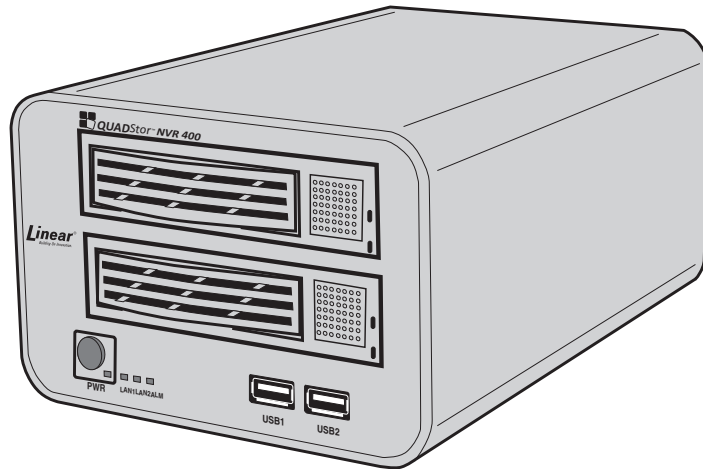


■ QUADStor™ NVR 400 Series
Quick Installation Guide



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1. The NVR System

NVR Components

- Thanks for choosing the QUADStor™ Network Video Recorder (NVR). Please read this Quickstart Guide carefully before using the NVR.
- This guide will help to perform a Basic Setup of the Network Video Recorder and its components.
- Follow the step-by-step instructions and diagrams to insure proper system functionality.
- **BE SURE TO CONNECT ALL COMPONENTS BEFORE APPLYING POWER TO THE SYSTEM!**

Here is a list of what is included:

1. QUADStor™ NVR with 2 HDD drive bays
2. Power supply
3. VGA cable Adapter
4. HDMI cable adapter
5. Power cord
6. HDDs (per configuration)
7. Setup CD
8. USB mouse
9. HDD installation screws (8)
10. NVR manual
11. NVR Quickstart Guide

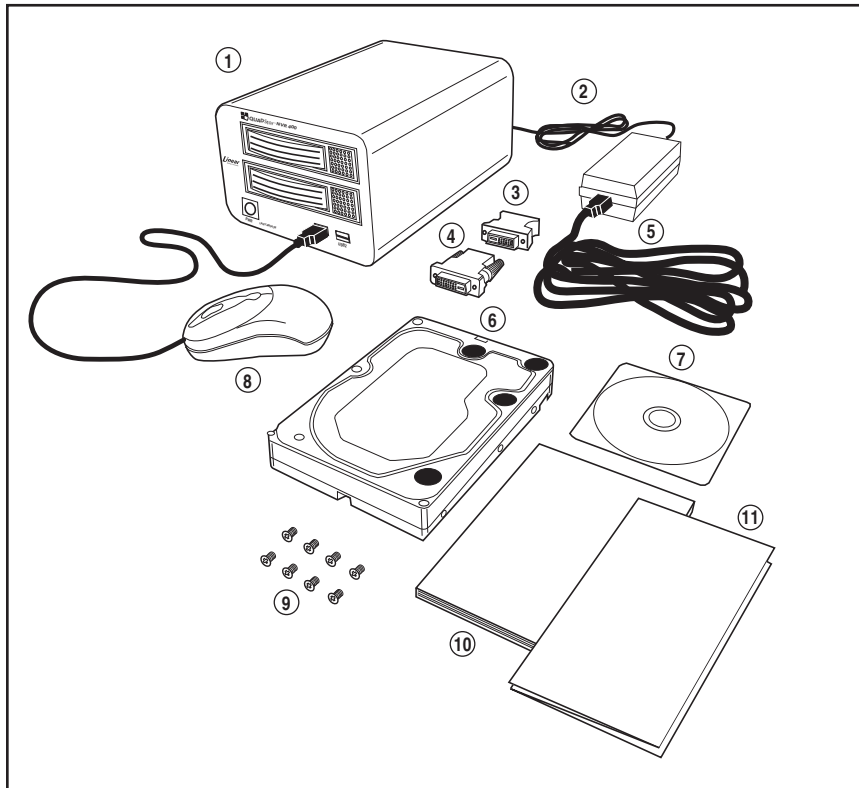


Figure 1. System Components

2. Hard Disk (HDD) Installation

Hard Disk Installation

Begin by installing the hard disk drive/s (HDD) into the Network Video Recorder. It has 2 bays to accommodate hard drives, depending on the system configuration. Follow the steps below.

✓ **NOTE:** Hard drives are prone to damage from mishandling. Be very careful not to drop them or cause any static discharge during the installation process.

