Manuals+ — User Manuals Simplified.

MONTAVUE Basic System Setup Tutorial User Guide

Contents

MONTAGUE Basic System Setup Tutorial

Introduction & Resources

Thank you for purchasing your security system from Montavue. This guide will help get your system operational from start to finish and will show you the fundamentals of operating the Montavue NVR. In addition to this guide, we have multiple resources listed below in order to get you familiar with your NVR and cameras, including in-depth video walkthroughs on how to install and setup this system which be found on our Youtube page. We also have a highly skilled tech support team available to you for the lifetime of this product. Please don't hesitate to call our tech support line if you are in need of assistance.

The Montavue Team

Tech Support Line
888-508-3110 | **406-272-3479**
Available Mon-Fri 8 AM-5 PM MST

Tech Support Email
Support@Montavue.com

Additional Resources

You Tube

Visit our youtube page for video tutorials, walkthroughs, product demos, and more!

Youtube.com/MontavueSecurity

Visit the Montavue **Help Center** at Montavue.com for instructions, walkthroughs, software downloads, and more.

MONTAVUE.COM

MontavueGO 2.0 is our free mobile app.
Once downloaded, go to the MontavueGO Home Page, select 'Me' and then choose Help Center in order to learn more.

Scan this QR code for our Youtube Page

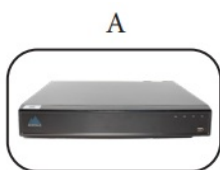**Scan this QR code for Setup Tutorial**

Connect with us on social media
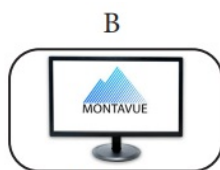
Facebook.com/montavue

instagram.com/montavue

NVR Installation
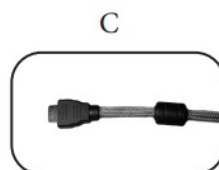
Things you'll need:

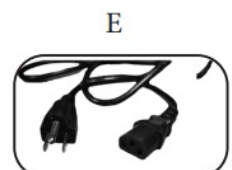| A	B	C	D	E
NVR (Network Video Recorder)	TV/Monitor (Not Included)	HDMI Cable	USB Mouse	NVR Power Cable

- **Step 1:** Remove the NVR (Network Video Recorder) and components from box. Make sure all components listed above are available and that you have a TV/Monitor with an HDMI input.
- **Step 2:** Attach NVR power cable (E) to NVR (A) and insert into outlet. NVRs have a power button found on the back side that will also need to be activated.
- **Step 3:** Attach HDMI Cable (C) into HDMI 1 on the backside of your NVR (A). Attach the other end into your TV/Monitor (B) into any available HDMI input. Change the source on your TV/Monitor (B) to the NVR's HDMI channel. You should now be able to see an image on screen.
- **Step 4:** Insert USB Mouse (D) into either of the USB ports located on the NVR (A). USB ports are located on the back and front of your Montavue NVR.
- **Step 5:** (Optional) If you plan to use remote viewing and notifications via MontavueGO, your NVR must be

conected to the internet. Insert ethernet cable (included) into the Network Port (Image reference below) and attach other end to your router. If a good connection is made, you will observe an active orange and green light next to the network port input on the NVR.

*If your NVR has un-used hard drive slots, a blue SATA cable will also be provided with the NVR for future inclusion of more hard drives. Store these in a safe location just in case.
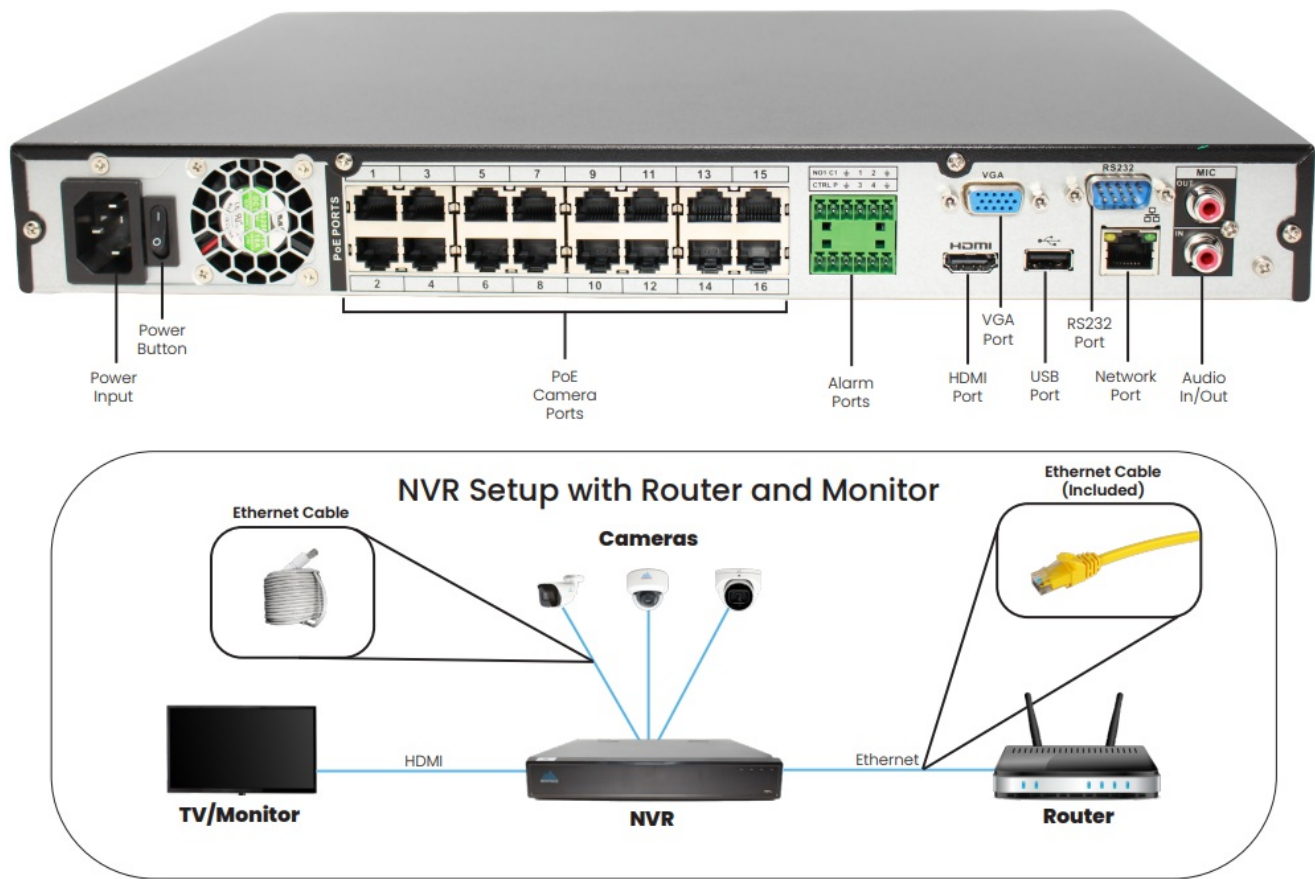
NVR System Startup

Initializing your NVR

Now that your NVR is operational, use the USB mouse to complete the next steps
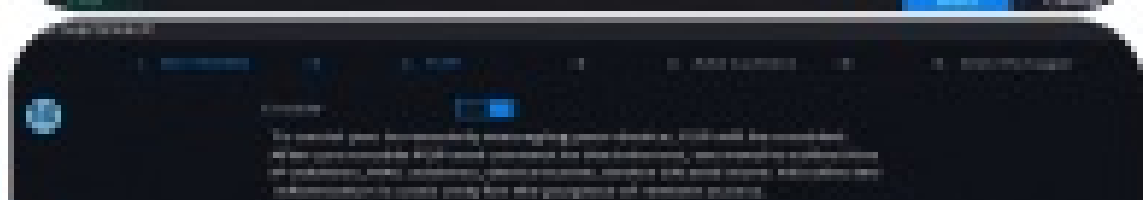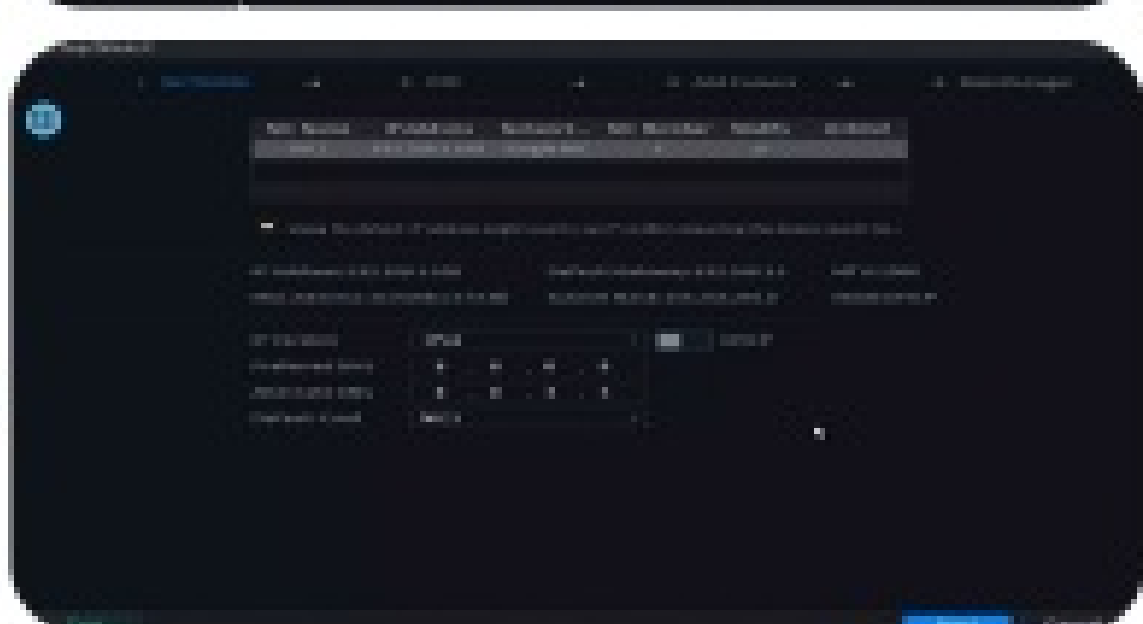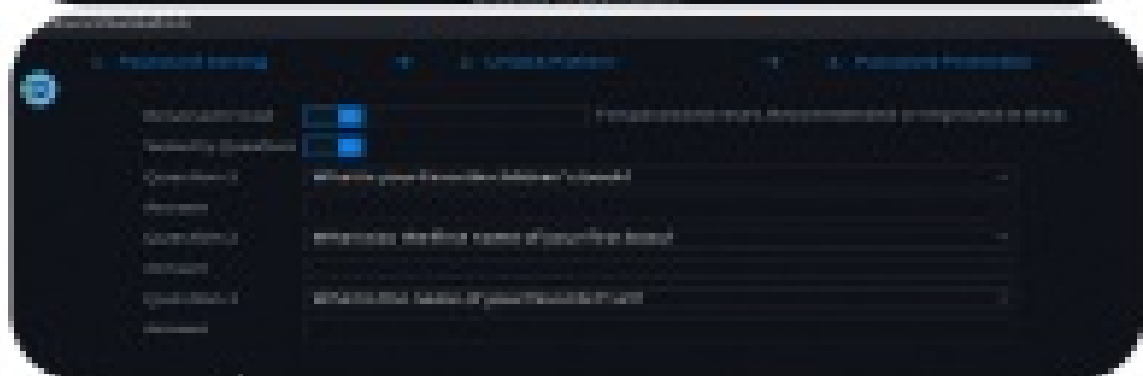
- **Step 1:** Choose your region(1) and language(2). Video Standard(3) will adjust according to your region. US residents should have NTSC for this option.

  Next, choose your Time Zone(4) and set the System Time(5). The system will only accept military time at this stage. You may change this to standard time after initialization.

  DST (Daylight Savings Time)(6) allows you to set the start and end dates for your region's daylight savings time. This setting is optional, so you may disable it and manually change your time when necessary. Finally, Online Update(7) will keep the system automatically up to date with all firmware downloads and changes.

- **Step 2:** Set your system username (8), we recommend using 'admin' to start and set your password(9). This will be needed to make any significant changes to the system in the future and to add to MontavueGO for remote viewing.

*REMEMBER THIS PASSWORD!

You may enter a password hint(10) below to help you remember. The unlock pattern(11) will be an alternative and faster way to log into only the NVR. This will not take the place of your password for other instances, so it's still important to write down your password and preserve it the best you can. To create your unlock pattern, start by clicking on the dots and connecting them. You need at least three connecting dots to make an unlock pattern. Repeat this pattern to confirm it to your NVR.

Password Protection(12) enables you to enter an email and three secret questions in order to recover your password in the event that it's lost/forgotten.

- **Step 3:** The Network(13) page will show you information about your NVR connection to your internet router. This info will automatically be acquired if connected to the router via the network port. You may adjust your IP settings with the modify button, however, we recommend leaving it to the IP address it acquires initially. DHCP will tell the NVR to change IP addresses every so often, we do not recommend this setting for everyone.

  The next page will be P2P(14), this setting asks if you want to enable your NVR to communicate via the Internet. It will also show ONLINE/OFFLINE status, this status is not adjustable on this page and is simply an indicator of your online status.

  *If the status shows OFFLINE but you are connected to router, you may have firewalls or protections on your router/network blocking the NVR from communicating. Call our tech services or your local internet provider if you encounter this issue.

- **Step 4:** The Camera List page will show any cameras that have already been directly plugged into the NVR and are operational. These will appear at the bottom(15). We recommend finishing initializing the NVR before plugging in the cameras.

  *If you have any cameras on a PoE switch, you can add them from this page via the Search Device(16) option above. We recommend plugging in all direct-to-NVR cameras before adding any network cameras. See page 8 of this guide to learn more about adding cameras.

- **Step 5:** The Disk Manager(17) page will confirm your hard drives are operational and show storage available and read/write(18) should be chosen on this option. *All hard drives ordered will be installed into the NVR prior to shipping from Montavue.

