

NETWORK VIDEO RECORDER (NVR)

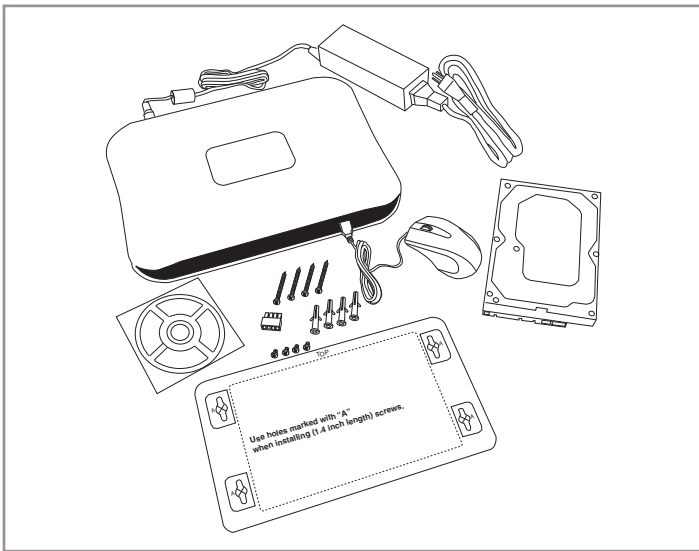
INSTALLATION INSTRUCTIONS

Contents

Verify that the package includes the following:

- 1—2GIG Network Video Recorder Module (NVR)
- 1—Plug-in Power Adapter (120VAC)
- 1—3"CD
- 1—Paper Mounting Template Guide
- 1— USB Mouse Controller
- 1— 1 Terabyte Single Hard Disk Drive
- 4—1-1/2" Phillips Screws and anchors
- 4—1/4" Phillips Screws (for mounting hard drive to NVR cover)
- 1—Removable Terminal Block (to connect alarm input/output)

Figure 1. Network Video Recorder (NVR) Contents



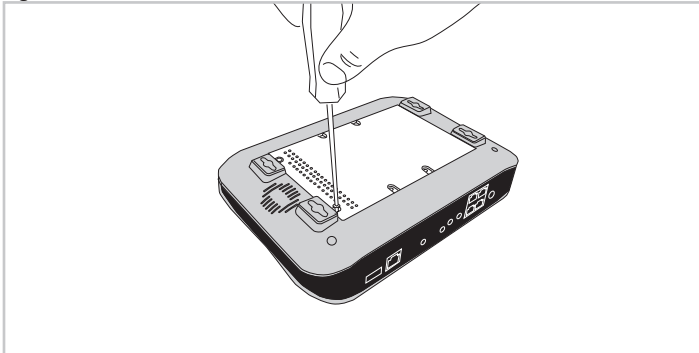
Installation Tools Required

- Phillips Screw Driver
- Variable Speed Electric Drill
- Level (for wall mounting of NVR module)

Hard Drive Installation into NVR

1. Remove the two screws on the bottom of the Network Video Recorder housing.

Figure 2. Hard Disk Cover Removal



2. Pry up the hard disk cover to expose wiring harness for harddisk connection.
3. Fix the hard disk to the hard disk cover using 4 1/4" Phillips screws (Provided with NVR).