✓ **NOTE:** Use audio/video (AV Class), HDD's which are sold separately

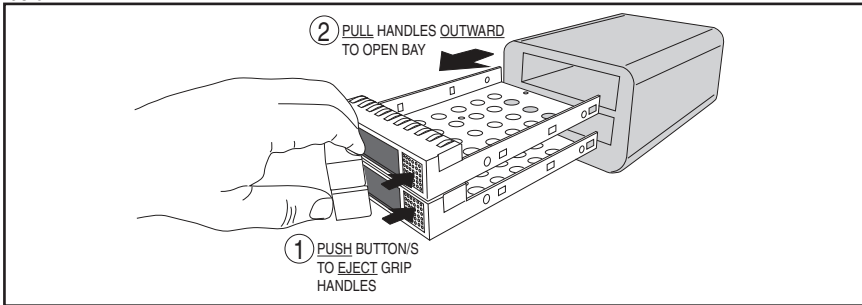


Figure 2. Opening NVR Bays

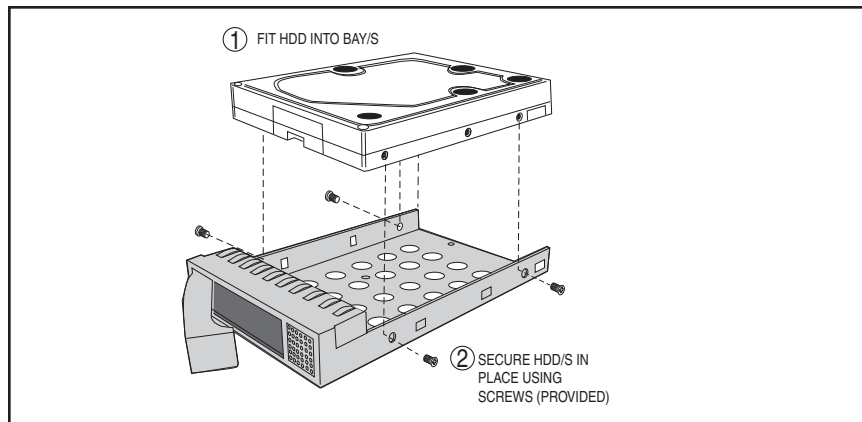


Figure 3. HDD Installation into NVR

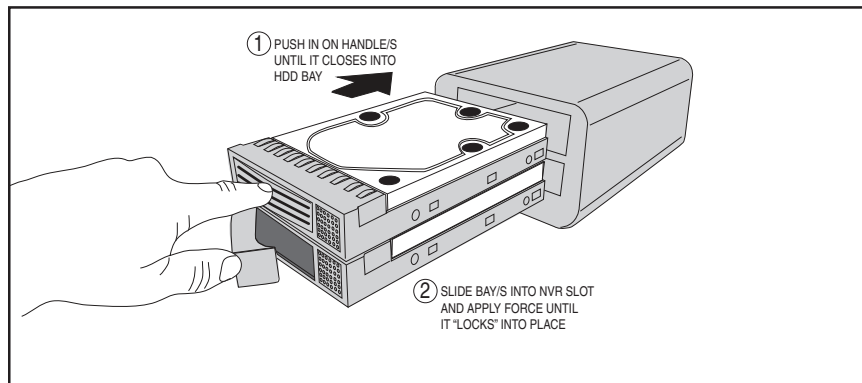


Figure 4. Closing NVR Bays

3. NVR Hookup

Backpanel NVR Connections

Use the diagram below to properly connect cables. Use the VGA connector/cable to install monitor. Place switch in the VGA position. If an HDMI monitor connector/cable is used (optional), place switch in the HDMI position.

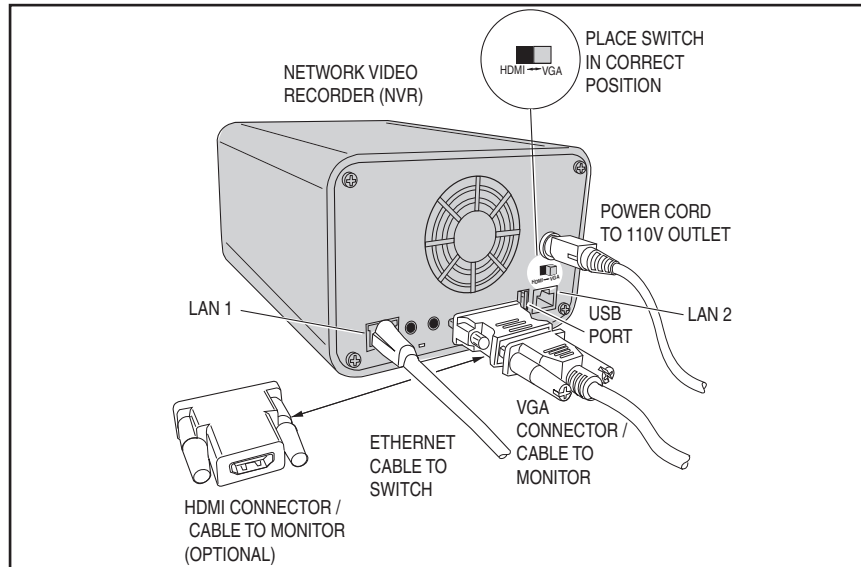


Figure 5. NVR Backpanel Wiring Connections

Frontpanel NVR Connection

Plug mouse (provided) into NVR using USB-1 port.

✓ **NOTE:** Mouse may also be connected to USB port on the back of NVR.

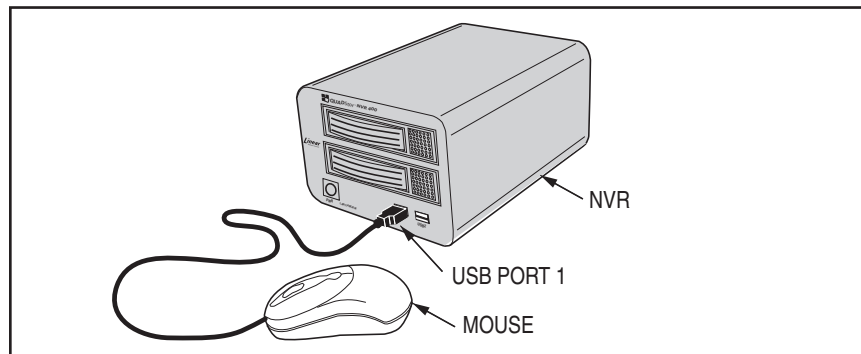


Figure 6. NVR Frontpanel USB Connection

4. Network Setup

NVR Network Connections

To finalize the QuickStart setup, add the following components. Use ethernet cable for making connections. A PC may be used to connect system to the internet (CLOUD). A single Network Video Recorder, with switch/router is capable of supporting multiple IP cameras.

✓ **NOTE:** Figure 7 represents a Basic Working System Configuration. To ensure that the network will function properly, please refer to the Operation Manuals included with each component. When selecting monitors **ONLY USE** ones with 1024 x 768 Resolution or higher or OSD will not be displayed.

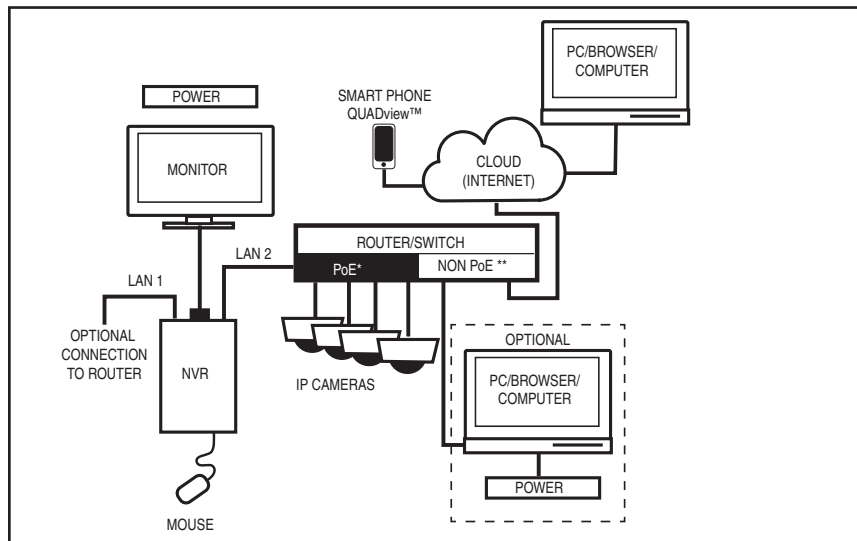


Figure 7. Network Schematic

PoE vs Non-PoE Connections

Switch/Routers use Power over Ethernet (PoE) or NON-PoE connections. PoE is a connection which passes electrical power along with data. Use the PoE for Ethernet cables when the component being hooked into the system does not have its own power supply. IP cameras are such devices.