Camera Cables and Connections

If you've decided to install your own cameras, there are just a couple of important things to know before getting started. PoE (Power Over Ethernet) cameras operate on a single ethernet connection, this enables information & power transfer in one easy-to-connect cable. For the purposes of connecting your camera to your NVR, this will be the only connection required for full operation.

***Before going through the trouble of mounting your cameras and running your cables, it's highly recommended by Montavue to plug your cameras into your NVR with the intended ethernet cable in order to test that both the cable and camera are in working order. This is just a precaution.

Montavue PoE cameras are equipped with a PoE 'female' connection as well as a DC power input, this section is referred to as the tail of the camera. Some of our cameras may also have audio in/out connections in addition to alarm box connections. These are used to connect to external microphones, speakers, and alarm systems, and the DC power is for setting up the camera as a standalone device without an NVR. It's likely you won't have use for these so just ignore them during installation. This connection is NOT covered by warranty, so it's imperative that you protect it from moisture damage to the fullest extent.

DC Power

PoE Connection

Audio Out

Audio In

External Alarm

PoE Connection

DC Power
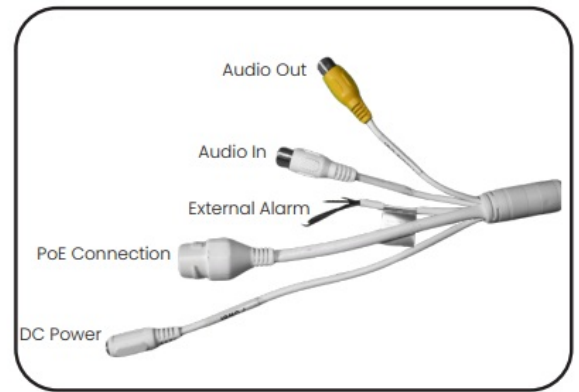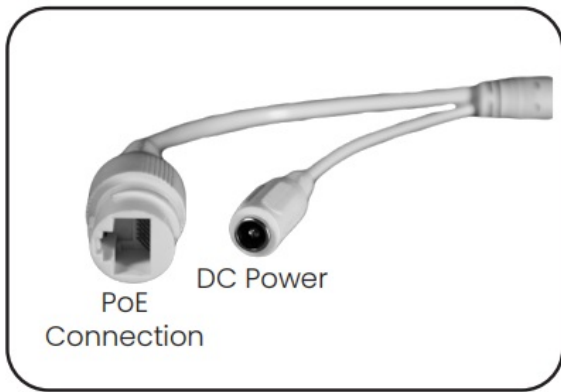
When connecting to your PoE ethernet cable from your camera, it's standard practice to run cables through the wall behind where the camera is mounted. This is generally done for a clean aesthetic and the wall acts as protection for the cable connection. If you are unable to do this, the next best thing is a junction box, which is sold separately but will act as waterproof housing for your connections. If a junction box is not an option or if you want to add further protection to your ethernet PoE connection, we advise you to use the weather-resistant sleeve that is included with all Montavue ethernet cables and cameras along with di-electric grease and electric tape for added protection. The diagram for how to use them can be seen below.

All materials needed for sleeve assembly

A) Camera PoE Connection
B) Ethernet Cable
C) End Cap
D) Main Sleeve
E) Rubber Protector
F) O-Ring
G) *Di-Electric Grease (Not Included)
H) *Electrical Tape (Not Included)

*Optional but recommended

1 Insert ethernet cable(B) through end cap(C)

End Cap Threads should face toward connection point

2 Place Rubber protector between end cap and connector end piece

Rubber Protector opens and closes to go around cable

3 Insert ethernet cable(B) through main sleave (D) pointy end should go first

4 Place the O-Ring(F) around the camera PoE Connection(A). Make sure this is evenly placed around the entire circumference and no twists are visible.

5 *OPTIONAL Place a pea sized amount of Di-Electric Grease(G) directly onto PoE Connection end.

6 Connect the ethernet cable(B) to the camera's PoE connection(A)

7 Now seal the sleeve by twisting all the parts together. Rubber Protector(E) goes into the grooved opening of the main sleeve(D) and the end cap(C) threads to that. The main sleeve(D) also twists onto the PoE Connection(A).

8 *OPTIONAL Wrap and seal the sleave with a solid layer of electrical tape(H). Make sure to make it tight so no moisture can enter.

Make sure to place the cable in an area out of direct water contact as much as possible. Now that the camera is connected to an ethernet cable, it's time to connect the other end to the NVR.

Connecting Your Cameras

Running Cables to NVR

Mounting cameras and running the cables is the most time-consuming part of any installation and it's not something we can really provide a guide for since every house is different, however, camera mounting instructions and mounting hardware are included with all Montavue cameras and the mounting process is fairly self-explanatory for most of our models. As stated before, running cable is typically done into the wall at the mounting point and then generally run through an attic or crawl space to the NVRs location. Once you've done these steps, it's time to plug into your NVR and begin seeing video.
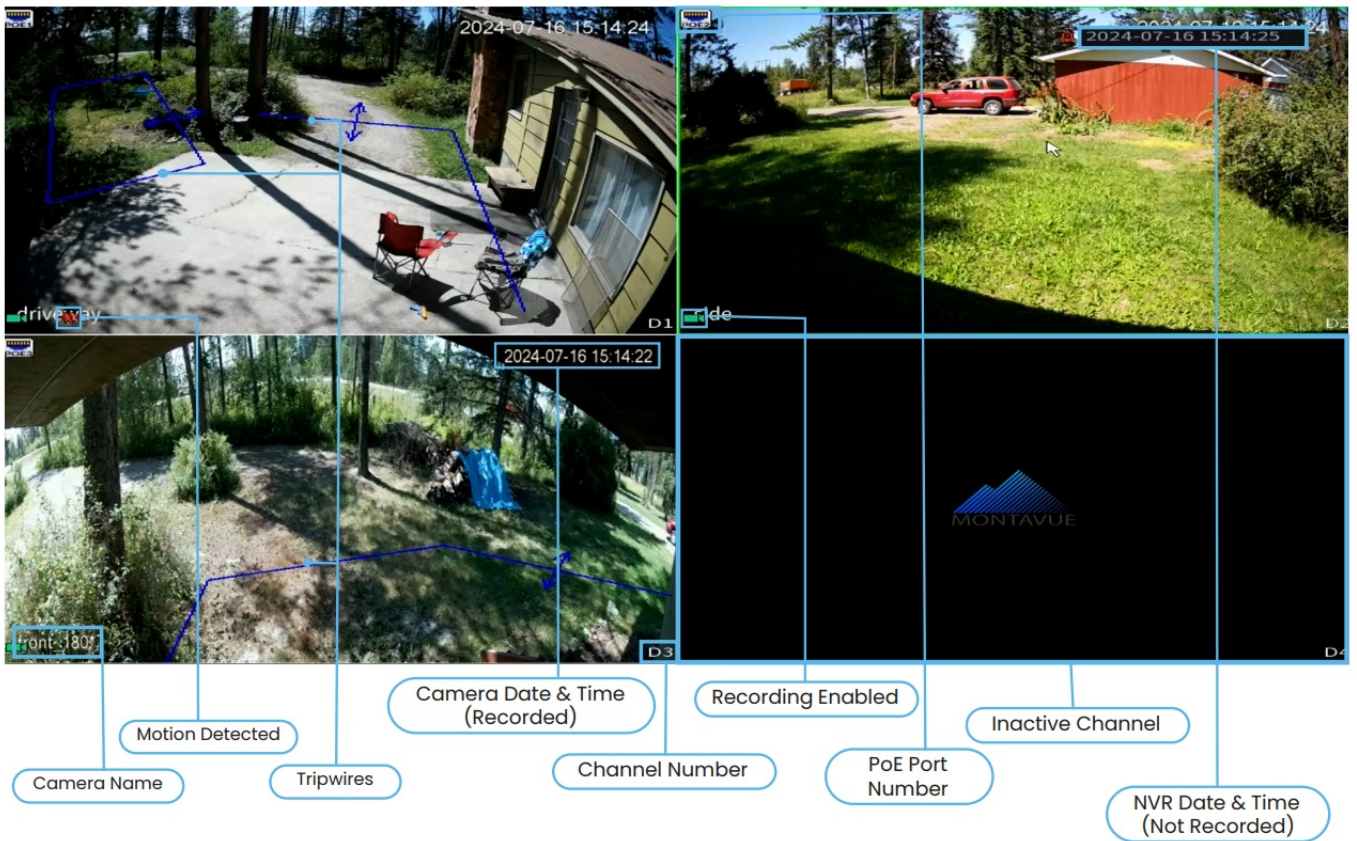
Camera Startup

Our NVRs are plug-and-play which means the camera will automatically connect and configure immediately upon plugging in. Once connected, the camera channel is determined by the port number it's plugged into. For example, if you plug in a camera to port 1, it will be placed on channel D1, port 2 will be D2, and so on. All channels will appear as D#. When you plug in a new camera for the first time, it will take time to start up, you may not see any activity on screen for up to 3 minutes or more depending on the complexity of the camera.
When a camera is initialized to an NVR, it automatically adopts the NVR password and username. This information will be bonded to the camera until it is manually changed or if the camera undergoes a factory reset. The camera will also be given an IP address and will begin to record to the NVR immediately.
*When a channel is designated a camera, it syncs with that specific camera's IP address, for this reason, it's not advised to move ports once you've plugged in a camera. If you changed your camera's port on the NVR and it does not come back up on the channel, see page 8 for more information.
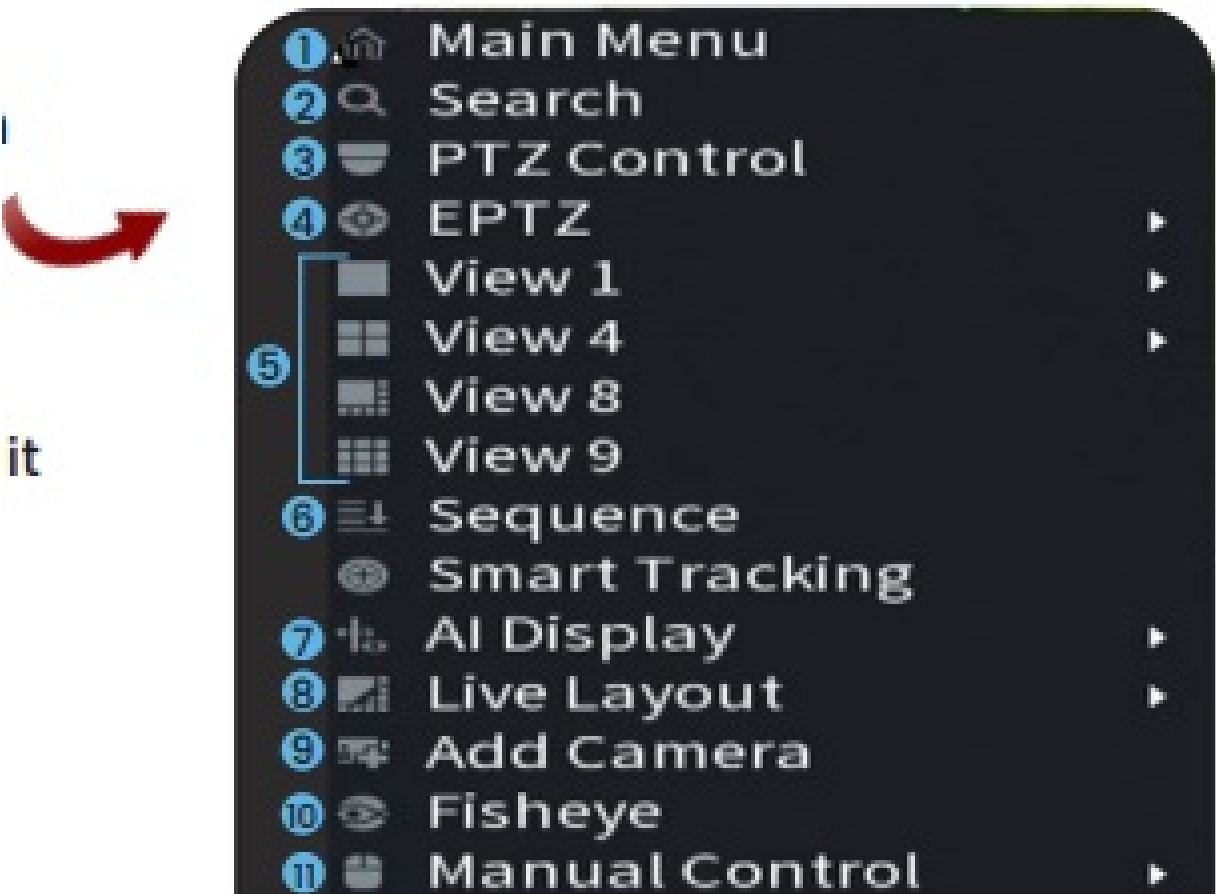
Live Page

Camera Date & Time (Recorded)
Recording Enabled
Inactive Channel
Motion Detected
Camera Name
Tripwires
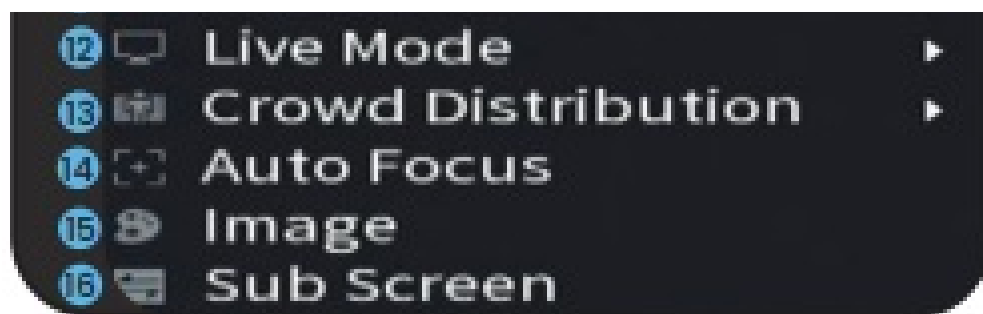Channel Number
PoE Port Number
NVR Date & Time (Not Recorded)