Figure 3. Fixing Hard Disk to NVR Hard Disk Cover

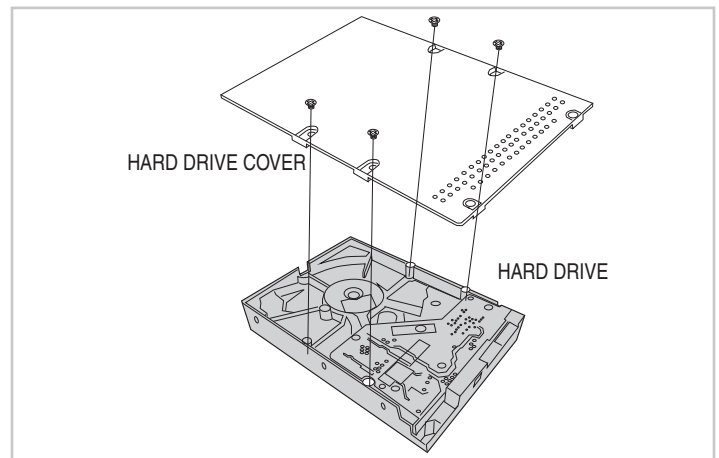
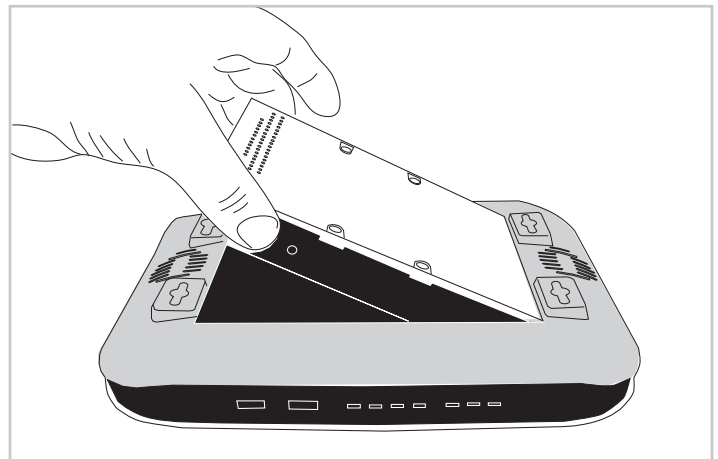
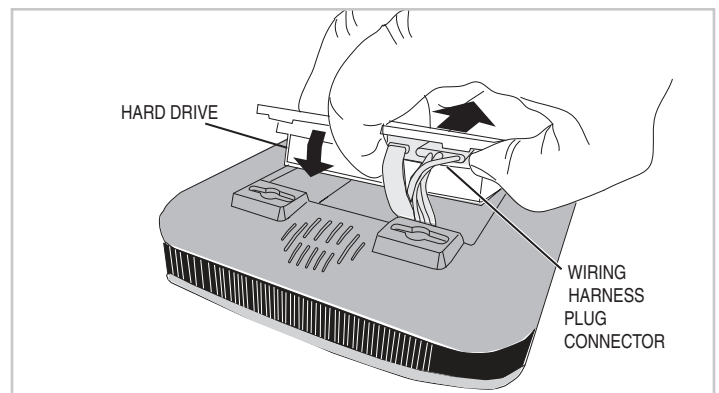


Figure 4. Placing Hard Disk/NVR cover into NVR case bottom.