5. System Power Up

Once POWER is turned on and all components are functioning correctly, the system will go through its initialization sequence as follows:

An audible "BEEP" will be heard from the Network Video Recorder. Monitor screen will display as shown: This screen display will remain for 2 minutes while operating system initializes. System will then go through the next screen being a self check sequence:

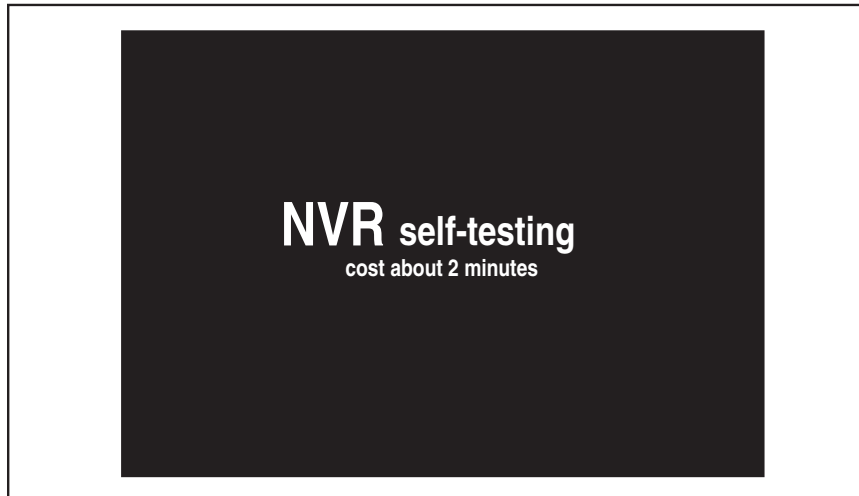


Figure 8. Initializing System

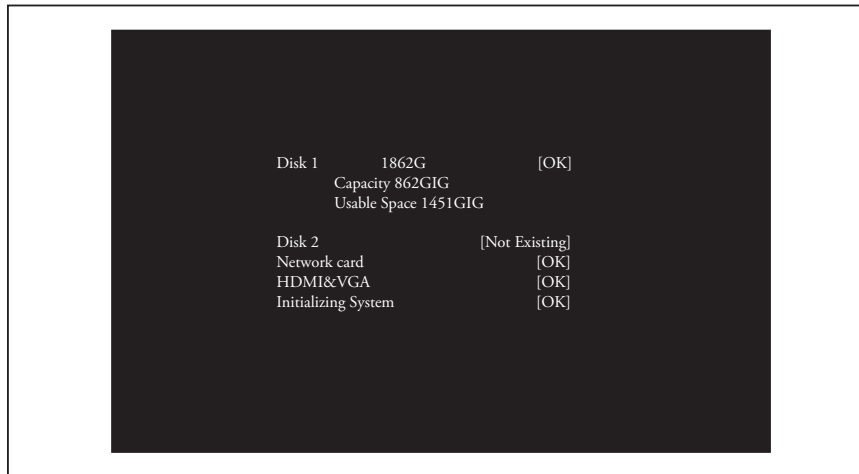


Figure 9. Initializing System

6. Login

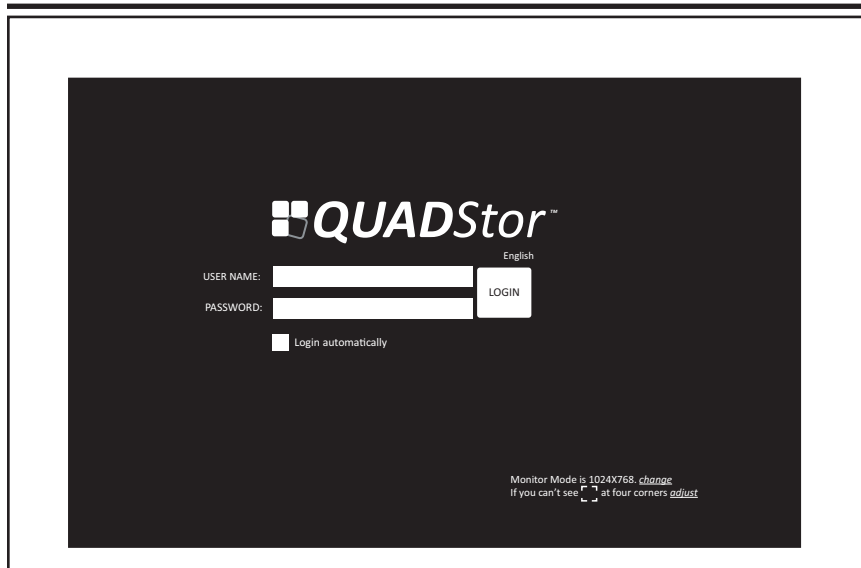


Figure 10. Login Screen

After initialization is complete, the login screen appears as shown in Figure 10.

Change the screen resolution by clicking on the “change” link at the bottom. Also, screen output can be adjusted by clicking the adjust link.

Operational screen resolution is 1024 x 768 or higher.

Place cursor in **User Name** block. A keyboard will appear in the lower right corner of the screen. Using mouse, or USB keyboard, type **“admin” in lower case letters.**

Next, place cursor in **Password** Block and using keyboard and mouse, retype “admin.” Admin is the default setting used to enter system for the first time.

Use “Login Automatically” to login upon boot-up.

Click Login button.

IMPORTANT: Default Password is **admin**

7. Live Video



Figure 11. Live Video Screen

Live Video is the first screen displayed after logging in. Figure 11 demonstrates Live Video navigation.

1. Live Video
2. Playback
3. Alarm Search
4. Quick Setup
5. Storage Configuration
6. Backup Tasks
7. Setup (NVR, IP Cameras)
8. Layouts
9. Live View
10. Cameras List
11. Alarm Info
12. Layout (show/hide)
13. Camera (show/hide)
14. Alarm (show/hide)
15. Full Screen, Auto Full Screen

8. Quick Setup

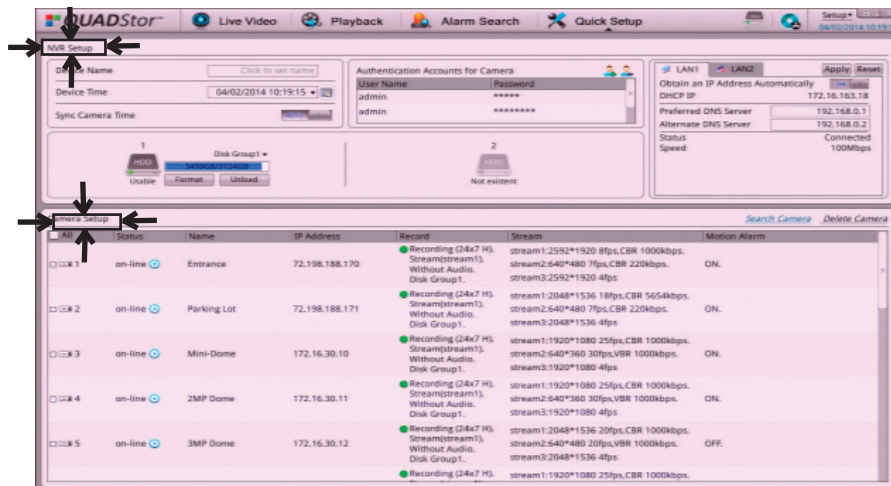


Figure 12. Quick Setup Screen

Select the "Quick Setup" tab to start configuration on the QUADStor NVR.