Now that the NVR is initialized and we have cameras mounted and connected we are ready to begin customizing the NVR to specifically fit your needs.
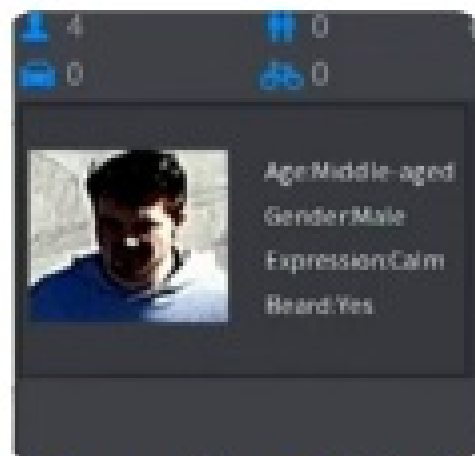
Navigating your NVR

Live Menu

1. Main Menu
2. Search
3. PTZ Control
4. EPTZ
5. View 1
   View 4
   View 8
   View 9
6. Sequence
   Smart Tracking
7. AI Display
8. Live Layout
9. Add Camera
10. Fisheye
11. Manual Control

Live Menu

⑫ 🖵	Live Mode	▶
⑬	Crowd Distribution	▶
⑭	Auto Focus	
⑮	Image	
⑯	Sub Screen	

PTZ Menu

Speed 5   No. 1

− Zoom +
− Focus +
− Iris +

AI Anaylitics Window

4   0
0   0

Age:Middle-aged
Gender:Male
Expression:Calm
Beard:Yes

Image Settings

CAMERA

Channel	D1
AI-3SA Mode	● En... ○ Dis...
Exposure	
3D NR	En... Dis...
WB Mode	Auto
Backlight Mode	
Day/Night Mode	Auto
Illuminator	Setting

Profile	Day
Image	
Brightness	──●── + 50
Contrast	──●── + 50
Saturation	──●── + 50
Sharpness	──●── + 50
Gamma	──●── + 50
Mirror	○ En... ● Dis...
Flip	Normal

Default   Refresh   Apply   Back
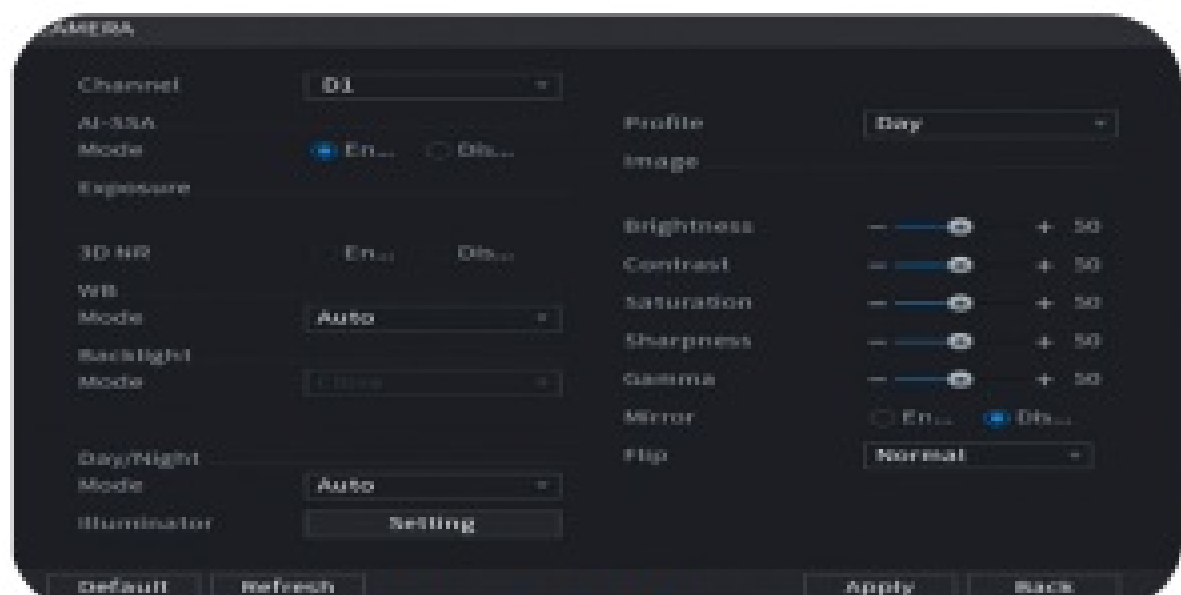
1. Main Menu – will bring you to the NVR system menu. If the NVR has been idle, it will prompt you for a username and password before granting access.
2. Search – this will take you to the playback page to view recorded footage.
3. PTZ Control – opens the PTZ controller pad and menu for your Pan Tilt Zoom Camera. On the PTZ menu, press the arrow on the right to expand options. You can also use this to zoom in and out with vari-focal cameras.
4. EPTZ – activates EPTZ functionality and options for any EPTZ enabled camera
5. Views – View 1 will allow you to select any single channel to be viewed in full screen. View 4 splits the screen into quadrants between channels 1-4 and 5-8. View 8 gives one large screen bordered by 7 smaller views. More view options will be available depending on the amount of channels the NVR contains.
6. Sequence – this allows the user to rearrange the screens in any order. Simply click and drag to switch the screens. The channels will keep their original chan-nel assignment when moved, don't forget to hit apply to save changes.
7. AI Display – enable/disable AI markers on screen. This includes boxes that appear over humans and cars and tripwire/intrusion lines.
8. Live Layout – custom layout view options will appear here. To learn more about custom layouts, see page 14.
9. Add Camera – opens the camera list page to manually add and manage cameras. See page 8 for more information about the camera list page.
10. Fisheye – opens the fisheye view menu. Select mounting angle and dewarp options *For fisheye cameras only
11. Manual Control – Record and Alarm control panels can be accessed here. Record panel will enable the user to deactivate recording for each channel. The alarm panel is for use with 3rd party external alarms.
12. Live Mode – switches between standard live view and AI analysis view.
13. Crowd Distribution – *only available for use with AI crowd cameras
14. Auto Focus – NVR cameras have built-in auto focus but if you encounter a 3rd party camera having issues or if you have manually set the focus and it's not clear, this will auto-focus the camera lens back to clarity.
15. Image – opens the camera image settings for current selected camera. This allows adjustment of brightness, contrast, saturation, etc. Find out more about image settings on page 9.
16. Sub Screen – switches to your second screen for layout adjustment. Only available when a second monitor/TV is connected and enabled. See Page 14 for more information on enabling a second monitor.

Main Menu
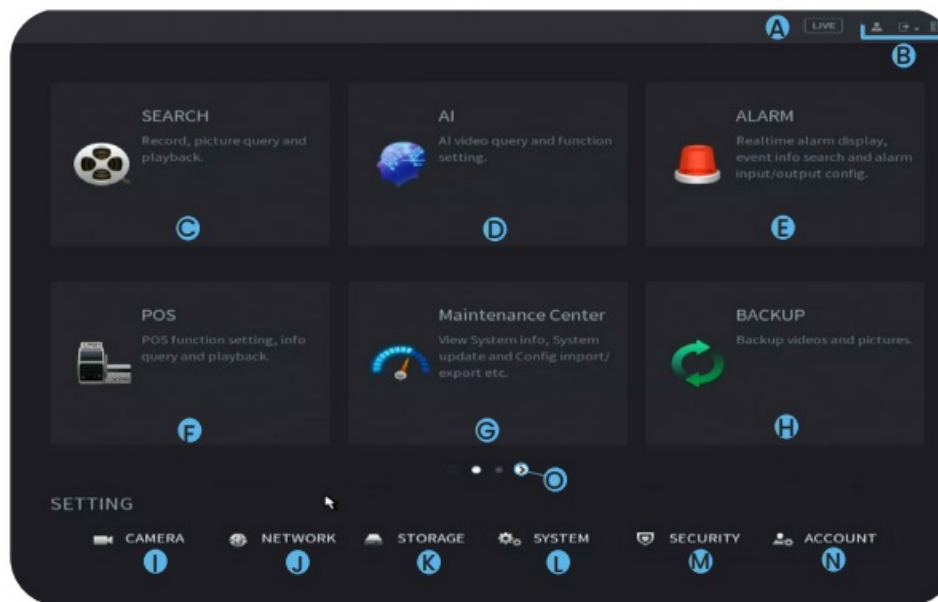
Main Menu

- **A)** LIVE – takes you to your live view, you can also right-click to go back
- **B)** Current user logged in | Logout, switch user, shutdown | Serial Number
- **C)** Search (Playback) – access, save, and export recorded footage by date & time
- **D)** Artificial Intelligence – control AI features like tripwires, smart motion detect, and face de-tection. Smart search video playback can also be found in this section.
- **E)** Alarm – Access and control motion detection, sound detection, external alarm controls, and alarm history.
- **F)** Point of Sale – Use this to access function settings, register linkage, and playback for your business registers. *Requires 3rd party hardware.
- **G)** Maintenance Center – View system activity history, update firmware, factory reset your NVR, and configure export/import functions.
- **H)** Backup – Export Videos and Images from your recordings
- **I)** Camera – add cameras, adjust image settings, encode settings, set camera name, and PoE port information
- **J)** Network – Access network settings, internet connectivity, and email
- **K)** Storage – Recording Schedule, Hard drive settings, HDD format, disk health, and channel recording control
- **L)** System – General Settings, Time & Date, Serial Port Settings, and Holiday.
- **M)** Security – All security settings for protection against unwanted user access
- **N)** Account – Add user accounts and groups, set account privileges, and password reset
- **O)** Page 2 – Click arrow to see page 2 for display and audio settings

Adding Network Cameras & Recording Schedule

In some instances, not all cameras are plugged directly into the NVR, like our wifi collection of cameras, we refer to these as network cameras. This will show you how to find and add those devices from your network to your NVR. This page will also take you through setting your recording schedule which is vital to getting the most out of your system.

Adding Cameras From a Network

- **Step 1:** Access the Camera List – Main Menu > Camera > Camera List
- **Step 2:** Search for network devices – Click on Search Device in the upper left corner

- **Step 3:** Identify Network Cameras – After a moment, any located cameras will appear. Make sure to check the device name to identify if it's a camera or PoE switch or other network device. The status will have a red X if it's a new camera.
- **Step 4:** Initialize Camera(s) – Select your camera(s) by checking the box to the left and select initialize. Initializing the camera will ask you to verify the IP address and sync the username and password of your NVR with the camera.
- **Step 5:** Adding Camera(s) – Once initialized, perform another device search. Initialized cameras should now have a green check mark status. Select these cameras and choose toadd. Your cameras will now appear in the added list below and will occupy the next available channels numerically. **Connect all of your direct NVR cameras before adding cameras from the network. This is to prevent network cameras from occupying NVR port channels. The camera plugged into NVR PoE port 1 can only exist on channel 1, therefore if a network camera is occupying channel 1 when your camera is plugged in, it will not appear.


Camera List/Registration Page
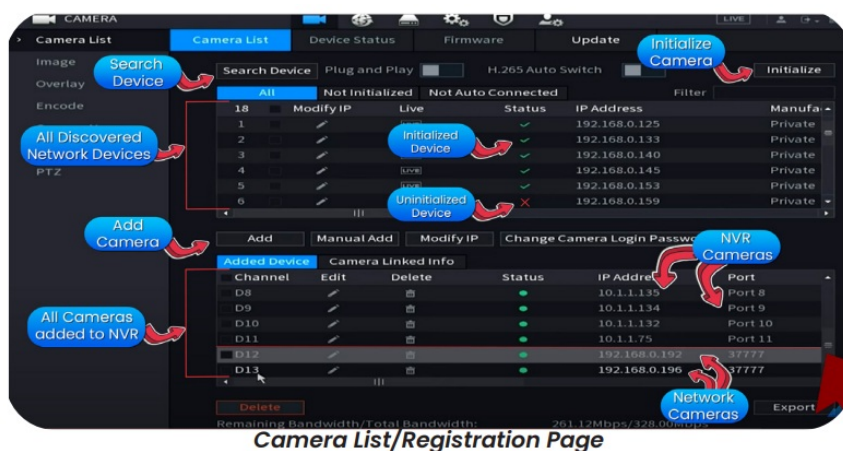
If direct to NVR camera status is red, try deleting channel from this list and re-connect camera cable. This can happen if cameras have been switched ports on the NVR. If network camera status is red, delete channel, search device, and re-add camera to NVR.

Recording Schedule
Each channel on the NVR can be customized with a recording schedule. This determines if the camera records 24/7, motion only, AI trigger recording, etc. The schedule can be customized down to the minute for each channel and options like motion only recording can save a tremendous amount of hard drive space.

- **Step 1:** Access the schedule – Main Menu > Storage > Schedule
- **Step 2:** Choose the channel you want to edit. Choosing ALL will apply the schedule to every channel.
- **Step 3:** Refer to the information below and select the color of your desired recording type by left-clicking on the colored box.
  A checkbox will appear indicating you are editing that color.
- **Step 4:** Left-click on the schedule and drag to place time blocks, left-click and drag again to remove them. You can edit multiple days simultaneously by left-clicking the box to the left of the day. A chain will appear indicating you are editing those days together.
- **Step 5:** *Optional – you can left click on the cog wheel icon to the right of each day, this will open a page to edit your schedule more precisely by the minute if you prefer that method.
- **Step 6:** Click apply in the bottom right before moving onto another channel or leaving the page in order to save your schedule.

