has a maximum number of cameras that can be played simultaneously. If click MAX CHANNELS. the maximum number of playable channels will be activated simultaneously from your device.



3 – PLAY THE MOMENT YOU WANT TO WATCH AGAIN

In the time bar at the bottom you will find the 24 hours of the day. The recordings are shown with different colors depending on the type of recording. The most common are the green bar for the continuous recording and the yellow bar for recordings made with detection of the movement.

If you want you can filter the recording types by disabling the colored icons

Green (Continuous recording)

Red (Alarm input recording)

Blue (Intelligent detection recording – human detection)

Yellow (Motion detection recording)

Click anywhere on the timeline to play the images at that exact moment.

With the box at the bottom right you can change the scale of the timeline

4 – CONTROL PLAYBACK

During playback, you can use the play buttons at the bottom to play in reverse.

speed up or slow down and stop or pause playback.

Speed up to 16x or slow down to 1/8x (slow motion)

Forward and backward frame by frame

Play/Pause

Forward and Backward 30 Seconds

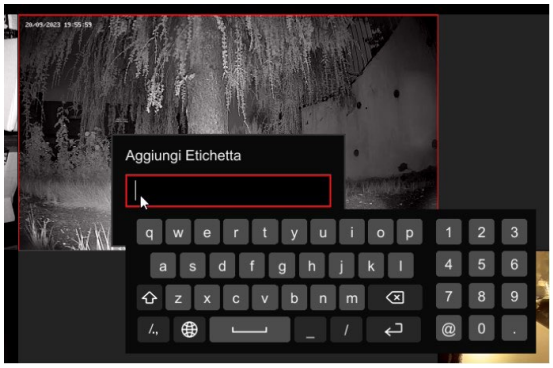
If you move the mouse over a camera during playback, a control menu appears.
specific to that channel

1 2 3 4

1 – Activate digital zoom by bringing the camera to full screen

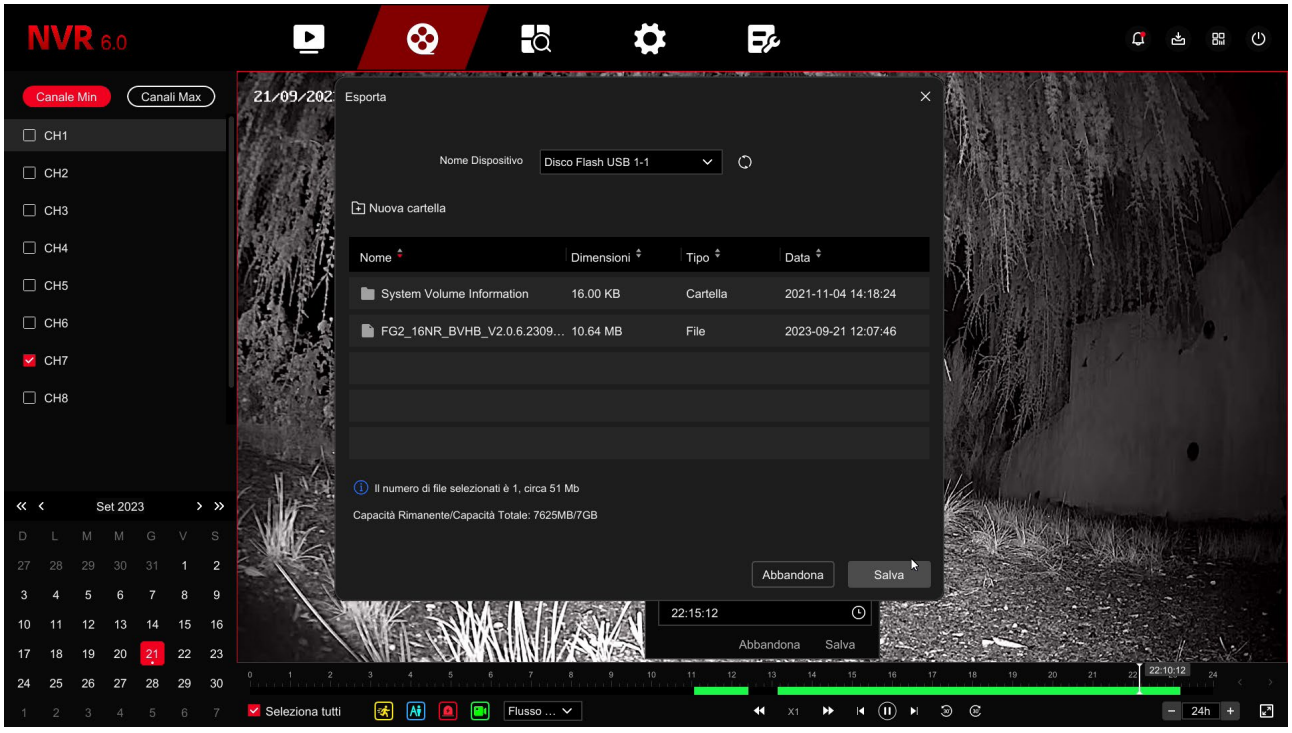
2 – Enable channel audio playback during playback

3 – Inserts a label at that playback moment to signal a moment
important. You can quickly search for labels in the file search section that comes
explained in the next chapter.