In the NVR Setup section, set up the NVR's Date and Time, Accounts for IP Cameras, Network and Storage.

In the IP Cameras section, connect IP Cameras to the NVR using Automatic Discovery of IP Cameras, IP Camera range, or manually entering IP Address.

9. Date and Time

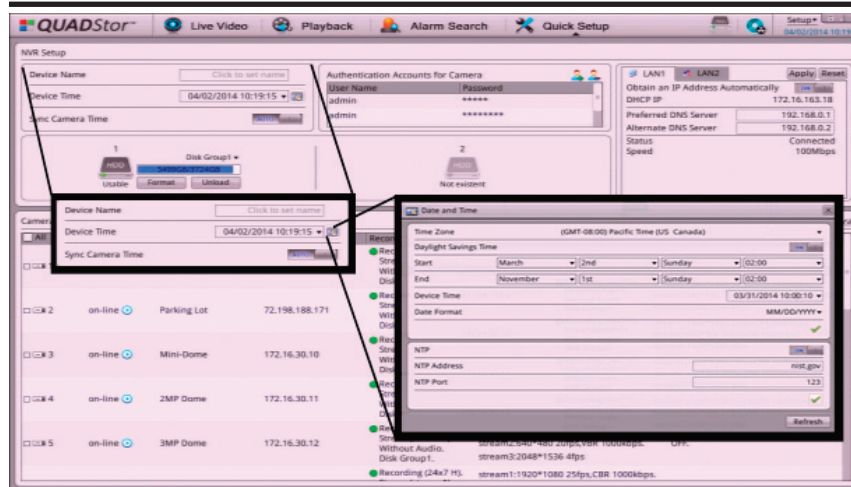


Figure 13. Date and Time

1. Type a device name for your NVR.
2. Click the button to the far right of the DEVICE TIME to open date and time window.
3. In the DATE AND TIME window, select TIME ZONE using down arrow to the far right.
4. Set Daylight Savings Time if desired by selecting this option. Enter the Start and End times for DST in your region.
5. Set Device Date and Time by editing the pop-up menu.
6. Set Date Format as desired.
7. Click the GREEN CHECK MARK to Save changes.
8. Use Network Time Protocol to keep your NVR date and time accurate.
9. Type in a NTP domain name or IP address (i.e. nist.gov) and NTP port (i.e. Port: 123).
10. Click the GREEN CHECK MARK to Save changes.
11. Close Date & Time window.
12. Make sure "Sync Camera Time" is set to AUTO. The NVR Date and Time will be synchronized to all IP Cameras

10. Authentication Accounts

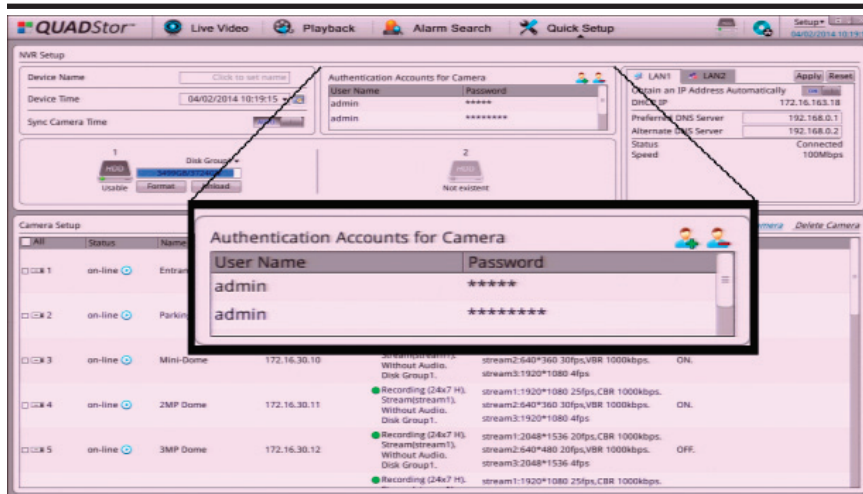


Figure 14. Authentication Accounts

To connect the IP Cameras with the correct user name and password, use the Authentication Accounts section. To configure authentication accounts and/or change passwords follow these steps:

To add a NAME and USER PASSWORD, click the “+” button (ADD ACCOUNT).

1. Type in User Name and Password in the ADD ACCOUNT window and click OK.
2. To DELETE a NAME and USER PASSWORD, click the “-” button.

WARNING: Be sure to write down in a secure place the admin password. This password is required to make any changes to the NVR. To avoid unauthorized access to your surveillance system avoid simple passwords such as “password” or “1234”.

11. Network

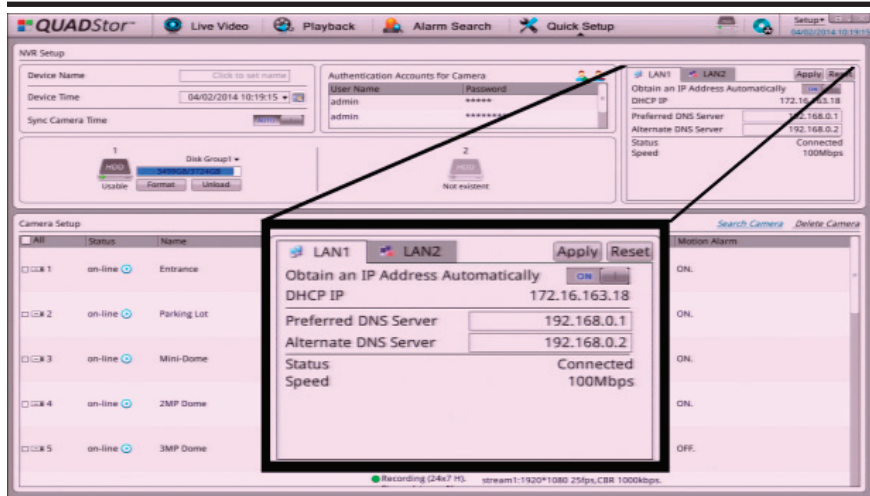


Figure 15. Network Setup

Use the Networks section to set up Local Area Networks (LAN1 & LAN2).