*Recording schedule colors will also appear in playback to assist in finding events. Even if you're recording 24/7, it's recommended to fill out the motion (yellow) and/or intelligent (blue) so you can view when these events happen in your playback timeline. You likely won't use the other colors.
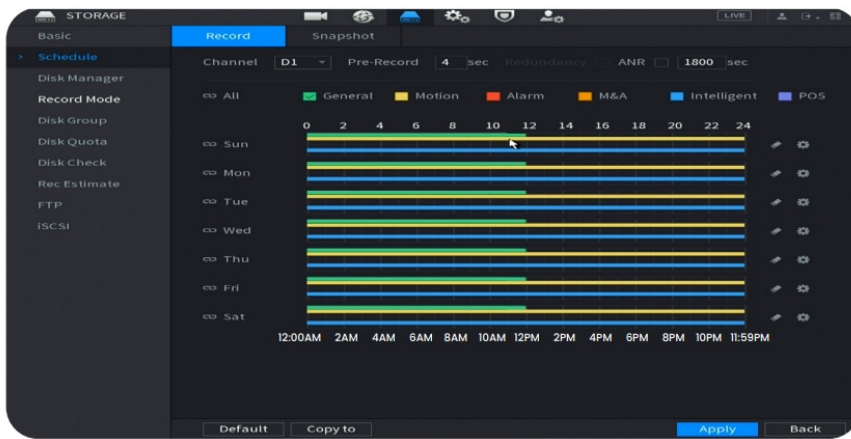
Recording Schedule

🟩	NVR records everything (Cameras by default will be set to 24/7 General)
🟨	NVR records & indicates when motion events occur (Must have motion detection enabled)
🟥	NVR records only when alarm is triggered (ONLY FOR USE WITH EXTERNAL ALARMS)
🟧	NVR records only when alarm & motion are triggered (ONLY FOR USE WITH EXTERNAL ALARMS)
🟦	NVR records & indicates when AI events occur (Tripwires, SMD, Face Detection, etc)
🟪	NVR records only when POS system is used (ONLY FOR USE WITH POS SYSTEMS)

Image & Encode Settings | Camera Name

Image Settings

Montavue cameras are equipped with sensors that will adjust the camera's image settings automatically to best fit the environment that it's recording, however, the user may manually customize these settings for each channel. To access the camera image settings select Main Menu > Camera > Image.
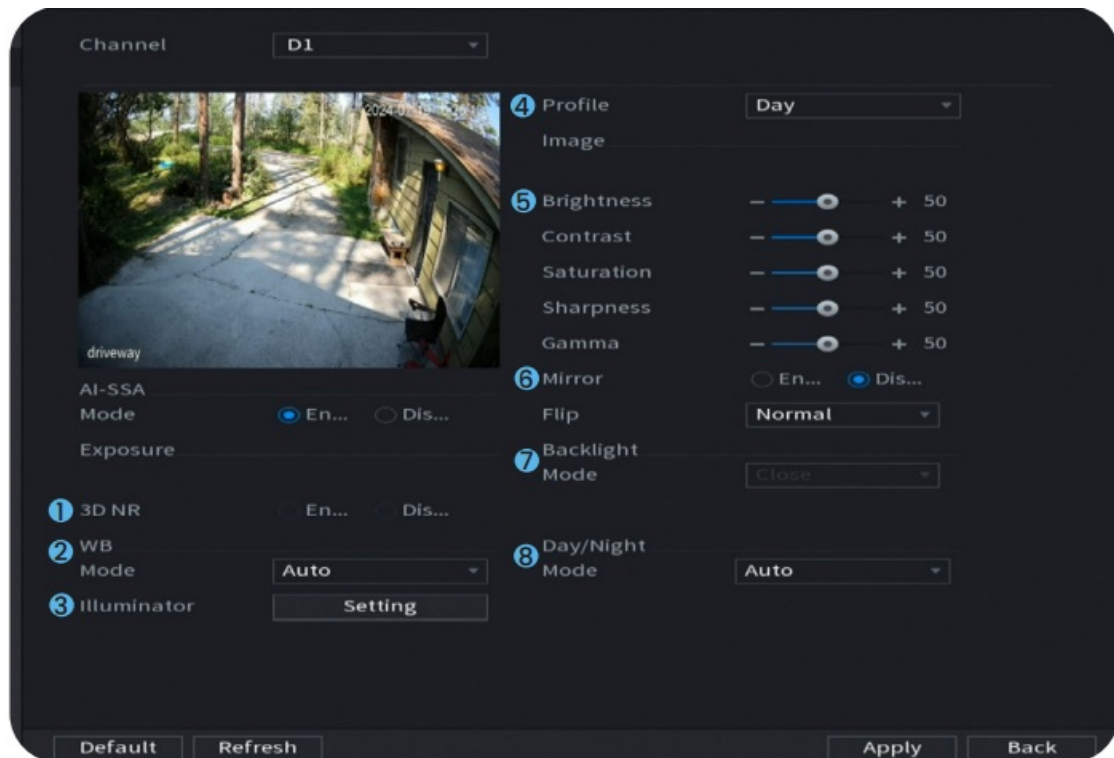
Some cameras may have extra features like AI-SSA appear on this screen

1. 3D Noise Reduction: Smooths rough pixels for a cleaner image
2. White Balance Mode: Adjust lighting settings depending on the environment
3. Illuminator: Controls infrared lights and warm lights if applicable
4. Profile: Pick between 3 image schemes with their own settings
5. Image Adjustment: Use the sliding bars to adjust desired brightness, contrast, saturation, sharpness, and gamma to fit your needs.
6. Mirror/Flip: Reverses the image; Flips the image 180°
7. Backlight Mode: Close – No backlight mode, SSA (Self Scene Adaptation) – allows the NVR to adjust the camera according to environment changes, BLC (Back Light Compensation – enhance dark spots to make

them bright-er, HLC (High Light Compensation) enhances bright spots to make them more visible,and WDR (Wide Dynamic Range) – enhances colors and corrects dark and light spots

8. Day/Night Mode – Can be set to automatically change image profiles depending on time of day or manually to be changed by the us

*Click apply before moving to another camera or before leaving the page

Encode Settings

Encode settings determine the resolution of your video, frame rate, compression, and bit rate which all affect the over-all quality of your live video, video recordings, and how much storage is used for footage. To access Encode settings select Main Menu > Camera > Encode
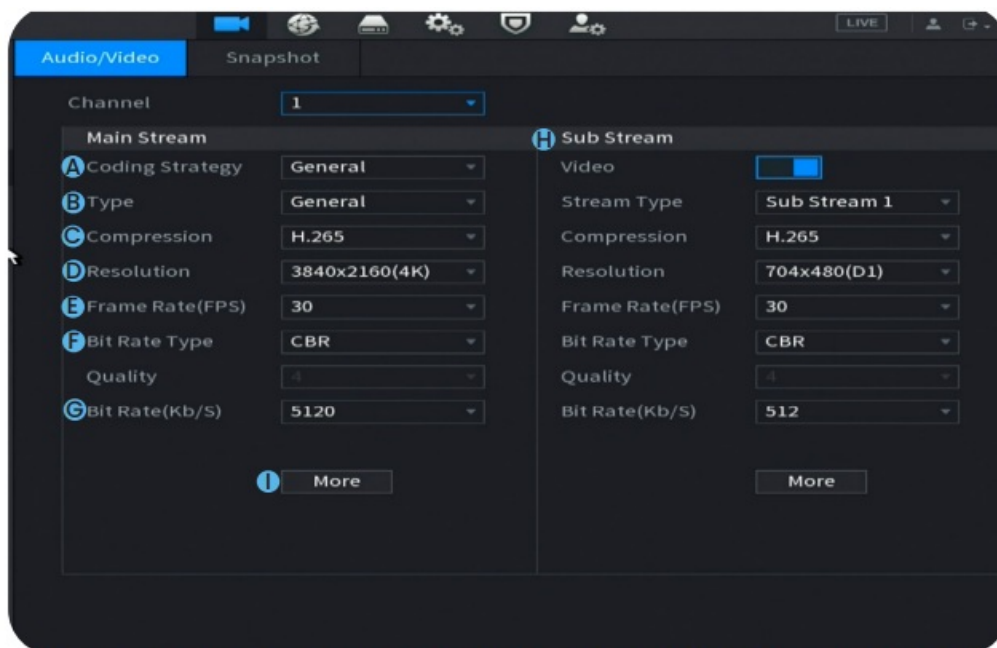
Above are the recommended encode settings for a typical 4K camera to get the best image.
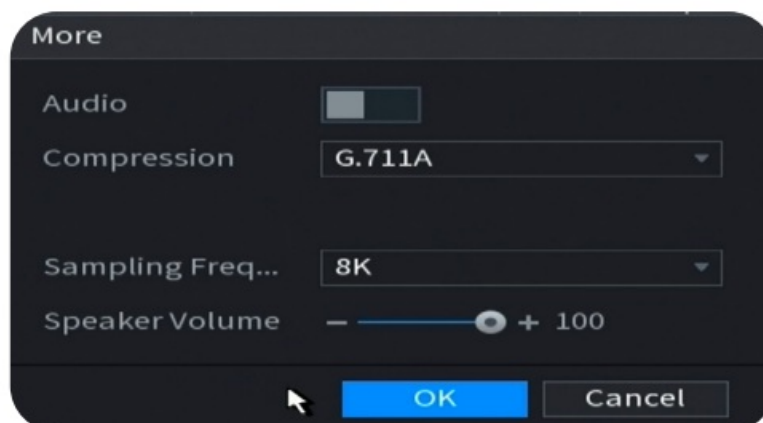
Audio Settings

- **A.** Coding Strategy – AI coding & Smart Codec strategy will increase the bit rate for human/vehicle events and decrease the bit rate for locations and events on screen that are not human/vehicle. This decreases the overall bit rate and thus file size, making it take far less space on your hard drive. General will keep the bit rate the same no matter the event.
- **B.** Type – General is for recording all the time, Motion settings can be specified here in case you want to

increase settings during motion events.

- **C.** Compression – video stored on your hard drive. Montavue recommends H.265 or H.265+ when applicable.
- **D.** Resolution – Defines the overall quality of the footage. 4K (8MP) quality footage has a 3840 x 2160 aspect ratio (widescreen).
- **E.** Frame Rate (FPS) – Video is made up of many images (frames) shown in sequence at a certain speed, this is the frame rate. The higher the frame rate, the smoother motion will be in the video.
- **F.** Bit Rate Type – Choose between CBR (Controlled Bit Rate) or VBR (Variable Bit Rate) CBR keeps the bit rate the same all the time while VBR decreases the bit rate when no motion is present to conserve space on your NVR. You then need to choose the quality option if VBR is selected.
- **G.** Bit Rate – The maximum bit rate allowed for the channel. The higher the bit rate, the better quality image, however, more space on your hard drive is occupied.
- **H.** Sub Stream – NVRs run a video sub-stream which is a lower-sized file, the primary function of a sub stream is to have video readily available to send to your mobile device. It's important that Video is activated blue to enable this setting. Sub-stream by default is not recorded to your NVR.
- **I.** Audio Settings – if the connected camera has a microphone, the 'More' option will appear below the main stream and substream. Select this option under each stream type to enable the microphone and adjust audio recording settings.

Make sure to hit apply before moving onto another channel or before closing the page.

Customizing Channel Name

IPC is the default name for Montavue cameras, appearing in the bottom left corner of the image.
If you want to customize these channel names, Select Main Menu > Camera > Cam Name
On this page, simply left-click on the desired channel and input text using on-screen keyboard. Press apply to save changes.
*If you name cameras AFTER adding your NVR to MontavueGO, delete and re-add NVR on the app to update names.

Motion Detection

Enabling Motion Detection
Motion detection is one of the key components of a Montavue Security system which is why it's important to have it activated for your channels. To access the motion detection screen go to Main Menu > Alarm > Video Detection.
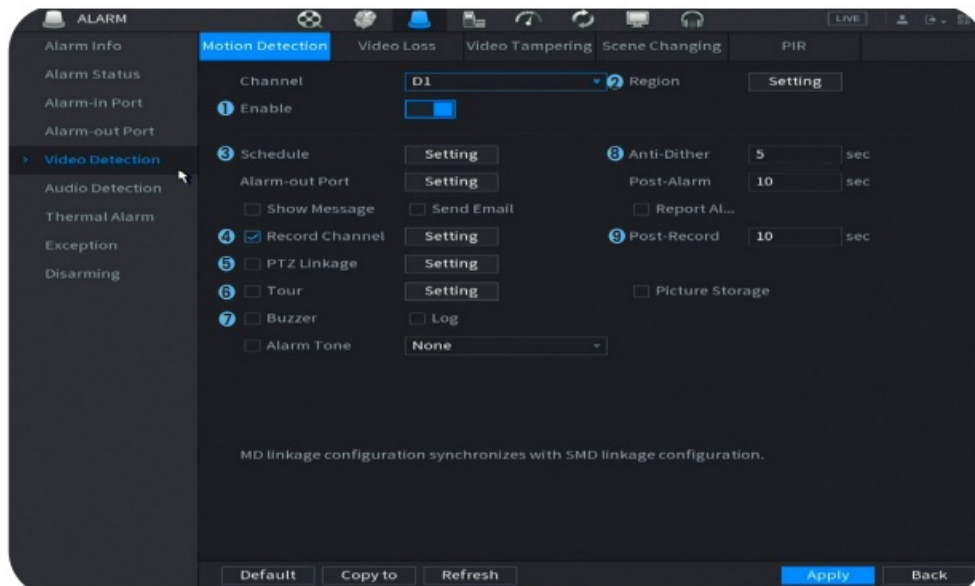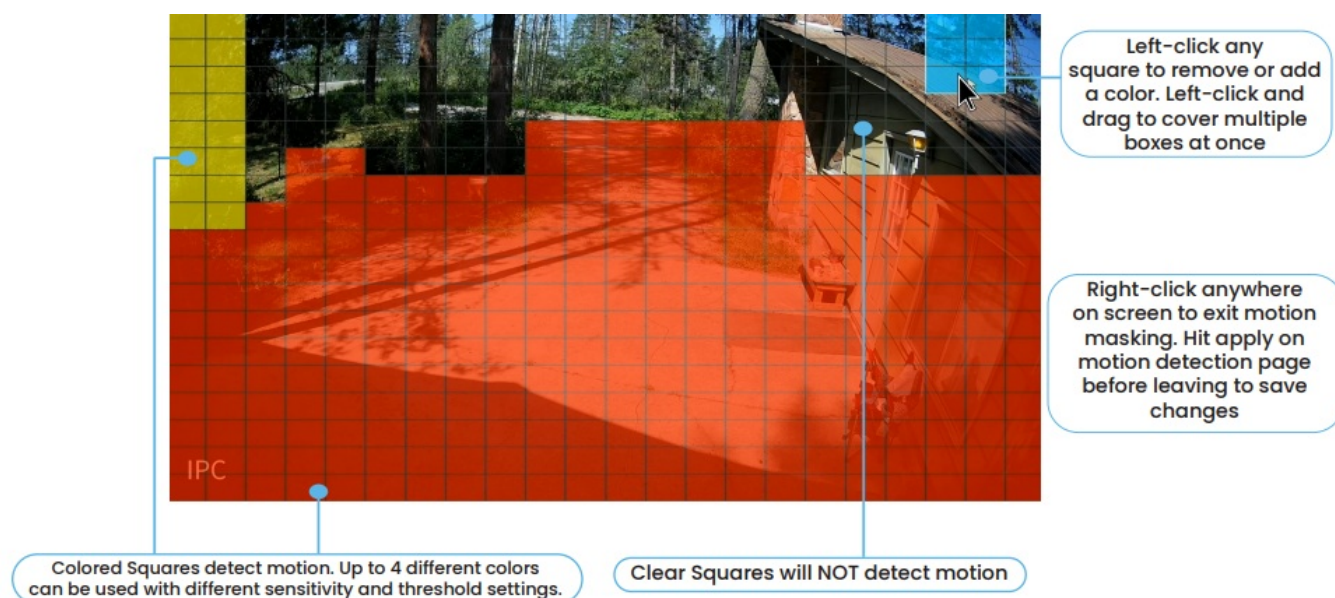
Audio Settings

1. Enable Button – Activates motion detection for the channel
2. Region – Press the 'setting' button to set motion masking areas, motion sensitivity, and threshold. See motion masking section below for more info.
3. Schedule – Set the detection schedule for this channel. (24/7 by default)
4. Record Channel – Must be checked in order to record to the hard drive
5. PTZ Linkage – Set motion detection to activate a PTZ on your NVR. See our PTZ linkage video on Youtube for setup tutorial.
6. Tour – Activate motion tour for this channel.
7. Buzzer – When motion is detected for this channel, the NVR will beep.
8. Anti-Dither – Determines how much time should elapse before motion detection can trigger again. (prevents needless repeat motion alerts)
9. Post Record – If the user has chosen to record on motion only, this setting will determine how long after the motion trigger the NVR will record for.