4 - With the scissors button you can define the beginning and end of a video clip to export to a USB stick
with the SAVE button


Inizio
19:45:11
Fine
19:55:11
Abbandona
Salva

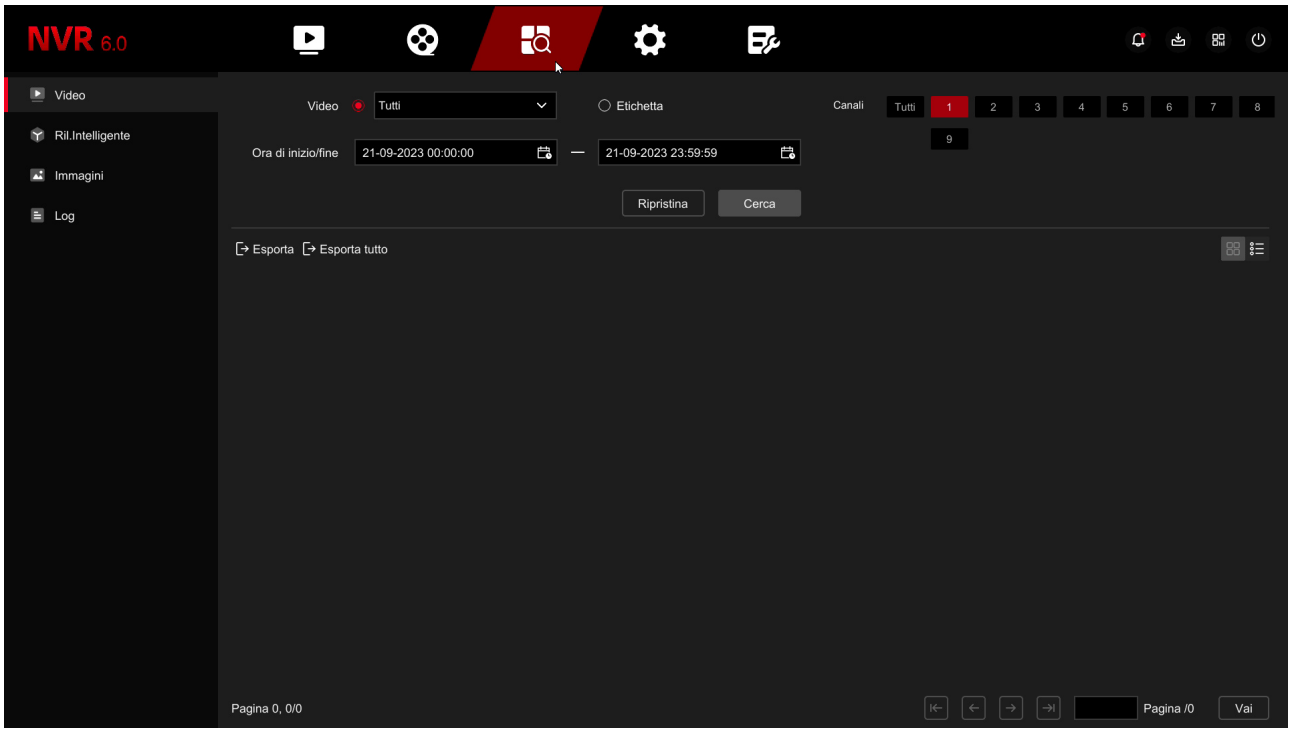

NVR 6.0
Canale Min
Canali Max
CH1
CH2
CH3
CH4
CH5
CH6
CH7
CH8
Set 2023
Esporta
Nome Dispositivo
Disco Flash USB 1-1
Nuova cartella
Nome
Dimensioni
Tipo
Data
System Volume Information
16.00 KB
Cartella
2021-11-04 14:18:24
FG2_16NR_BVHB_V2.0.6.2309…
10.64 MB
File
2023-09-21 12:07:46
Il numero di file selezionati è 1, circa 51 Mb
Capacità Rimanente/Capacità Totale: 7625MB/7GB
Abbandona
Salva
22:15:12
Abbandona
Salva
Seleziona tutti
Flusso …
24h

File Search and Backup

In this section you can search for video files recorded following alarm events, such as motion detection or human detection, and export them to external storage. Run the following operations.

1 – OPEN THE SEARCH WINDOW

Click the search icon, the third one from the top in the menu



2 – SEARCH FOR FILES

You can search for files by date/time, channel and event type. You have 4 pages of research:

VIDEO – In this section you can search for normal video recordings: continue, on motion detection and alarm input. In this section you can also search for labels set during playback.

INTELLIGENT DETECTION - In this section you can search for video recordings for detections intelligent: line crossing, human intrusion, crowding, permanence.