The IP Cameras can be connected to the NVR can be a part of the main network where LAN 1 is only needed. The IP Cameras connected to the NVR can be isolated from the main network. In this case use LAN1 to connect the NVR to network and LAN2 to connect the IP Cameras on an isolated network.

To ensure recording of the IP Cameras to the NVR, verify network connectivity. Contact your local Network Administrator for assistance.

12. Storage

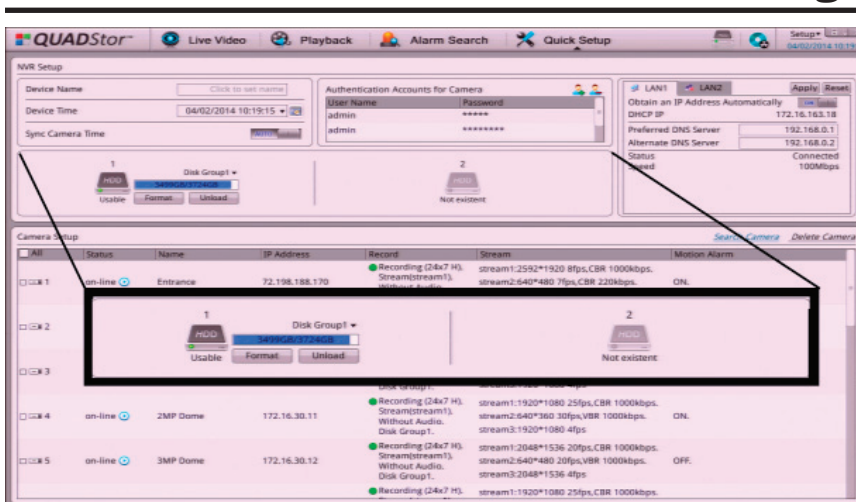


Figure 16. Storage Setup

The QUADStar NVR supports up to two internal Hard Disk Drives (HDDs). Prior to turning the NVR on, the HDD should have been mounted to the drive bay and inserted it into the HDD drive bay, locking it in place. If this operation, has not been performed, insert the HDD installed into the drive bay now. Please wait a few seconds for the NVR to recognize it.

If the HDD is recognized, a green light next to the storage icon will appear and the word "USABLE" beneath it.

If this is a new HDD, you will need to format it.

To FORMAT hard drive, click FORMAT. This will take a few minutes. **WARNING:** Any information previously stored on the HDD will be erased.

The size of the hard drive is shown in the window next to the hard drive icon. It will display how many GB's have been used and how much is left available.

If the HDD is shown as "NOT USABLE", the HDD is either recognized, not loaded into the drive bay properly or it needs to be formatted.

To remove the HDD from the NVR, click the UNLOAD button. Then the HDD may safely be removed from the drive bay of the NVR.

Each Hard Drive can be set to the same Disk Group or have each Hard Drive belong to a different Disk Group. Disk Groups allow recording an IP Camera to a specific Disk Group (Hard Drive).

13. Adding Cameras

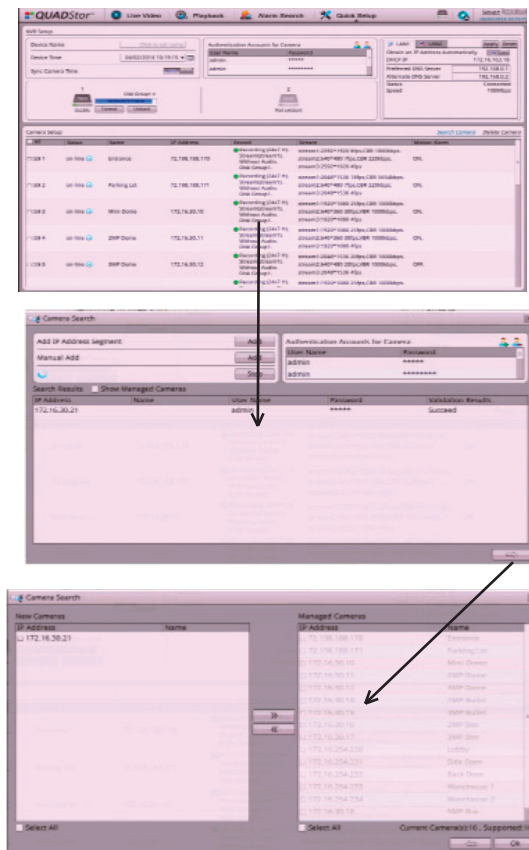


Figure 17. Adding Cameras

- Use the Camera Search dialog to connect IP Cameras to the NVR for recording.
- To add IP Cameras, click on the SEARCH CAMERA title as indicated above.
- A Camera Search window will appear. Click SCAN to discover IP cameras on the network. Or, Manually Add IP Cameras individually or by Network Range.
- There should be a list of several cameras in the window. Use the Authentication Accounts section in this dialog if there is the need to enter a different user name and password. (Default User Name is admin, Default Password is admin.)
- The validation results should indicate a successful connection to the camera.
- Click the ARROW at the bottom of the window to continue.
- Select the cameras that are desired to be managed by the NVR. Click the arrows in the middle of the window to add them to the right pane (Managed Cameras).
- Click OK when finished.

14. Camera Configuration

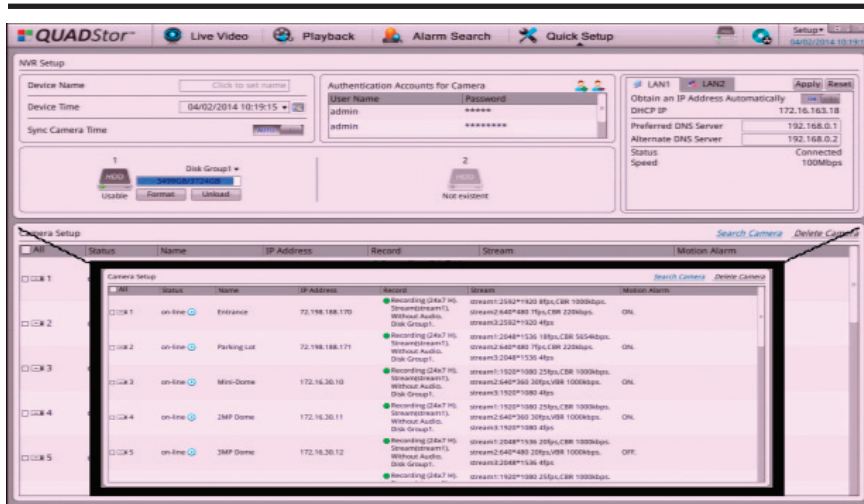


Figure 18. Camera Configuration

Overview of the Camera Configuration in the Quick Start tab:

1. ALL - allows selection of the cameras to Delete.
2. STATUS - indicates if the IP Camera/s are online or offline. If On-line, click on the blue triangle icon to preview live video from the IP camera.
3. NAME - allows ability to type in a name for the IP Camera. This is updated in the Live Video and Playback screens.
4. IP ADDRESS - displays IP Address of the IP Camera. Click to edit IP Address.
5. RECORD - indicates Audio and Video recording status. Click to edit Record Policies including alarm events.
6. STREAM - displays current IP Camera streaming parameters. Click to edit Streaming parameters.
7. MOTION ALARM - displays Motion Alarm Status. Click to setup Motion Detection schedule and parameters for the IP Camera

15. Record Policy Configuration

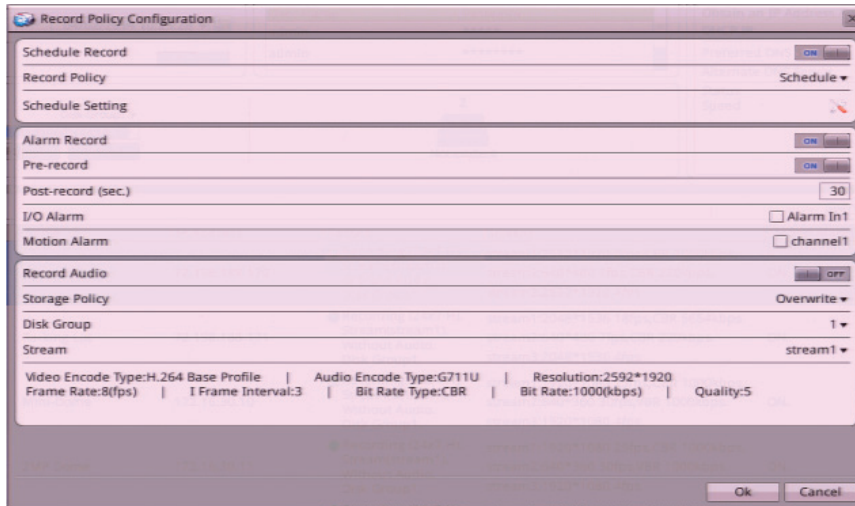


Figure 19. Record Policy Configuration

The Record Policy Configuration screen configures IP Camera recording to the QUADStor NVR.

1. Select Schedule Record. Select the "Record Policy" to record the IP Camera 24 hours a day 7 days a week or Schedule Recording.
 - a) For Schedule Recording, setup the Schedule by clicking on the Schedule Setting icon.

- b) Setup the Schedule in this dialog (shown below). After changes are made, click OK to Save the changes.

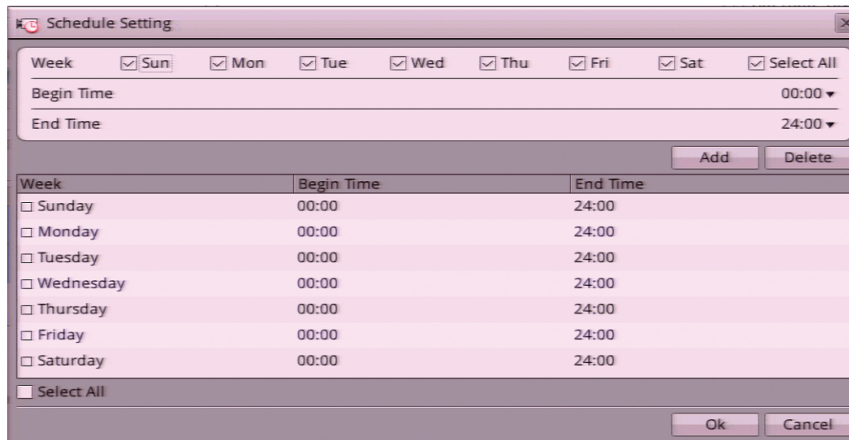


Figure 20. Schedule Recording Dialogue Box

Record Policy Configuration (Cont.)

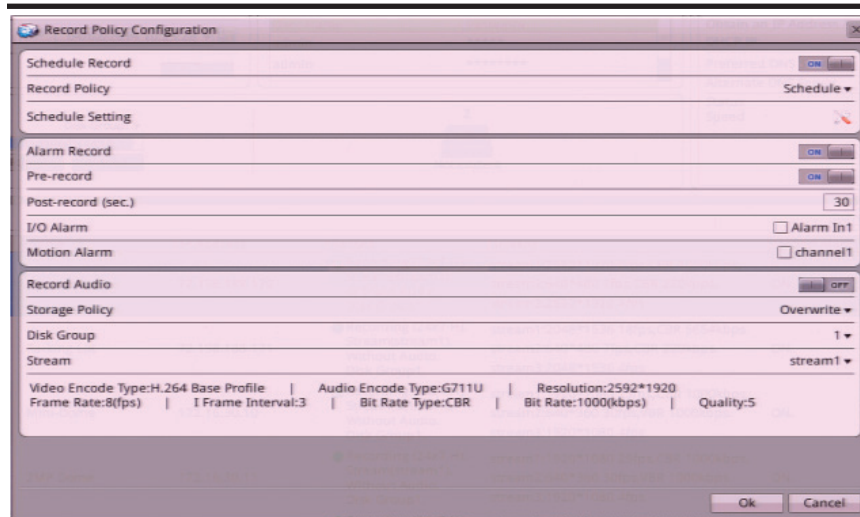


Figure 21. Record Policy Configuration

2. Select Alarm Record to enable to the IP Camera to record on Alarms or Motion.
 - a) The "Pre-Record" option allows the IP Camera to Record to the NVR before the Alarm event occurs.
 - b) Define a "Post-Record" time to determine how many seconds of recording after the Alarm event has occurred.
 - c) Select I/O Alarm to record on an alarm contact.
 - d) Select Motion Alarm to record on a Motion Event. To setup the NVR to record on Motion, setup the Motion Alarm parameters in the Quick Setup menu and disable Schedule Record.

Record Policy Configuration (Cont.)