Make sure to hit apply before moving onto another channel or before closing the page.

Motion Masking

Motion detection takes the entire camera's into account, motion masking can help eliminate false notifications by disabling motion detection in specific locations on screen. This mask will also affect Smart Motion detection locations. Main Menu > Alarm > Video Detection > Region – Setting.

Left-click any square to remove or add a color. Left-click and drag to cover multiple boxes at once

Right-click anywhere on screen to exit motion masking. Hit apply on motion detection page before leaving to save changes

Colored Squares detect motion. Up to 4 different colors can be used with different sensitivity and threshold settings.

Clear Squares will NOT detect motion

Motion Mask Menu

Recommended starting sensitivity is approx. 65 and threshold at 15-25. Every location is different, so start here and adjust settings accordingly.

- The motion mask menu can be opened by moving your mouse cursor to the top of the motion masking screen. The menu will pop down from above.
- Each color (red, yellow, blue, and green) represents spaces on the image that will trigger motion. Each can be customized to a specific sensitivity and threshold that will pertain only to that portion of the image/color.
- Sensitivity is determined by how fast something is moving on screen. A low sensitivity means something moving slowly may not trigger motion detection and high sensitivity would trigger on anything that moved.
- The threshold is related to an object's size on camera. If the threshold is low, any size object may trigger the motion and if the threshold is set high, it will require a larger object to activate the motion trigger.

Tripwires & Artificial Intelligence

Artificial Intelligence (AI)
Artificial intelligence has revolutionized the security industry and is present in almost every Montavue camera available. AI refers to features like tripwires, smart motion detect, face detection, heat map, people counter, license

plate reader, and so on. These features use computer algorithms and intelligent analytics to recognize humans, vehicles, faces, clothing, etc. All of this helps to identify subjects for the user, avoid false alerts, and create an overall more efficient security system. Some cameras and NVRs may have AI built-in and some cameras may have more advanced features than others. Due to the nature of our software, you will see all of these features in the AI section, please keep in mind some may be unavailable due to your camera's or NVR's abilities.
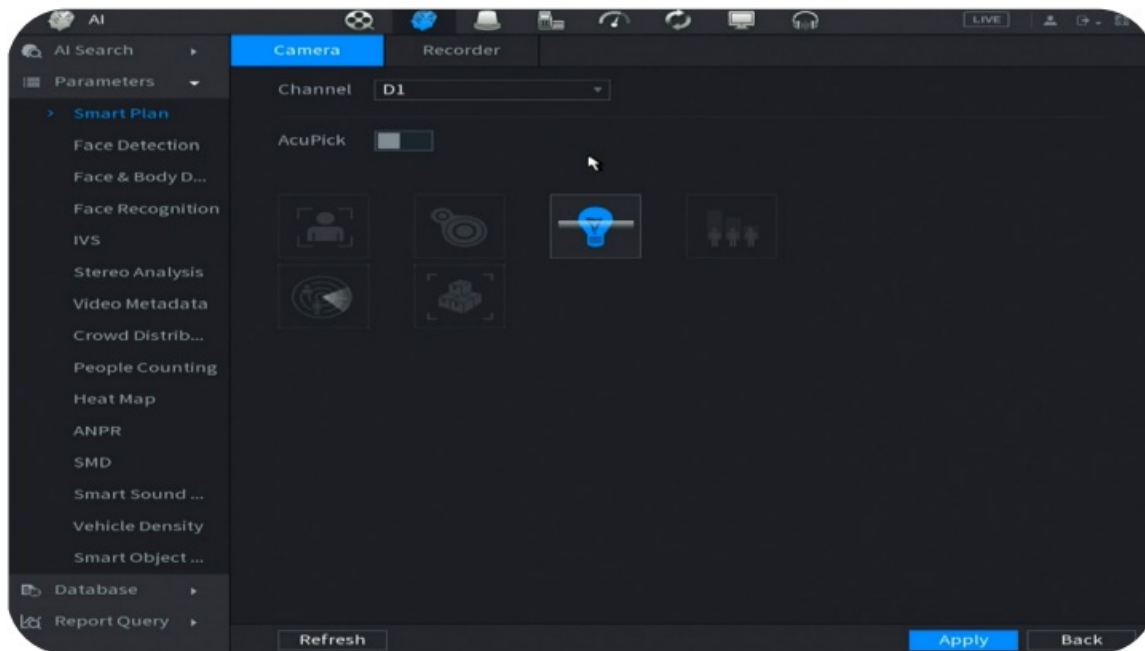
Smart Plan

- **Step 1:** Access the AI function menu select Main Menu > AI > Parameters
- **Step 2:** Select Smart Plan underneath the Parameters
- **Step 3:** If you plan to use smart motion detect or IVS, activate the light bulb icon on this page (blue is active). Activation for face detection, heat map, people counting, and smart object detection can also be enabled here. *Some cameras can only perform one of these functions at a time.
- **Step 4:** Press apply before going on to activate other channels or exiting.
- **Step 5:** Under Parameters, locate either SMD (Smart Motion Detect) or IVS (Intelligent Video Surveillance) which contains tripwires and intrusion. Select either one of these options and continue to the instructions below. If you're activating face detection, heat map, ANPR, smart sound detection, etc, specific instructions for those abilities can be found on our Youtube page or our website help center.

Tripwires/Intrusion
Tripwires and intrusion areas (IVS) are digital boundaries that appear on-screen and serve as an advanced form of motion detection. Rather than using standard motion detection, tripwires and intrusion lines create specific areas of motion trigger and can even be configured to only activate when humans & vehicles cross the boundry. If you activate smart plan from the steps above, you're ready to start adding IVS to your cameras. To access IVS menu select Main Menu > AI > Parameters > IVS
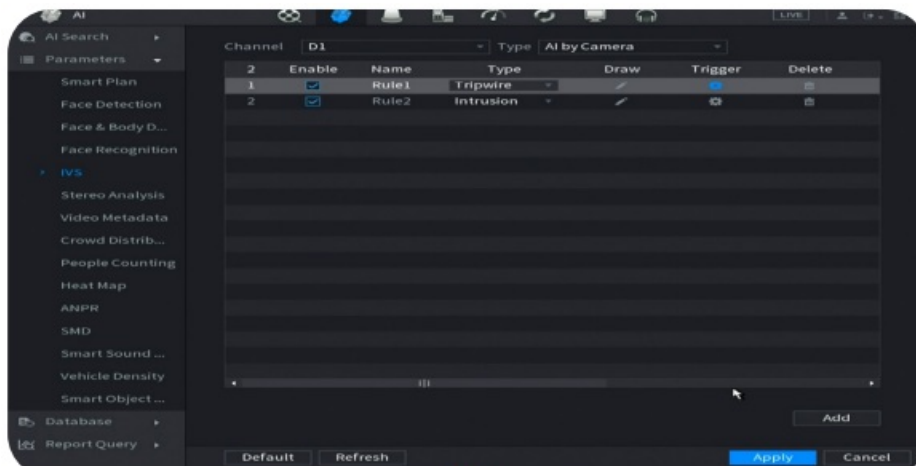
IVS

- **Step 1**: On the IVS screen, select your desired channel above. Then, select Add at the bottom right to add an IVS rule.
- **Step 2:** Choose the desired IVS type. Tripwire is a line or series of lines that can be drawn anywhere on-screen to create a boundry. Tripwires rely on the target crossing them to activate. Intrusion is an area on screen that is encircled by trigger lines, designed to activate when a subject enters into the perimeter of the intrusion area on-screen. Effectively, they do the same thing just in slightly different ways.
- **Step 3:** Left-click the pencil icon underneath Draw. This will take you to the tripwire/intrusion design screen.
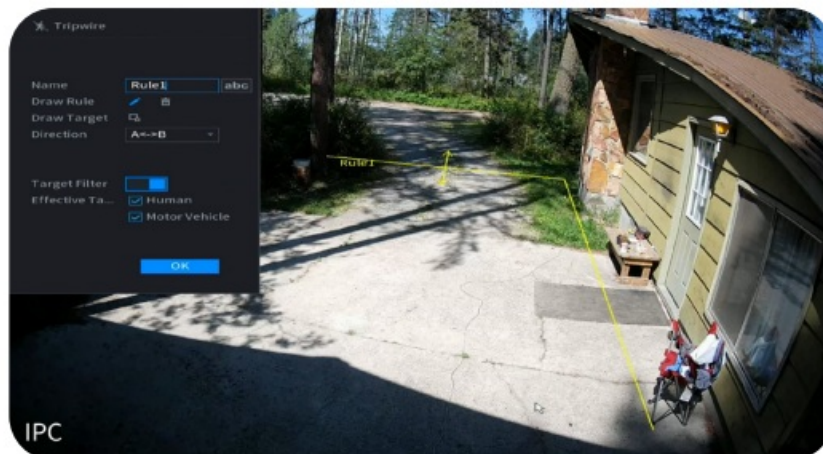
Tripwire Design Page
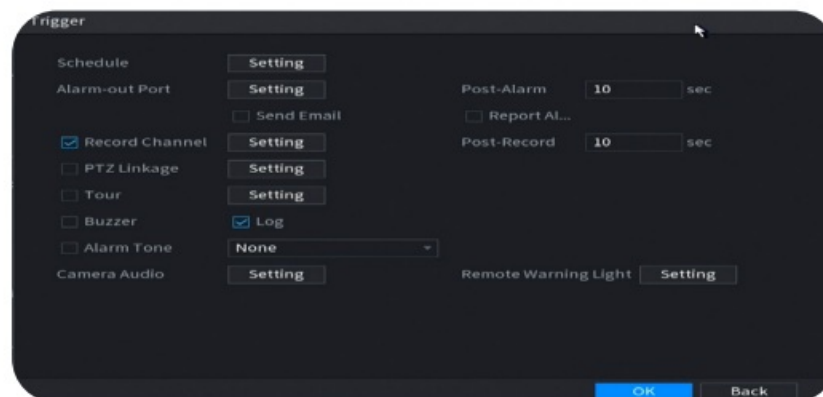
IVS Trigger Page

- **Step 4:** Now that you have a live view, you're ready to draw your detection lines. Left-click on the desired location on-screen to start drawing, move the cursor to the desired end point and left-click again. You can have up to 16 of these points per tripwire and must have at least 2. When you have the boundry created to your liking, right-click once to solidify the perim-eter. You should see a direction arrow and the name of the rule

appear in yellow with the lines. If the tripwire option box is covering an area you wish to add a tripwire too, left-click where it says "tripwire" and drag the box to a more convenient location.

- **Step 5:** Choose your detection options in the box. Target filter engages the AI to only trigger on humans/vehicles. Direction indicates if the trigger will activate if a target enters from that direction. This is helpful with door-ways and driveways. By default it will be set to trigger on both directions.

- **Step 6:** Press OK once you have everything selected. You will be taken back to the IVS screen. Next, we can left-click the settings icon under-neath the trigger section. The settings are similar to motion detection with the addition of Camera Audio and Remote Warning Light. These are in reference to active deterrence features. If you have active deterrence cameras, those ablities can be adjusted with these selections. Camera Audio is the siren and Remote Warning Light is the active deterrence lights.

- **Step 7:** Press apply on the IVS screen before moving onto the next channel or exiting. IVS tripwires will now appear on your live view.

   You can hide these lines in the display options, see page 14 for more info.

*NOTE: AI detection is represented by the blue (intelligent) markers on your recording schedule and playback. This must be set to record and track AI events including tripwire, intrusion, SMD, face detection, ANPR, people counting, etc. This is seperate from the schedule set on the trigger page, this applies for the yellow (motion) detection events as well as the purple (POS) Red (Alarm) and Orange (MD & Alarm).