4. Plug wiring harness to the hard drive terminals, then seat hard drive with cover down into NVR case.

Figure 5. Plugging in Hard Drive



5. Replace the screws into the bottom of the NVR case cover. Hard drive installation is now complete.

Figure 6. Closing Hard Drive Case Cover

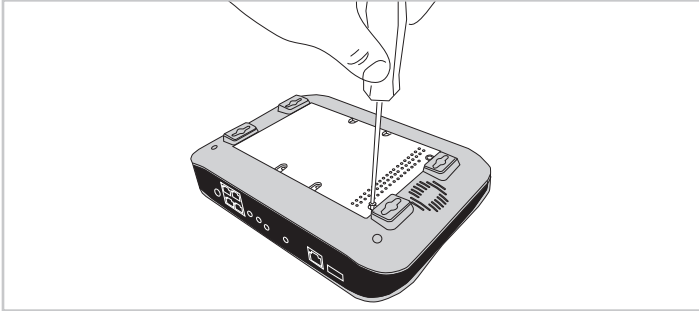


Figure 7. Network Video Recorder Front and Back Panels

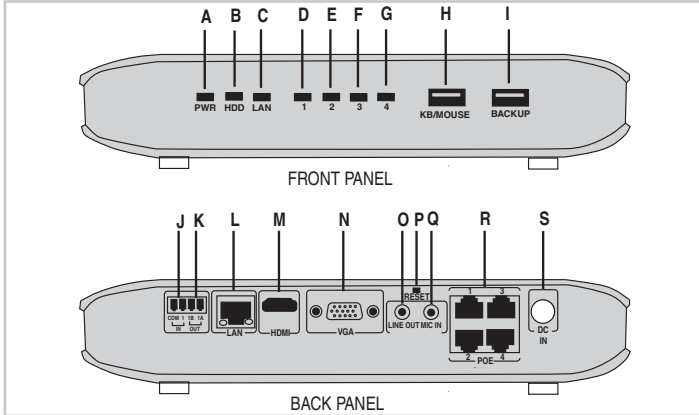


Figure 7 shows the front and back panels of the NVR. Become familiar with these NVR interfaces. Use the table below to assist in configuring the network system.

LETTER	ITEM	DESCRIPTION
A	PWR	Power LED. When the NVR is operating, the Power indicator is steady ON. When the NVR is shut down, the Power indicator is turned OFF
B	HDD	Hard Disk Status LED The HDD indicator flashes when data is read from or written to the hard disk.
C	Network LAN LED	Non-PoE network status LED This indicator flashes when data is transmitted.
D E F G	PoE LED	PoE network status LED This indicator flashes when data is transmitted from IP camera
H	KB/MOUSE	Supports connection to a USB mouse and keyboard
I	BACKUP	Supports connection to a USB flash drive or USB removable hard disk.
J	Alarm input	One alarm input
K	Alarm output	One alarm output. Requires 5V load
L	LAN	RJ45 10/100 Mbps Ethernet interface
M	HDMI	Video Output Interface
N	VGA	
O	LINE OUT	Audio Output
P	RESET	Factory reset button

LETTER	ITEM	DESCRIPTION
Q	MIC IN	MIC input
R	PoE network interface	Four (4) network interfaces for IP cameras PoE Class 3 (reserved for future use)
S	DC power interface	Connected to an external power adapter

**NVR INCLUDES USB MOUSE TO
ACTIVATE ON-SCREEN VIRTUAL
KEYBOARD**

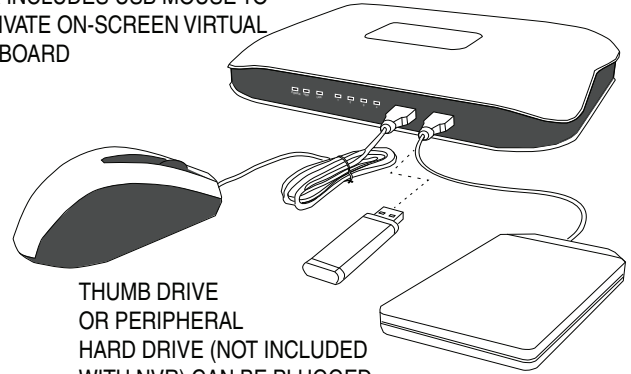


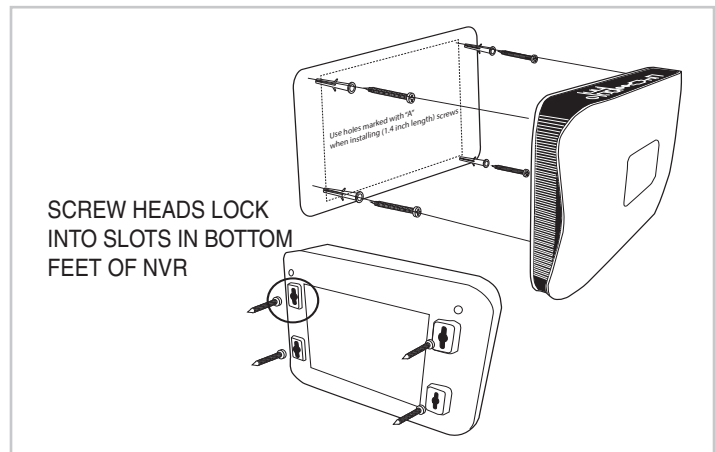
Figure 8. NVR Front Panel Component Plug-Ins

Wall Mounting NVR (Optional)

If wall-mounting of NVR case is desired, perform the following installation procedures. If not, proceed to Figure 10 for plug-in.