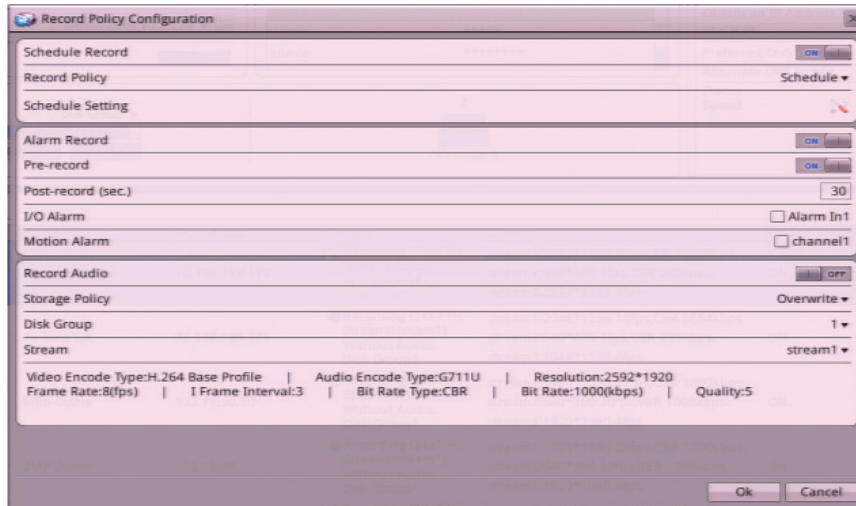


Figure 22. Storage Policy

3. Select "Record Audio" to record IP Camera audio.
4. Set the "Storage Policy" to Overwrite the video recording when the disk is full, or save recording of a set number of days. After the set number days, the recording will not be accessible.
5. Set "Disk Group" to designate the disk group the IP Camera will record to.
6. "Stream" specifies which IP Camera stream will be recording to the NVR.

16. Stream Setup



Figure 23. Stream ID

1. The Stream ID allows selection of three different streams to configure
2. Use the Name option to label each of the three streams
3. Use the Video Encode Type to set the H.264 profile. High Profile is recommended.
4. Use the Audio Encode Type to set the audio format. G711_ULAW is recommended.
5. Use "Resolution" to set the resolution of the IP Camera.
6. Use Frame Rate to set the number of frames that will be recorded in a second from the IP Camera.
7. Set the I-Frame Interval. It is recommended to set to 1.
8. Set the Bit Rate Type. Constant Bitrate (CBR) will record at a constant data rate and Variable Bitrate (VBR) will record at higher data rates when there is activity and lower data rates when there is not any activity.
9. Set the Bit Rate (in kbps) between 500-12,000. If using multiple IP Cameras, please note the NVR supports a maximum total of 24Mbps.
10. Use "Apply to All Devices" to apply the Stream Setup values to an IP Camera with the same Megapixel type.

17. Motion Detection

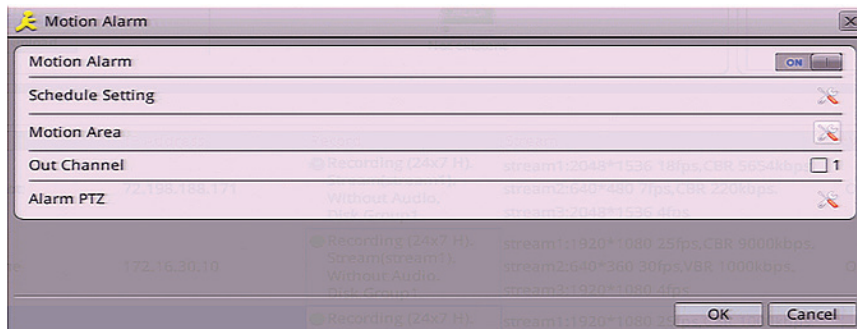


Figure 24. Motion Alarm

In Quick Setup click on the Motion Alarm to bring the above dialog.

1. Set the Motion Alarm option to activate Motion events
2. Set the Schedule when to record or tag Motion Events in the Schedule Setting dialog.
3. Click on the Motion Area option to define Motion Zones.

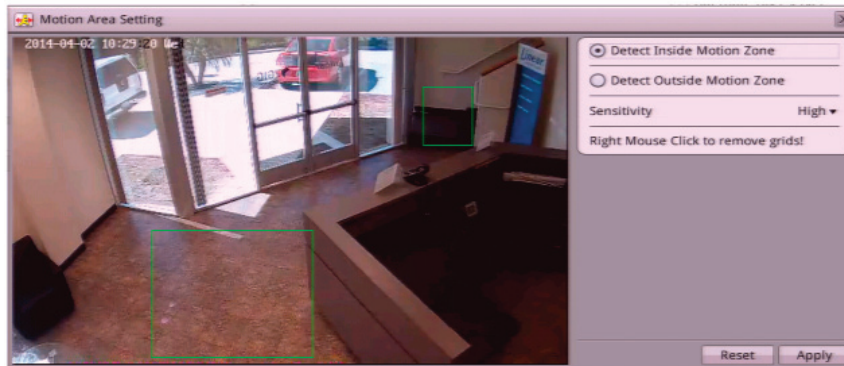


Figure 25. Motion Zone Area Setting

18. Video Playback

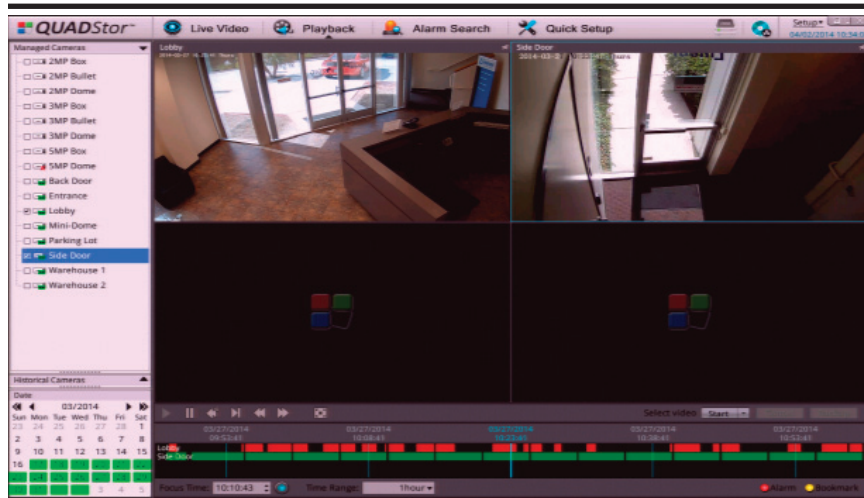


Figure 26. Video Playback

The Playback screen allows viewing of the recording of multiple IP Cameras.

1. Select IP Cameras on the left column
2. Select a calendar date. Green highlight means that there is recording on that date.
3. The timeline bar shows a graphical recording representation of the selected IP Cameras. Red highlights indicate Alarm recording (contact or motion) & Green highlights indicate continuous recording (not alarms)
4. To go to a specific time in the recording, use the Focus Time option.
5. The Time Range allows expanding the time start and end points in the Timeline bar.
6. The Select Video option allows Backup of the Video to an external media source. Use the Start and Stop Option to record the video clips being viewed in real time. Then select the Backup option to backup the files to an external media device.

✓ **NOTE:** To playback video on your computer, use the player program located on the resource CD that shipped with the NVR. Run the Player program and open the video file to view.