IMAGES - In this section you can search for photos taken by the camera on the occasion of the surveys or on a timed basis

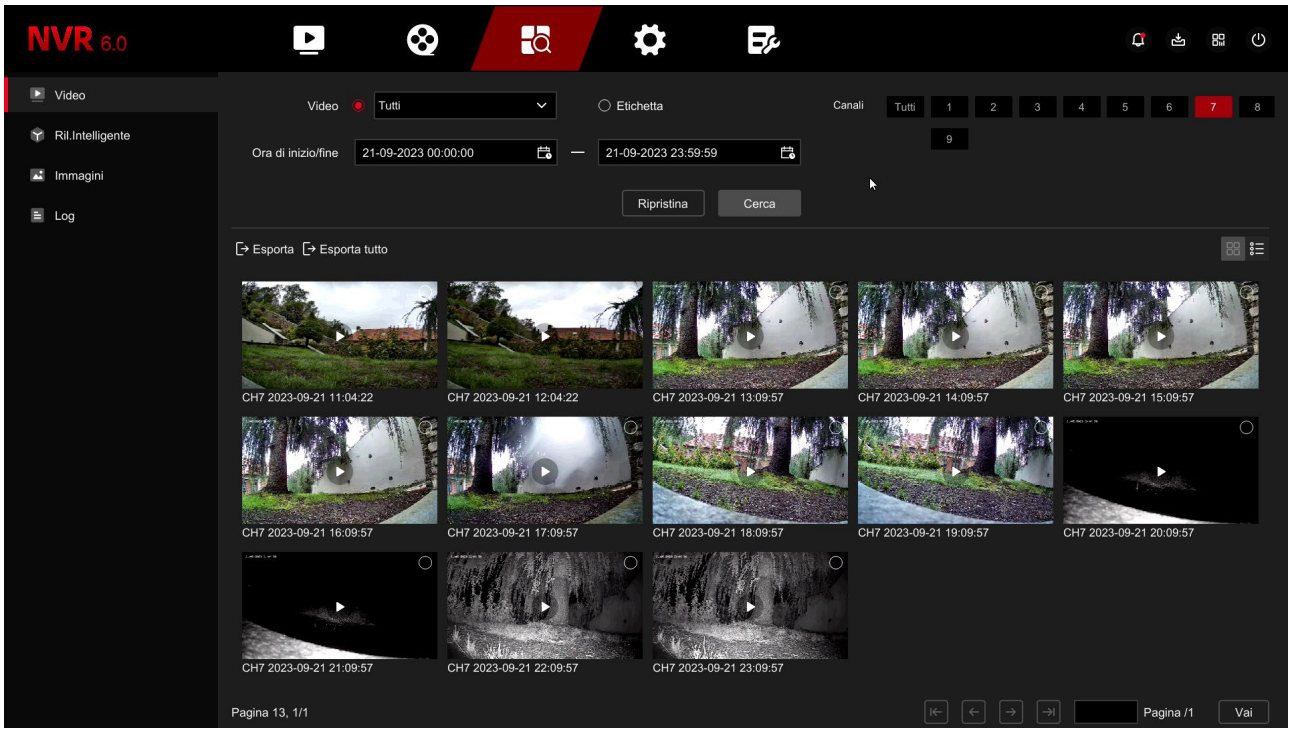
LOG – In this section you can consult the device's event memory which includes the

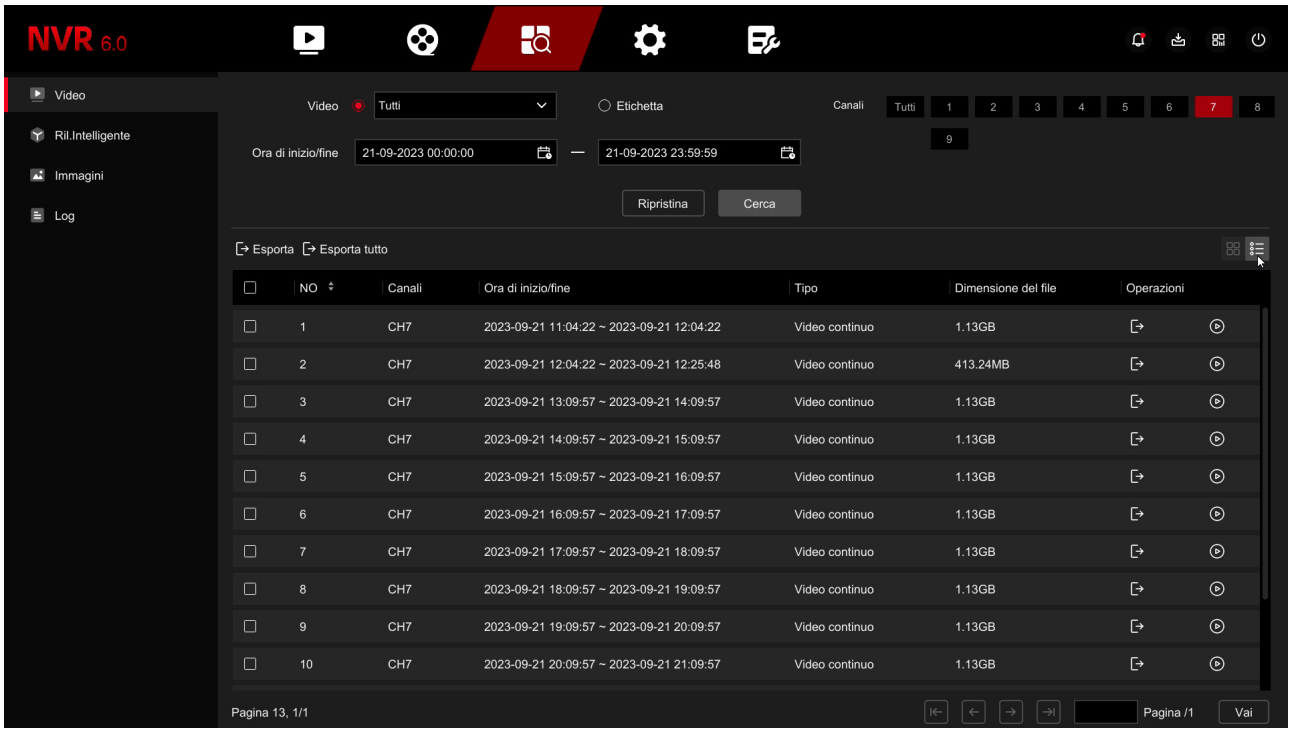
alarms, anomalies, user operations and configuration changes.