Smart Motion Detect & Smart Search

Smart Motion Detect
Artificial intelligence can be simpler than drawing tripwires and specific rules. For a quick, easy, and effective solution to motion detection, we have smart motion detect or SMD. This takes the camera's entire image into account (Minus any motion masking) and only alerts if the camera spots humans or vehicles, thus eliminating false notifications and is easy to set up.
To access SMD, go to Main Menu > AI > Parameters > SMD
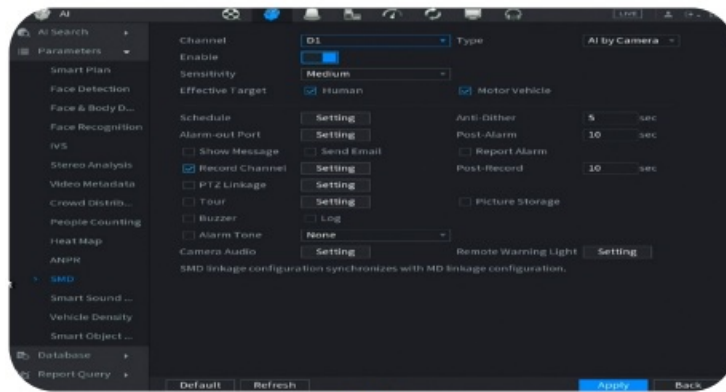
SMD

AI Rules on Live Screen

- **Step 1:** On the SMD screen, select your desired channel and left-click the enable button to activate.
- **Step 2:** Select the sensitivity of your SMD detection, low sensitivity will only trigger on subjects that are closer to the camera, high sensitivity will trigger on just about any vehicle or human that comes into view even at far distances. Remember – motion masking will affect SMD trigger areas.
- **Step 3:** Select your effective target, this can be set to trigger on only humans, only vehicles, or both.
- **Step 4:** Record channel is the only one you need checked here, the others are optional. If you have active deterrence cameras, Camera Audio will adjust the siren settings and Remote Warning Light will adjust the active deterrence light(s).
- **Step 5:** Press apply before going to the next channel or exiting screen.

*After activating IVS or SMD, the live video will start showing designation boxes on all humans/vehicles. You can disable these visuals in the display settings. See page 14 for more info.

Smart Search
Running through playback to find an event can sometimes take time and depending on factors, could be difficult to locate. Smart Search adds efficiency and ease of access to finding the video you need. Input cameras, date, and time and all humans and vehicles detected under SMD or IVS will be listed and categorized for you to easily open and view.
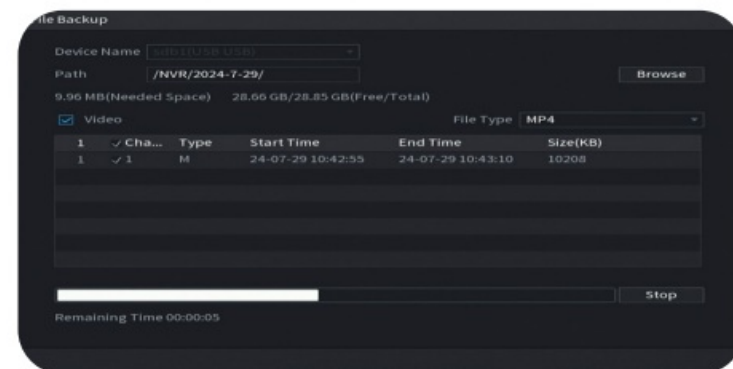To access smart search select Main Menu > AI > AI Search > SMD or IVS
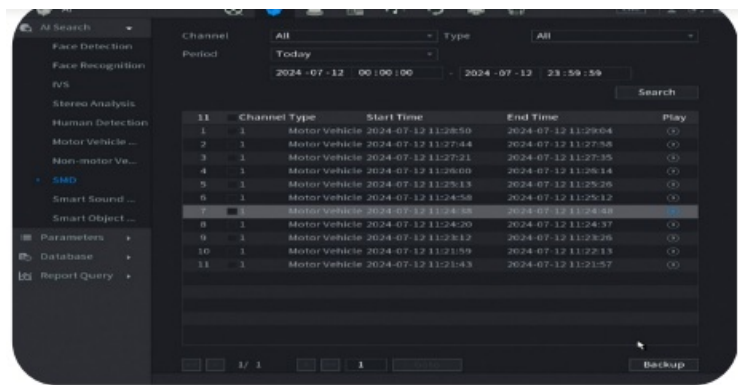
SMD Smart Search Page
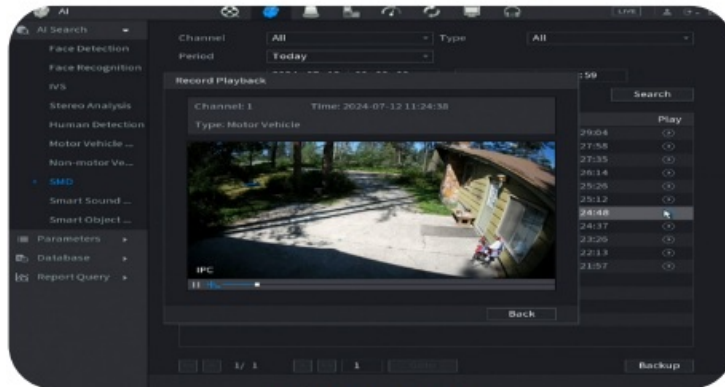
Clip Playback

Exporting Clip

- **Step 1:** On the SMD/IVS search screen, choose the channel(s) you want the AI search to access.
- **Step 2:** Select Type, this can be Human, Motor Vehicle, or all targets.
- **Step 3:** Choose date and time. Search can span multiple days if necessary.
- **Step 4:** Press Search. All events/video clips will appear on this list. To view the video clip, select the play icon to the right.

    Exporting Smart Search Video Clips
- **Step 1:** Take a USB flash drive and insert it into USB port of NVR. When USB is inserted, a message box will appear. Right-click anywhere to exit out of the message box.
- **Step 2:** Check the selection box to the left of the clip(s) you wish to export, then left-click on Backup in the bottom right corner.
- **Step 3:** The file backup screen will show information about your USB drive like device name, space available, and save path directory. Your video(s) should be checked automatically. Change file type from DAV to MP4
- **Step 4:** Once you have all your settings selected. Press Start in the bottom right. A progress bar and estimated remaining time will appear. When your clip is finished exporting, a 'backup completed' message will pop up.
- **Step 5:** Remove your USB from the NVR. The MP4 video file can now be easily emailed or played on a

computer for future viewing and use.

*The DAV native video is common for security cameras, however, DAV is not easily recognized by most video players. We highly recommend ex-porting in MP4 format for this reason.

Playback & Exporting Video

Playback

Playback is the ability to view your recorded footage from all of your NVR channels. Within Playback you can view trigger specific events via the color code timeline on the bottom, digitally zoom in on video footage, export video, and use features like acupick or fisheye for an even more enhanced and efficient experience. To access Playback select Main Menu > Search

Playback/Search Screen

Playback Controls

1. Pause/Play, Stop, back, last frame, next frame, slow-mo, fast forward, previous, next

2. Motion, Human/Vehicle, Snapshot, Pin, AI Rule

3. Create Clip

4. Exported Clip - IN (Start of Clip)

5. Exported Clip - OUT (End of Clip)

6. Save/Export Clip

7. Cameras

8. Calendar

9. Fisheye Control

10. Timeline

11. Playback Current Position (Orange Line)

12. Record Types

Viewing Footage

Viewing Footage

To view footage from your cameras, select your camera on the right side(7), you can select multiple channels at once but it's suggested to start with one camera and go from there. Once the box of your channel is checked (See section 7 in the example above) select a date from the calendar(8), any day with a white dot indicates there is recorded footage for that day. Playback will load the 24 hours of footage for that day, that will be represented in the timeline by the colors(10). Left-click on the timeline colored portion in order to view a particular time. The playhead or playback current position(11) will be indicated by the orange line. Once video starts, in order to load another channel, you must stop playback(1) before choosing another channel.

Exporting Video

In order to export video from your NVR, you'll need a USB flash drive, preferrably one with at least 10 GB worth of space so you can export long videos or more than one clip. The entire exporting process takes place in the playback/search section of the NVR, use the diagram above for reference.
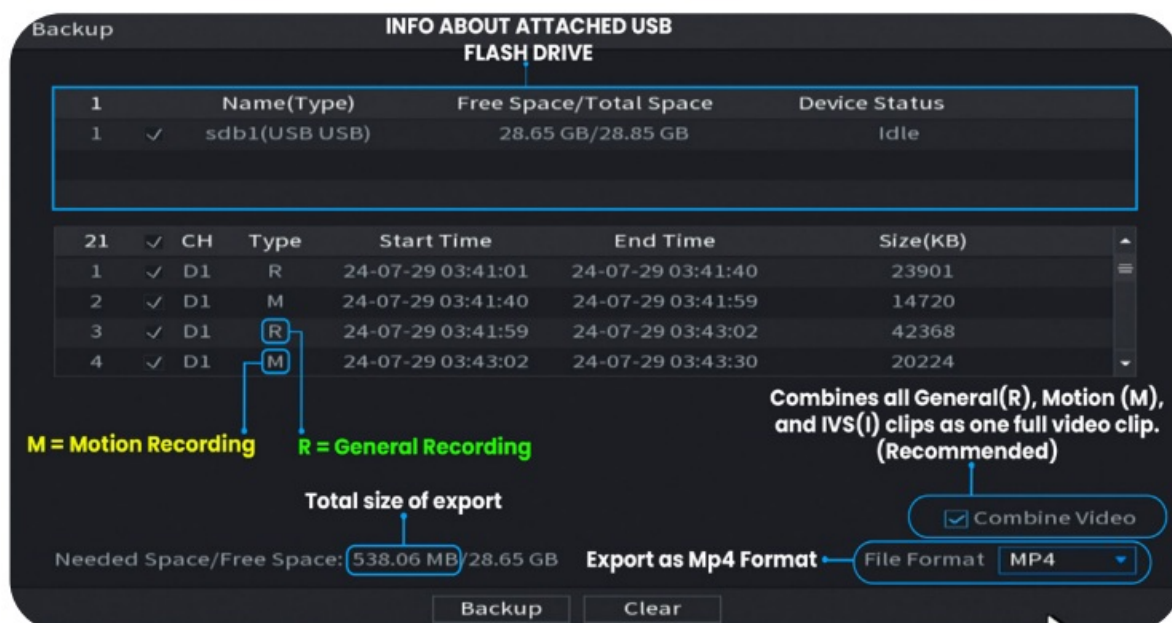
Export Screen

- **Step 1:** On the Search/Playback screen select the channel/camera (7) and choose the date in the calendar(8).
- **Step 2:** To create a video clip to export, left-click on the timeline(10) at the time you want to start your clip. Now, press the scissors icon(3), you should see the clip IN time(4) displayed to the right.
- **Step 3:** Let the video play out or left-click on timeline(10) where you want the clip to stop. Left-click the scissor icon(3) again. The OUT time(5) should be displayed to the right of the IN time(4). *Repeat step 2 & 3 if no OUT time appears after clicking scissor icon.
- **Step 4:** Left-click the export button(6) and the export screen will appear.
- **Step 5:** Keep all clips selected for full video export, change format to MP4 and combine video is recommended if Motion, General, or IVS type recordings are within the clip. Press Backup.
- **Step 6:** A pop up screen showing file info on the USB will appear. You can select the path directory or just press backup to automatically set one on export. A progress bar and timer will appear. You can eject your USB after export has fully finished.

Export Screen
*Once exported to the USB, the file will be automatically named by channel number and date. When you plug it into a computer, that will be your opportunity to rename the file if you choose.
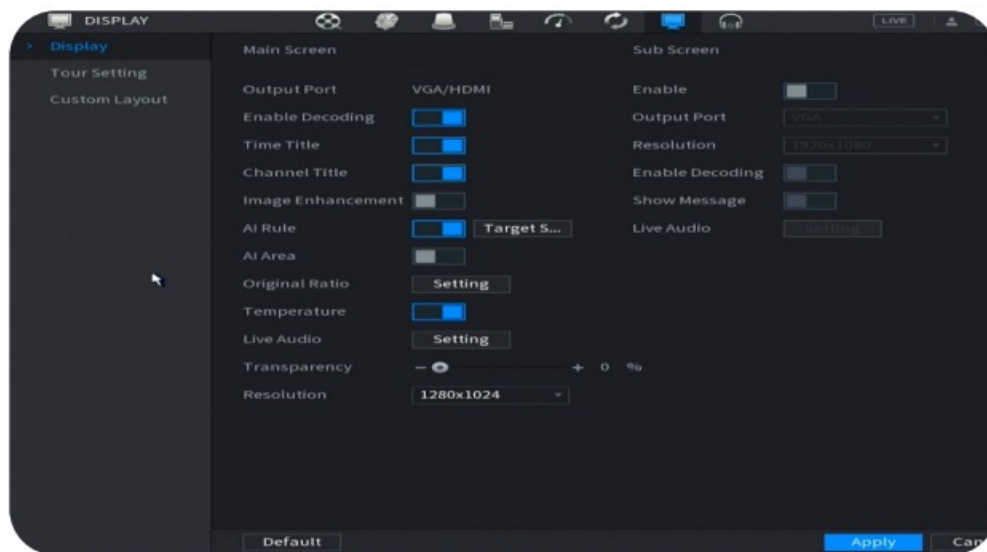
Display

Accessing Display

The display section can be found on the second page of the main menu. On the main menu, just below Maintenance Center there is a white arrow pointing right. Left-click on that to go to page 2 of the main menu. Display can be found here. Please reference page 7 of this guide to see where the arrow is located.

Display Options

These options control how the NVR is displayed on the monitor(s) it's plugged into. Main Screen refers to the primary monitor plugged into HDMI 1, sub screen refers to the second screen plugged in through VGA or HDMI 2. Make sure to hit apply after any changes.


Display Settings

- Main Screen – Monitor plugged into HDMI 1
- Sub Screen – Monitor plugged into HDMI 2 or VGA
- Enable Decoding – Always should be on. Allows video to be decoded.
- Time Title – Enable/Disable the time display on the live view.
- Channel Title – Enable/Disable Channel name on the live view.
- Image Enhancement – Use AI to digitally enhance display (uses GPU)
- AI Rule – Enable/Disable IVS lines and SMD identification boxes on live view. Original Ratio – 4K cameras should be at a 16:9 ratio. (Original recommended) Temperature – If cameras have thermometer, this will display readouts.
- Live Audio – Determines audio settings for the live view.
- Transparency – Set the opacity of the menu.
- Resolution – Resolution being displayed on the monitor currently

*If you attempt to change resolution to 4k on a monitor that is not 4k capable, a warning will pop up and it will convert itself back to 1080p to prevent issues.