19. Alarm Search

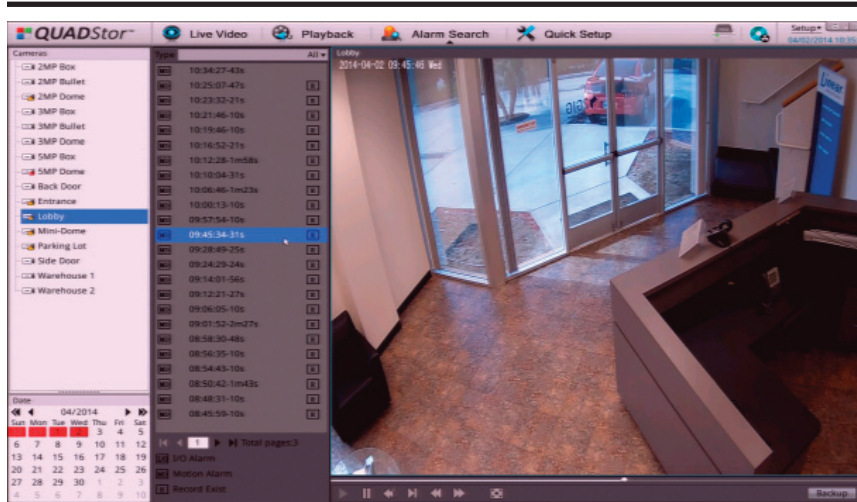


Figure 27. Alarm Search

The Alarm Search screen allows viewing the recording of alarms.

1. Select IP Cameras on the left column
2. Select a calendar date. Red highlight means that there is alarm recording on that date.
3. The second column shows a list of events of the selected date and IP Camera.
4. Select an Alarm Event to playback the IP Camera recording.
5. Select "Backup" to archive the selected file recorded Video to an external media source.

✓ **NOTE:** To playback video on your computer, use the player program located on the resource CD that shipped with the NVR. Run the Player program and open the video file to view.

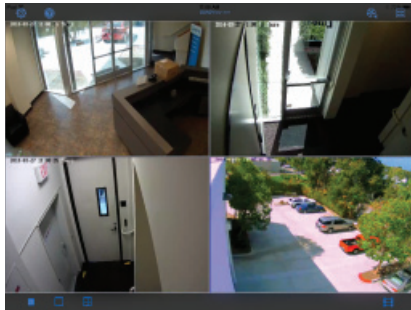
20. Remote App's



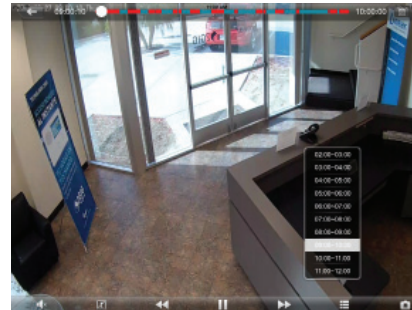
Log-in Screen



Logo Screen



Live Video Screen



Video Playback Screen

Download for free the QUADView NVR for Apple® iOS® and Android® devices from the Apple App Store or Google Play store.

1. Once the app is installed, follow these instructions to log-in:
2. Enter the IP address for the NVR (example: 192.168.1.18). Enter the control port number, default in the NVR is 3001.
3. Enter the user name, default in the NVR is admin.
4. Enter the password, default in the NVR is admin.

Once connected to the NVR, four IP Cameras can be viewed simultaneously. Playback can be viewed by selecting the date and time. Use the time bar displayed at the top of the window to find motion events & alarm video for quick playback.

✓ **NOTE:** The app is optimized to view Stream 2 from the IP Cameras. Video playback is not supported from 3MP and 5MP IP Cameras. Viewing Stream 1 video will have limitations based on device.

21. Specifications

VIDEO		
Recording	4 Cameras 1080p / 720p real-time video	
Maximum Recording	up to 16 Cameras, maximum bit rate is 24 Mbps for all cameras	
Output Display	Switch to select VGA or HDMI	
Output Resolutions	1024x768, 1280x720p or 1920x1080p	
Video Decoding	H.264, M-JPEG, MPEG-4 (Decode 2MP stream on supported cameras)	
Supported Cameras	Linear LV Series IP Cameras, 2MP, 3MP* and 5MP*	
Rate Control	CBR (Constant Bit Rate), VBR (Variable Bit Rate) as defined by IP Device	
STORAGE		
HDD	2 HDD Drive Bays, Removable, Supports up to 2x 4TB HDD (AV Class, SATA)	
Recording Method	Constant Recording or Motion Detection	
CONNECTIONS		
Power Switch	Power switch for main power on / off control	
Network	1x 1000 Mbps RJ45 ethernet; 1x 100 Mbps RJ45 ethernet	
Video Outputs	One DVI connector with a DVI-VGA DB15 Adapter, One DVI-HDMI Adapter	
Audio Input	1x 3.5mm Audio Input (Mic)	
Audio Output	1x 3.5mm Audio Output	
USB	3 USB 2.0 ports. Supports USB mouse (included), supports USB keyboard (not included)	
NETWORK		
Web Server	Flash Video, Multi Browser, ActiveX	
Network Protocols	RTP/RTMP, RTSP, TCP/UDP, HTTP, DHCP, DNS Client	
DDNS Service Providers	NOIP (free service) & DynDNS	
AUDIO		
Audio Format	G711 A-Law, G711 U-Law, RAW_PCM	
USER INTERFACE		
Local GUI	Built-in. Languages supported: English, Chinese and Russian	
PC Software	Web Browser	
Remote Apps	QUADView NVR apps for Apple® iOS® (iPhone® & iPad®) & Android® devices (Free download)	
Compatibility	Internet Explorer®, Google® Chrome®, Safari®, Firefox®, Opera®	
PHYSICAL		
Power	12V DC ± 5%, 5A, external power supply unit requires 120 VAC	
Mouse	USB Mouse included	
Cooling	Heat sink, cooling fan	
Operating Humidity	20% - 80% RH	
Regulatory	CE / FCC / RoHS Compliant	
Product Dimensions (LxWxH)	Chassis: 220mm x 150mm x 100mm	
Product Weight	9.9lbs / 4.5kg	
WARRANTY	2 Years for NVR, 3 years for HDDs	

Figure 28. Specifications

To contact Linear Tech Support USA and Canada: (800) 392-0123

22. Regulatory Information

This equipment generates and uses radio frequency energy and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio and television reception. It has been type tested and found to comply with the limits for a Class B computing device in accordance with Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

Relocate the Console away from the TV/radio receiver.

Plug the Console into a different wall outlet so that the Console is on a different branch circuit.
Re-orient the TV/radio antenna.
If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions.

This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes: (1)

l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Les changements ou modifications non approuvés expressément par la partie responsable de la conformité pourrait annuler l'autorité de l'utilisateur à faire fonctionner l'équipement.