On each search page you can specify the channel and the time range. You can optionally filter by event type, among those managed.

3 – MANAGE FILES

With the button you can switch from list view to thumbnail view





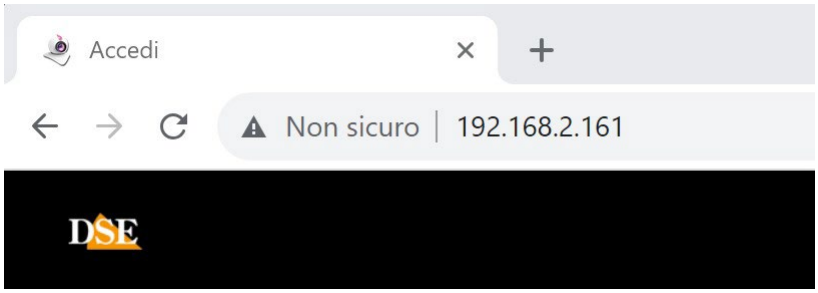
With the buttons to the right of the file you can play the video and save it to a USB stick or external HDD USB.

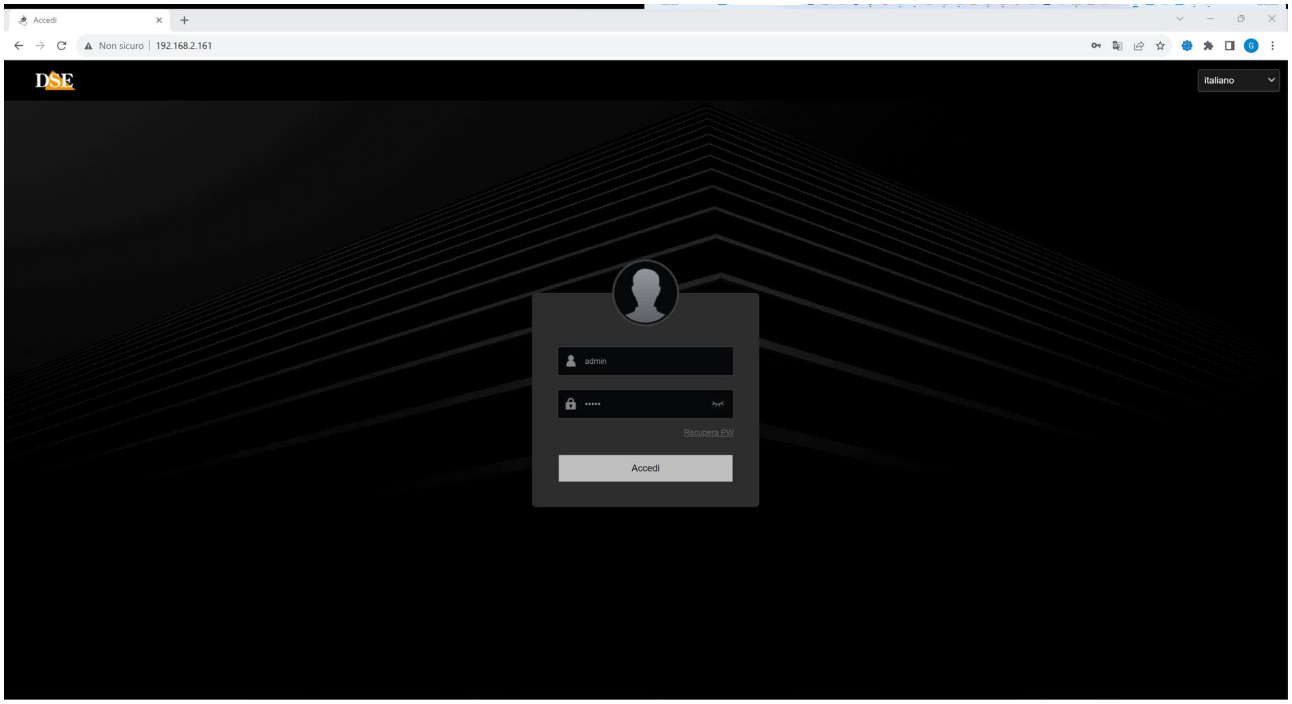
Browser access

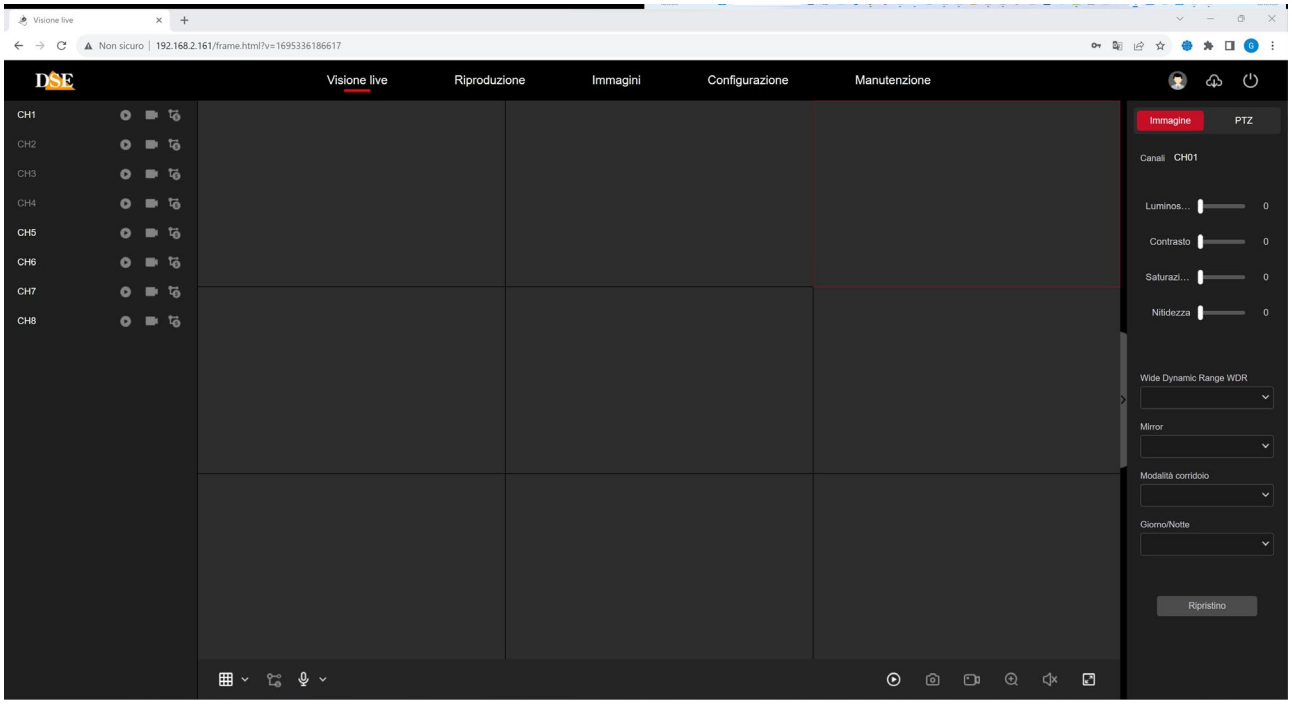
From any PC on your local network you can connect to our devices using your Internet browser.

Today**Our RK DVR/NVR support all common browsers**, like Google Chrome,

Firefox or Edge. Just type the internal network address of the NVR/DVR as in this example







To control the functions you do not need to install any additional components. However, you can download and install a small additional software to fully control it too
some advanced features and to improve the video viewing. The button to download the plugin optional is top right

Browser access works on a local network. It can also work via the web, but not through the our P2P server. You must have a static IP to the Internet and manually map the ports of the router.
The ports to map in the router to be able to access the Internet with the browser are
1 – http port – Default 80
2 – Rtsp port – Factory 554
3 – TCP port – Factory 5000

For the simplest and most immediate web access you can use the IoVedo.RK app or the software IoVedo.RK which do not require these configurations.
Browser access is the only remote access mode that allows configuration of all
the device's operating options, the same ones that can be controlled on the local monitor.