Tour Mode

Tour mode allows the cameras on the live view to rotate in and out so each channel can have time on screen or in a larger format. This can be set in a timed function tour or a tour based on motion triggers. In order for motion tour to work, tour mode must also be checked on the respective channel for either motion, SMD, or IVS trigger settings.
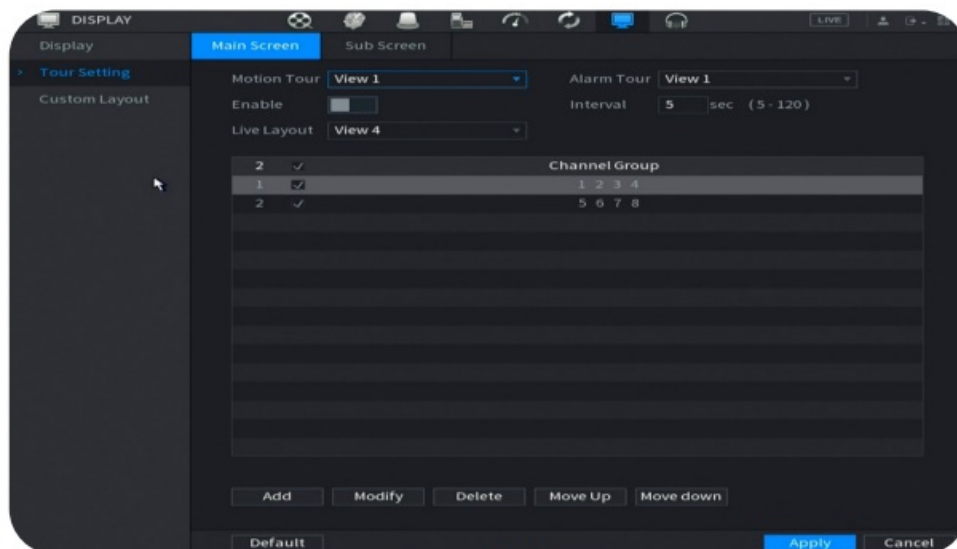
Tour Settings

Tour Settings

*Using the above image as an example: If both view 4 options are selected and no other view options are checked, the live screen will tour using cameras 1-4 in a quad view, then rotate over to 5-8 in a quad view every 5 seconds. Choosing only the view 1 options will rotate the channels in full screen.

- **Step 1:** In the display section, select Tour Setting from the left side.
- **Step 2:** Enable tour mode by left-clicking the enable button.
- **Step 3:** Choose your interval. This is how many seconds each layout will appear on screen before rotating to the next one.
- **Step 4:** If motion tour is desired, select view 1 for full screen rotation or view 8 for a large screen with 7 small screens around it. Ignore alarm tour unless you are connecting to 3rd party alarm system. *Skip this step if you are setting up a timed tour.
- **Step 5:** Under Live Layout, go through each of the combinations of chan-nels and either uncheck undesired ones, delete, or create your own using the add button below. This determines which channels will appear together for the tour rotation. This also allows you to combine channels together that otherwise wouldn't be.
- **Step 6:** After your live layout options are chosen. Press apply. *If you want to disable tour mode, come back to this screen or there is a tour mode icon on the live layout when active. It looks like two arrows circling each other and is located next to the NVR date & time. Left-click that to dis-able/enable tour from the live screen.

Custom Layout

In addition to the default views of 1, 4, 8, 16, etc. on the live view, there are the options of custom layouts. These are especially useful if you have an odd number of cameras or if you are using one of our panoramic model cameras. To acces the custom layout creator, select Custom Layout on the left of the display menu.

Custom Layout

Divide Square button
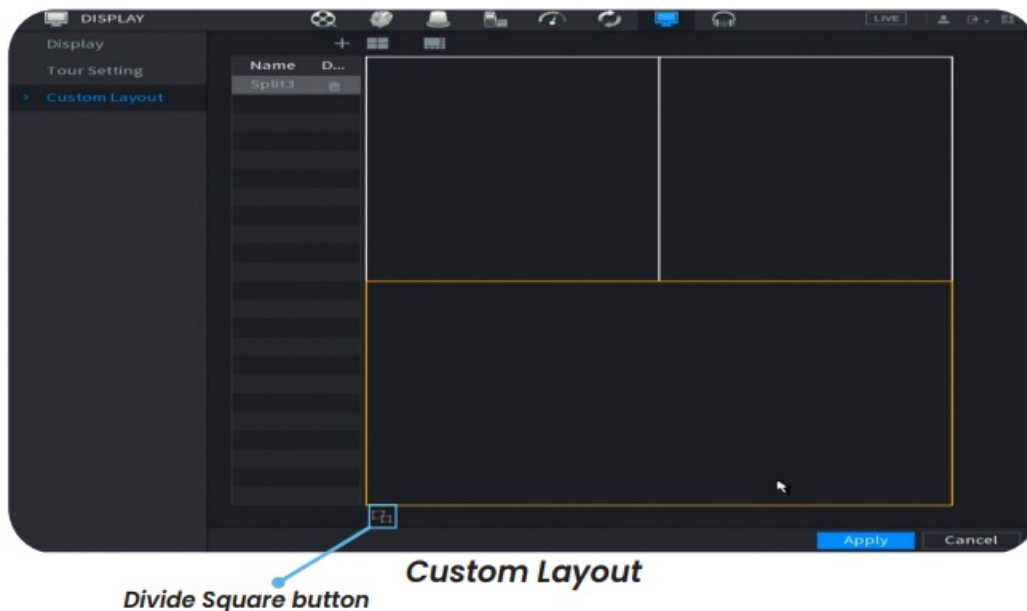
Creating a Custom Live Layout

- **Step 1:** Left-click the + button and choose your base layout to the right.
- **Step 2:** Left-click to select a square and hold left-click while dragging the mouse cursor over another square to join them. You can go horizontal or vertical. Combine squares to increase to the disired size and shape.
- **Step 3:** To split any squares into smaller units, select a square, then left-click the box icon to split. Box icon is indicated in the image to the right.
- **Step 4:** Once you have your layout(s) created and fine tuned. Click apply.
- **Step 5:** Head over to the live view of your NVR and right-click to bring up the quick menu. Hover over live layout and a pop-up menu will appear to the right. Select your custom layout and your live view should adjust instantly.

MontavueGO Mobile App

Downloading the App
MontavueGO is our free to use remote app for live viewing and notifications. Available on both Android and Apple smartphones, search your app store for MontavueGO 2.0

- Step 1: When first opened, the app will have some tutorial screens, swipe through these until you see the Region select screen.
  Select your country and press Done in the upper right corner.
- Step 2: On the Home screen you will be prompted with a login. You can create a MontavueGO account but an account is ONLY needed if you are adding a wifi camera such as a doorbell or floodlight. If you are adding an NVR, you do NOT need an account.

Adding NVR to MontavueGO
Adding your NVR to MontavueGO enables remote viewing and notification abilities. This requires your NVR to be

connected to the internet and p2p must say 'online'. Main Menu > Network > P2P. To check online status.


Home Page

- **Step 1:** On the home screen, press the + button (add device) in the upper right corner. Three op-tions will appear, choose SN/Scan. *App may require permission to use camera after choosing.
- **Step 2:** After camera permission is granted, the phone's front camera will be activated, you may scan the QR code of your NVR (Sticker located physically on the NVR, see reference image) may also press 'Manually Enter SN' below to manually enter the serial number. Once the SN is suc-cessfully showing, press Next. *If you have created a MontavueGO account, the options of 'Local' and 'Account' will appear. Choosing LOCAL is highly recommended.
- **Step 3:** Choose NVR from the list of devices. The next screen you will create a device name (this can be anything but no symbols allowed). Enter the username from your NVR (likely 'admin') and also your NVR's password. Press Save when entered.
- **Step 4:** A UPnP enable screen will appear. We advise keeping this active. Press Done.
- **Step 5:** If SN, username, and password are all correctly entered, you will be taken to the live view of your newly entered NVR.

**Activating Notifications**

Device Details

- **Step 1:** On the Home page, select the device details button. See figure above for location. Each added de-vice will have the Instant Live view button (>) and the device details button which is three dots (…) Select device details after pressing dots.
- **Step 2:** On the Device Details page, select Multi-channel Alarm Subscription.
- **Step 3**: On this page, first activate the notifications button on top, the event type list will appear once ena-bled, select your event type. Make sure you choose the exact type that you have set up on the NVR.
- **Step 4:** Select target type human or vehicle. Next, select the channels you want notifications from. You must highlight channels on both vehicle and human if you want notifications for both.
- **Step 5:** Press the back arrow in the upper left corner. Once back at the notification menu, choose save at the bottom. The number of channels assigned to each type will apear after selecting channels in each category. *A message saying 'subscribed successfully' will briefly appear after hitting save to confirm notifications are active.
- **Step 6:** Check your phone settings to ensure MontavueGO 2.0 has the proper allowances for notifications. You should begin recieving notifications for camera events. To disable notifications

Live View
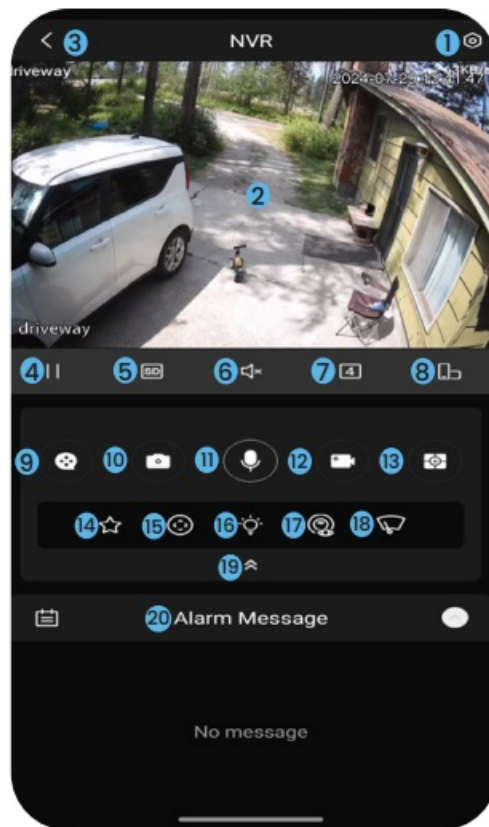
1. Channel Settings

2. Live View

3. Back Button

4. Pause/Play

5. Display – sub/HD

6. Audio enable/disable

7. Multi-View

8. Phone Layout

9. Still Image Capture

10. Two-Way Audio Enable/Disable

11. Instant Video Record

12. Re-allign Live Image

13. Add to Favorites

14. PTZ Controls

15. Active Deterrence Controls

16. Fisheye Mode

17. Lens Clearance

18. Menu Expansion

19. Channel Alarm/Notification Center

Playback
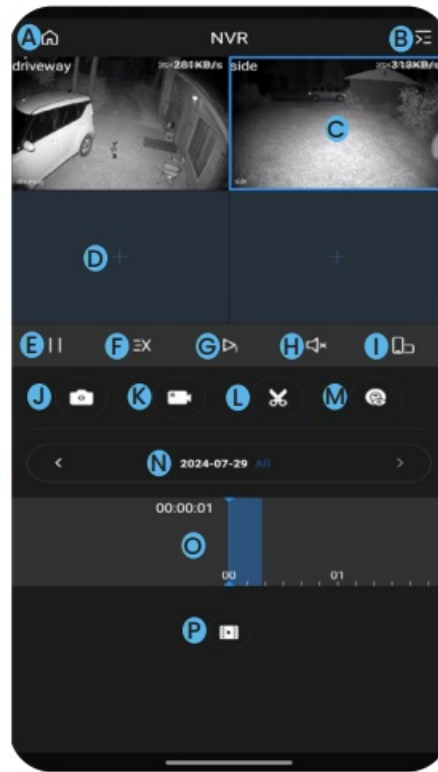
To view playback, select playback from the home page, select any of the 4 empty squares (D) or choose channel select
(B), then choose which channel to bring up. Once the channel is showing, choose your date on the playback date (N). This will load the 24 hr period, you can then navigate the day with the timeline (O) to your desired time. You can also view event clips from the channel by selecting the clip library button (P).

*Exporting a clip (L), taking a still image (J), or recording a video clip (K) will be saved to your phone. Exported videos and images can be viewed in the files section of MontavueGO. To access the files sec-tion, go to Home page > Me > Files

- **A.** Home Button
- **B.** Channel Select
- **C.** Selected Channel
- **D.** Add Playback Channel
- **E.** Pause/Play
- **F.** Play Speed
- **G.** Frame by Frame
- **H.** Audio Enable/Disable
- **I.** Phone Layout
- **J.** Capture Still Image
- **K.** Capture Video
- **L.** Create/Export Video Clip
- **M.** Fisheye Mode
- **N.** Playback Date
- **O.** Timeline
- **P.** Clip Library

MontavueGO PC/Mac App

How to Download

MontavueGO PC is free to download and use for Windows and Mac systems. This program can be useful for viewing your cameras remotely on a larger screen, faster information transfer, and more complex access to NVR settings remotely. To download, visit Montavue.com from your computer and select the help center option from the home page. Once on the help center, select downloads, then select MontavueGO. Options for Windows and MacOS will apprear. Left-click on the appropriate version for your computer and download the program. Mac users may need to override their Protection settings in order to download 3rd party programs such as MontavueGO for Mac.

Adding NVR to MontavueGO PC

- Step 1: After downloading the program, open the software. You will be prompted to create a username and password, this does not have to match your NVR, this is simply to access the software on the computer. Once, the initial setup is complete, the program will take you straight to the Devices page. If you are brought to the main menu, select Devices to add your NVR. *To access the main menu at any time, click the + button at the very top of the page.

- Step 2: On the Devices page, Select +Add in the upper left.

- Step 3: When the Manual Add page pops up, enter a device name for your NVR. Next, change the method to add from IP/Domain to SN(For Device Sup-port P2P).