1. Place paper template on wall (after removing backing) in desired location.
NOTE: A level may be needed for installation.
2. Using a 1/8" bit and variable speed electric drill, make 4 holes in wall where template specifies.
3. Install 4 anchors (included) into drilled holes.
4. Install Phillips screws (included) into anchors.
5. Be sure that screw head is approximately 1/8" away from wall face. This will allow the NVR case to lock into place.
6. Push NVR against wall so that screw heads fit into protruding plastic feet (See Figure 9) of the NVR. Then pull downward slightly to lock the case in place on wall.

Figure 9. Wall-Mounting NVR case



Page 3 shows NVR Back Panel Component Connections. Select connections needed for the configuration being built.

After plugging in the components into rear panel of the NVR, the final step is to add external power to the system as shown in Figure 15.

Figure 10. NVR Back Panel Alarm Input/Alarm Output Connections

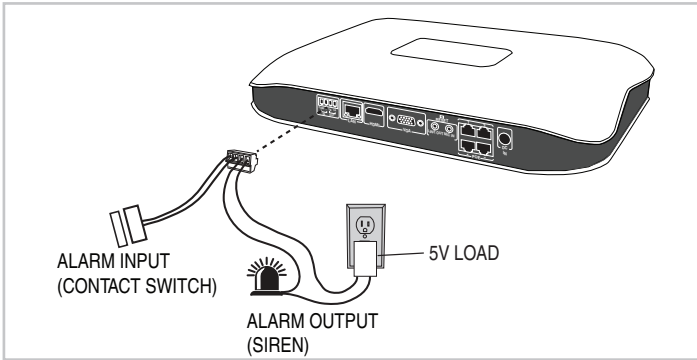


Figure 11. NVR Back Panel PoE Camera Connections

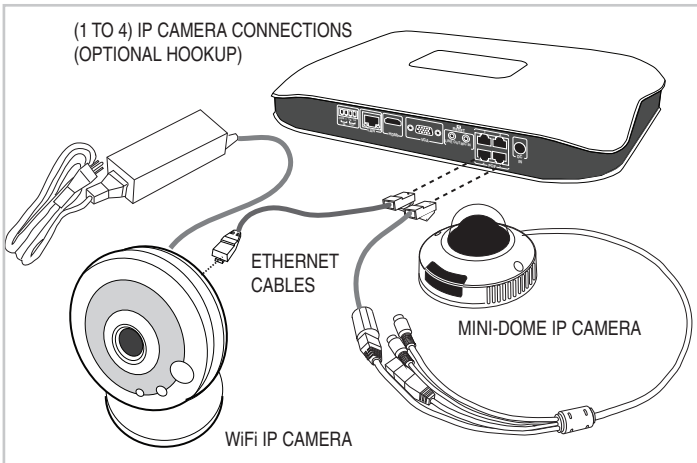


Figure 12. NVR Back Panel Audio Output, Mic Input Connections

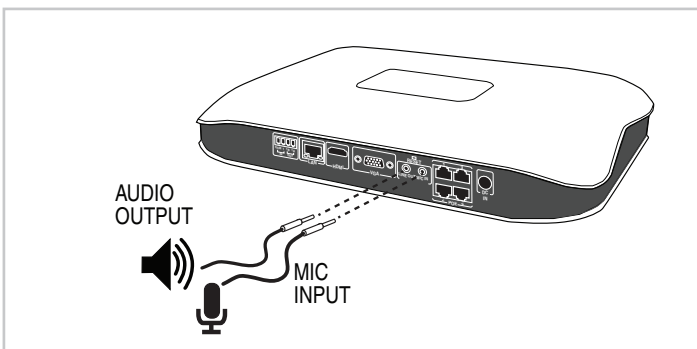


Figure 13. NVR Back Panel VGA or HDMI Video Output Connections

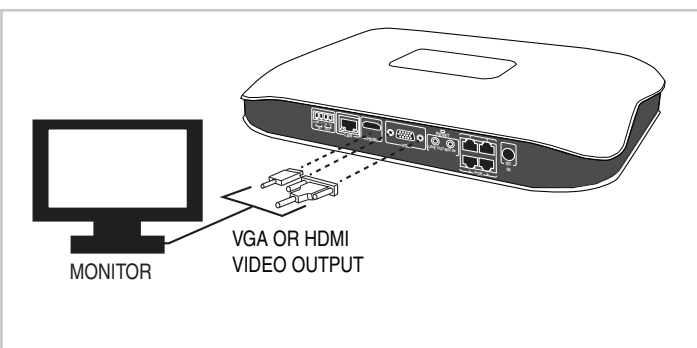


Figure 14. NVR Back Panel LAN Connection

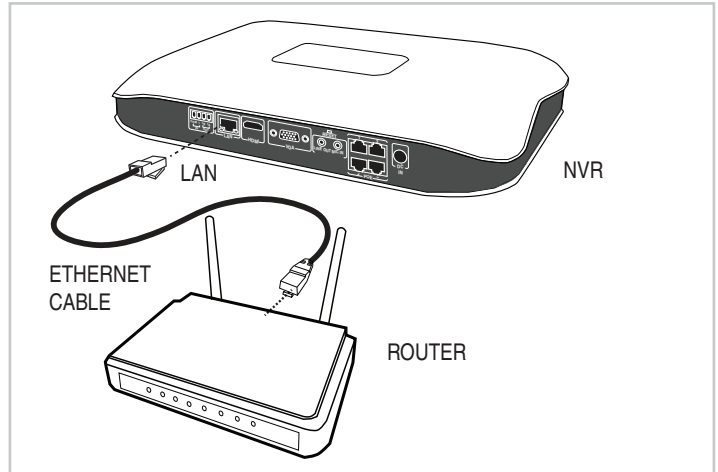
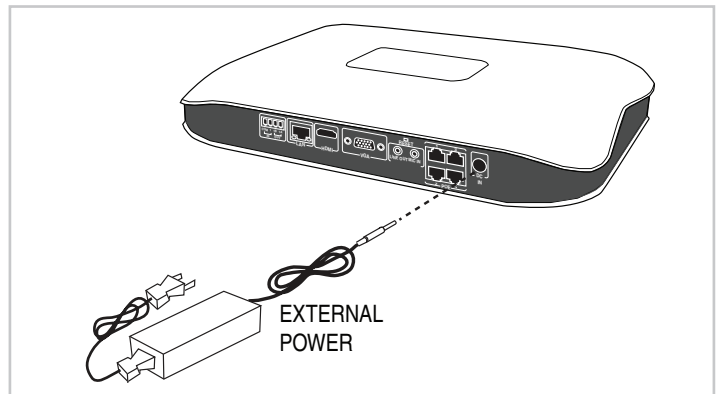