Connect with an RTSP client

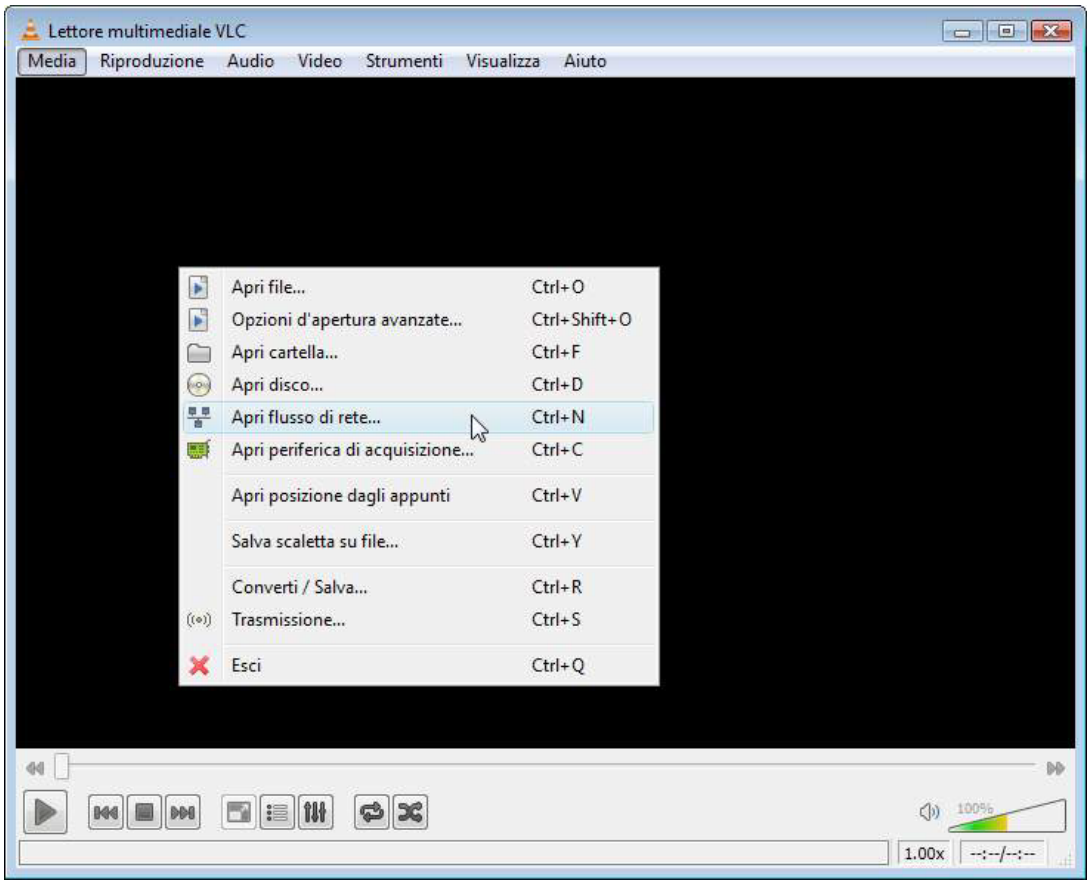
RK Series DVR/NVR support RTSP protocol which is factory set to use the port 554. You can connect to the DVR/NVR using any RTSP player such as example VLC.
The address to call must have the following syntax:
RTSP://USER:PASSWORD@IP:PORT/CHANNEL/STREAM

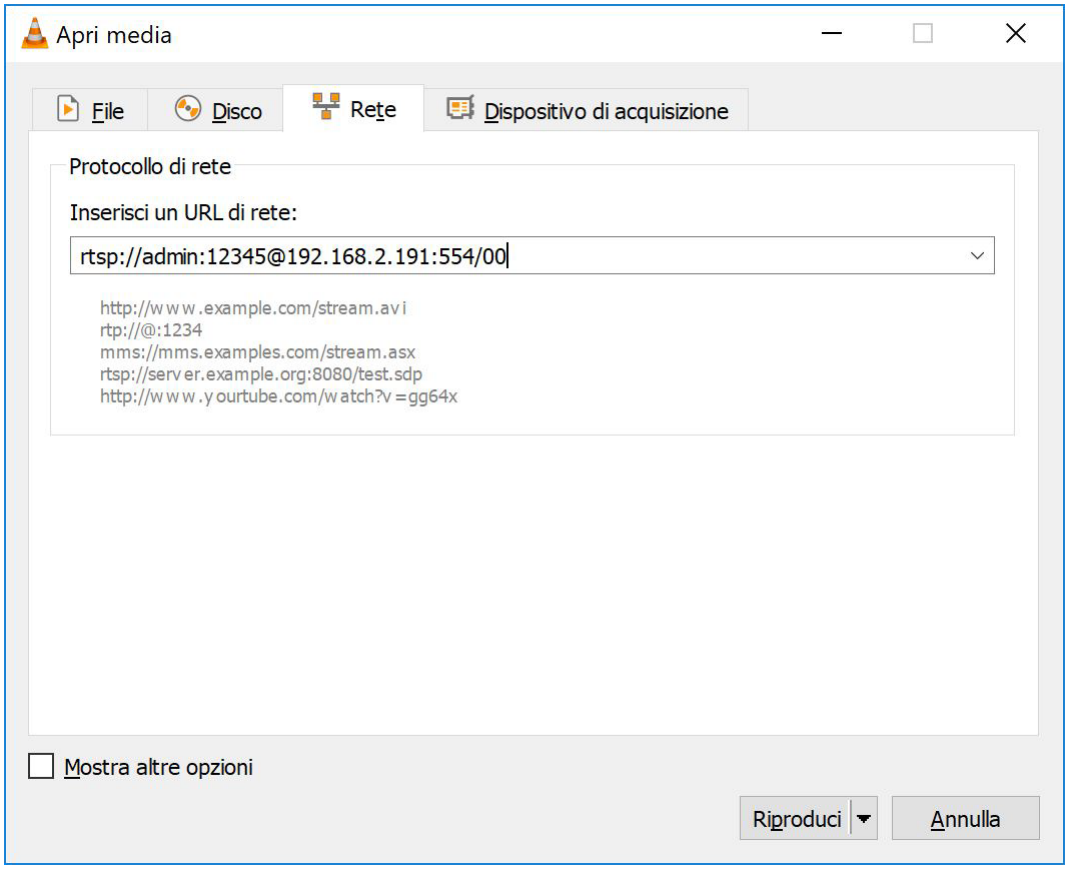
USER: Username
PASSWORD: Login password
IP: DVR/NVR IP address
BRINGS: RTSP port set in DVR/NVR: Factory 554
CHANNEL: channel number starting from 0 (channel 1=0, channel 2=1 etc.)
STREAM: 0=main stream. 1=substream