- Step 4: Enter your NVR's serial number. *Any 0's are zeros and not the letter O. Make sure to capitalize all your letters on this part.

- Step 5: Group name can stay as default group. Username is admin or the same one you use on the NVR. Finally, enter the password you use for your NVR.

- Step 6: Select Add. Your NVR will appear on the device list, it will show up as offline at first, but after about 10 – 30 seconds the status should go online. If it fails to go online. Delete from the list (trash can icon) and re-add the NVR. It's possible the password, SN, or username was entered incorrectly. Finally, if it does not appear online after checking your NVR login info, re-check the p2p status on the NVR to ensure it's showing online.
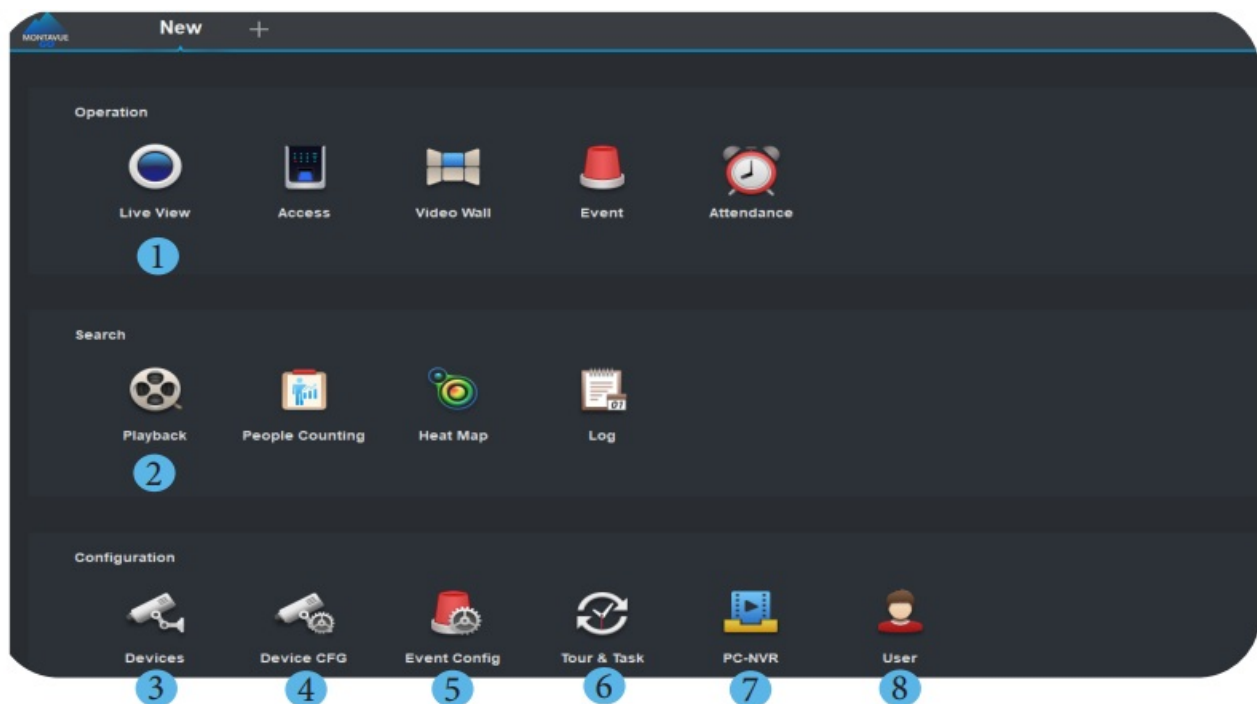

1. Live View – View your cameras in real time
2. Playback – View any recorded footage from your NVR
3. Devices – Add or remove NVRs or cameras to MontavueGO PC

4. Device CFG – remotely configure your NVR settings
5. Event Config – Configure alarms and events from MontavueGO (all alarms configured here will be specific to this PC and will not affect NVR alarm settings)
6. Tour and Task – Set tours and timed events with your cameras
7. PC-NVR – Use your PC as an NVR. *Not recommended for long term use, PC hard drives are not intended to read/write 24/7 like SATA drives can.
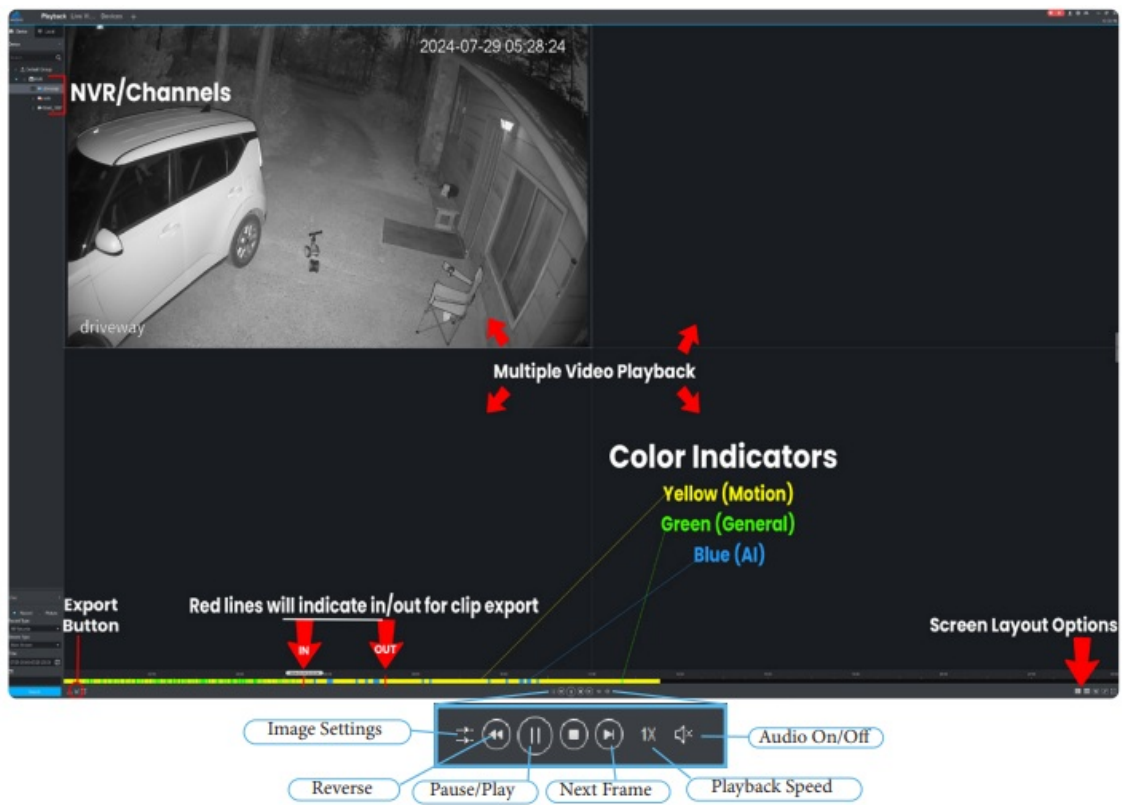8. User – configure different user accounts for MontavueGO
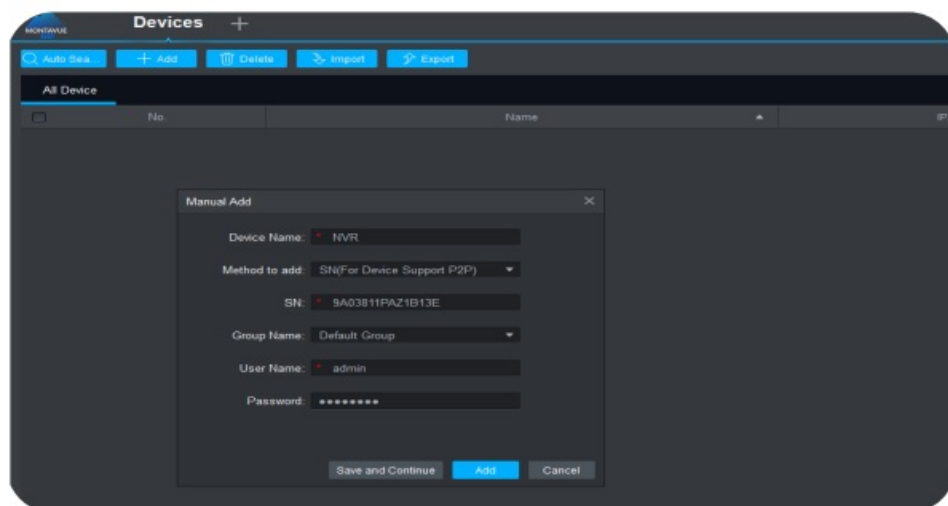
Devices Page + Adding NVR
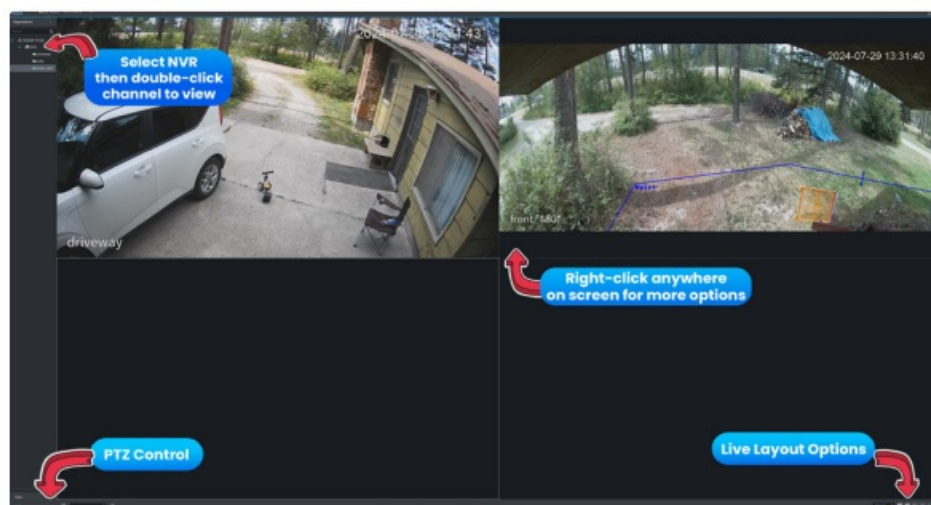
Live View

Playback & Exporting Videos

- Step 1: Access Playback from the main menu in the Search category.
- Step 2: Left-click your NVR on the left. Then, select a channel.
- Step 3: In the lower left corner, select the date and time of recordings you want to access. Two calendars will appear, one is for your 'in' time and the second calendar is your 'out' time. If you plan to export video, you need to search for at least one hour of video or more. Any day with a blue marker indicates there's recorded video for that date. Press Search when all options are selected.
- Step 4: Left-click anywhere on the timeline to play that portion. Pay attention to the colored markers to help you identify events. Use play, pause, fast forward, or use the mouse wheel to digital zoom.

EXPORTING VIDEO

- Step 1: After accessing the date you wish to export from. Press the scissors icon in the lower left corner. Indicated by export button in the diagram to the right.
- Step 2: Two red lines will appear spanning an hour. You can left-click and drag these lines to adjust the span of your clip. The first line is your IN and the second red line is your OUT. When you have desired clip, press scissors icon one more time for export options.
- Step 3: Select your save path directory and choose MP4 format for video and begin export.

FAQ

1. **What if I forget my password and am locked out of my NVR?**
   - Forgetting your password can be complicated since this is a security system designed to keep people without the password out of the system. We recommend checking out our Youtube tutorial to walk you through it. If you have security questions enabled, you can answer those or have a recovery email sent to the address on the NVR. If you don't have access to the email associated with the admin account on the

NVR and no security questions are set up, call us.

2. **I'm not getting notifications on MontavueGO, what's wrong?**
   - If you were successfully receiving notifications on MontavueGO and they suddenly stop. It's likely Apple/Android had a big update to their OS and it's ended the notifications. This issue is more common on Apple devices.
   - The best fix is usually to re-add your NVR to the app. Just go to the device details page on the app, delete is on the bottom. Then re-add NVR to your app. Very rarely, a factory reset of your NVR may be required to activate notifications again. Check out our NVR reset video or call our tech support for help.

3. **Why can't I see my cameras on MontavueGO when I leave my house?**
   - This issue happens when the NVR or camera is added to MontavueGO via IP address rather than the serial number. IP addresses for these devices only work locally while your smart-phone is connected to your router, thus, it quits when your phone disconnects from said router. Delete your NVR/Camera and re-add using the serial number to solve this issue.

4. **What is this error message where the camera should be appearing?**
   - There are a few error messages the NVR is capable of displaying depending on the issue. See the list below to view the description.
   - 'Cannot connect to Network Host' – Camera's IP address is no longer reachable. This usually happens to cameras that are not directly plugged into the NVR or if the cameras have been switched ports. To fix, go into camera list, delete cameras from the bottom list, do another device search, and re-add the cameras. If network cameras repeatedly change IP addresses, they need their IP addresses set to static.
   - IP address with empty box and eyeball symbol – Camera's password does not match the host NVR. To fix, enter the camera's password in the box on screen, if the password is unknown, manually reset the camera. Check out our camera reset tutorial on YouTube for more info.
   - Decode not enabled – The primary monitor is plugged into HDMI 2 or the sub-screen decoding has not been enabled on the display menu for your second screen. To fix, plug primary monitor into HDMI 1 instead or if it's your second screen, go to display and enable decoding on the sub-screen.

5. **My camera is not showing up on the live screen, there's just the Montavue logo.**
   - If you have a camera directly plugged into any camera port on the NVR and it's correspond-ing channel shows no sign of activity, it's likely a physical issue with the connections. Check your cables for water damage, feel the camera for warmth or cover the lens and see if the IR lights kick on, that tells you the camera is getting power. If the camera has power, try a fac-tory reset of the camera. If the camera is not getting power, try a different ethernet cable or a different port on the NVR. If a camera is not showing up, it's almost always an issue with the cable (most likely), the connection where the cable meets the camera tail, or the port on the NVR.

CONTACT

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Documents / Resources

MONTAVUE Basic System Setup Tutorial [pdf] User Guide
Basic System Setup Tutorial, System Setup Tutorial, Setup Tutorial

References

- **Login • Instagram**
- **User Manual**