For example with this command:
rtsp://admin: 12345@192.168.2.191 :554/00

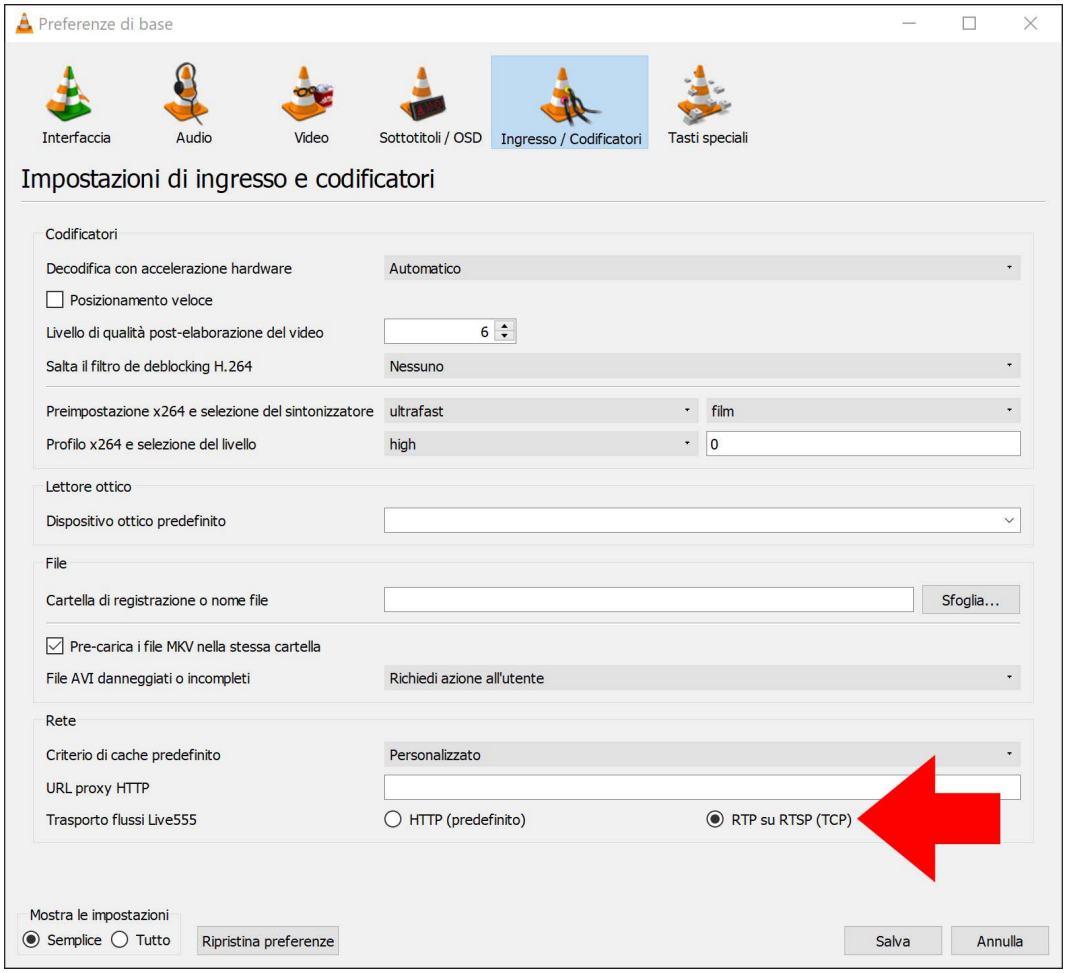
The main stream of channel 1 of the device opens

Below you seeaswork for example with the free VLC player:

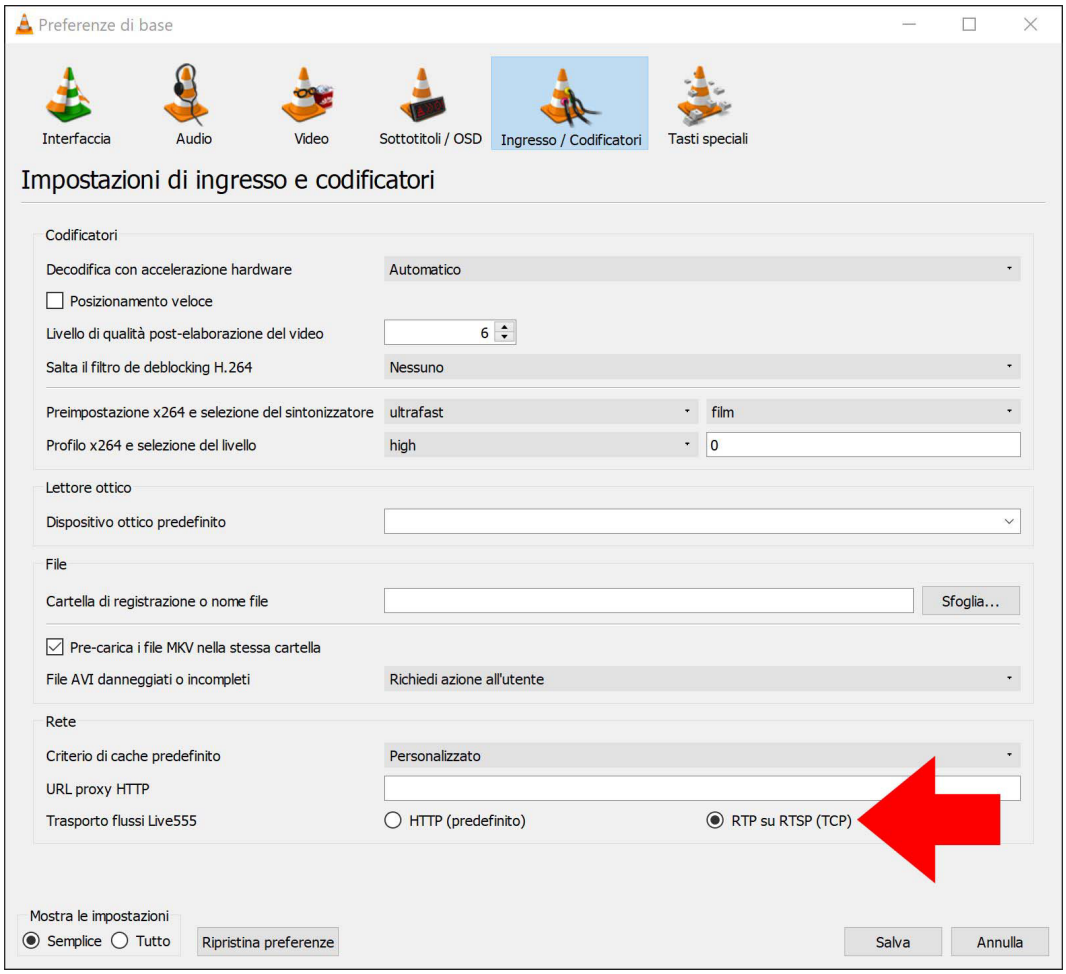




With VLC, for the stream to play you need to enable the following option

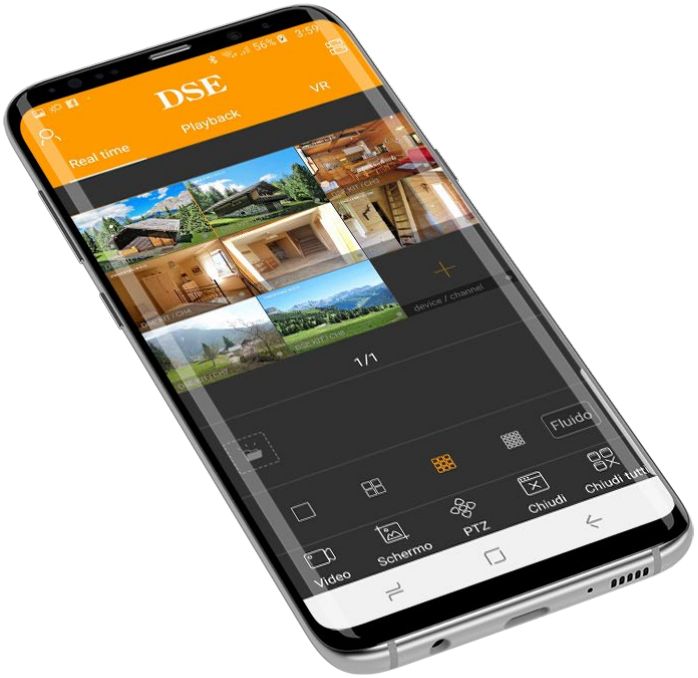

Preferenze di base
Interfaccia
Audio
Video
Sottotitoli / OSD
Ingresso / Codificatori
Tasti speciali
Impostazioni di ingresso e codificatori
Codificatori
Decodifica con accelerazione hardware
Automatico
Posizionamento veloce
Livello di qualità post-elaborazione del video
6
Salta il filtro de deblocking H.264
Nessuno
Preimpostazione x264 e selezione del sintonizzatore
ultrafast
film
Profilo x264 e selezione del livello
high
0
Lettore ottico
Dispositivo ottico predefinito
File
Cartella di registrazione o nome file
Sfoglia...
Pre-carica i file MKV nella stessa cartella
File AVI danneggiati o incompleti
Richiedi azione all'utente
Rete
Criterio di cache predefinito
Personalizzato
URL proxy HTTP
Trasporto flussi Live555
HTTP (predefinito)
RTP su RTSP (TCP)
Mostra le impostazioni
Semplice
Tutto
Ripristina preferenze
Salva
Annulla

For the stream to be played, the following option must be enabled



Connect with your mobile phone, even via the internet

You can connect to the video recorder easily with your mobile phone or tablet. You can do it over the network internal wifi or even via the Internet, thanks to our P2P cloud server. Consult the manual for remote access with our IoVedo.RK app and follow the tutorials on our YouTube channel.



Connect with the IoVedo.RK software for PC, even via the internet

You can connect to the video recorder easily with your Windows PC. You can do it over wifi network internally or even via the Internet. Download our IoVedo.RK software from our website and upload the your device to control it from your computer. Use the internal IP address if you want to connect to local network, or use the serial if you want to connect via the internet to our P2P cloud.
For details, please refer to the IoVedo.RK software manual