Figure 15. NVR Back Panel External Power Connection



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 16. Initializing System

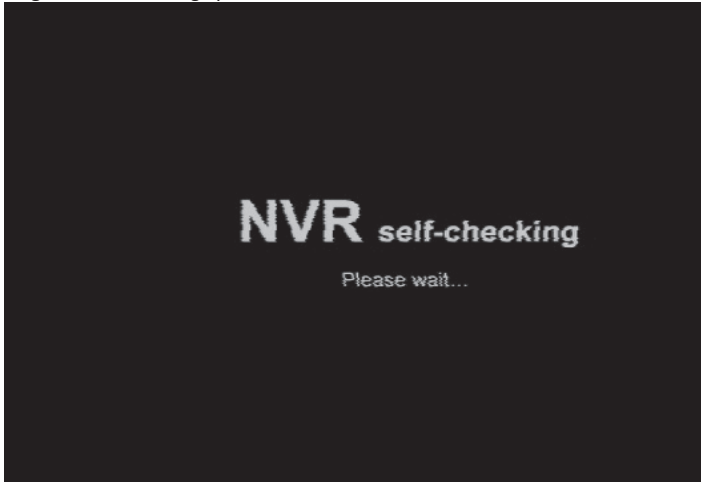
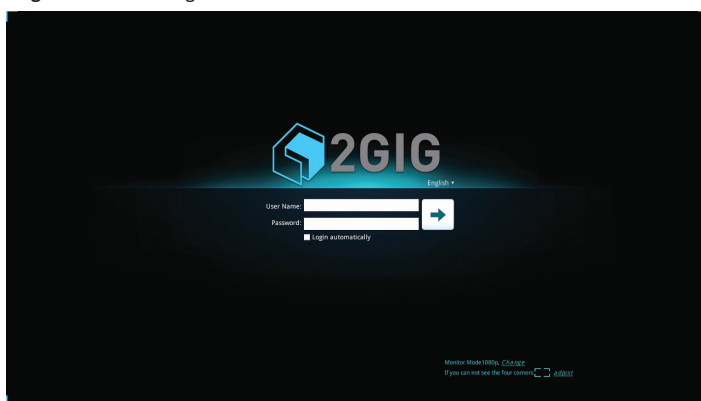


Figure 17. Initializing System (Continued)



Figure 18. Initializing Screen



After initialization is complete, the login screen appears as shown in Figure 13.

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.

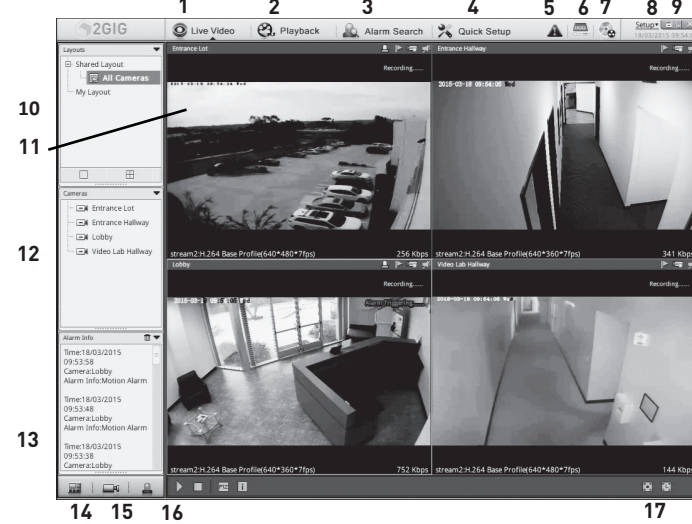
Use “Login Automatically” to login upon boot-up.

Click Login button.

IMPORTANT: Default Password is admin

Live Video

Figure 19. Live Video Screen



1. Live Video
2. Playback
3. Alarm Search
4. Quick Setup
5. System Messages
6. Hard Drive Configuration
7. Archive Menu
8. Setup (NVR, IP Cameras)
9. Lock NVR Access/Timeout Option/Logout/Shutdown
10. Layouts
11. Live View
12. Cameras List
13. Alarm Info
14. Layout (show/hide)
15. Camera (show/hide)
16. Alarm (show/hide)
17. Full Screen, Auto Full Screen

Select the "Quick Setup" tab to start configuration on the 2GIG NVR.

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

In the **IP Camera Setup**, connect IP Cameras to the NVR using Automatic Discovery of IP Cameras, or IP Camera range.

Figure 20. Quick Setup

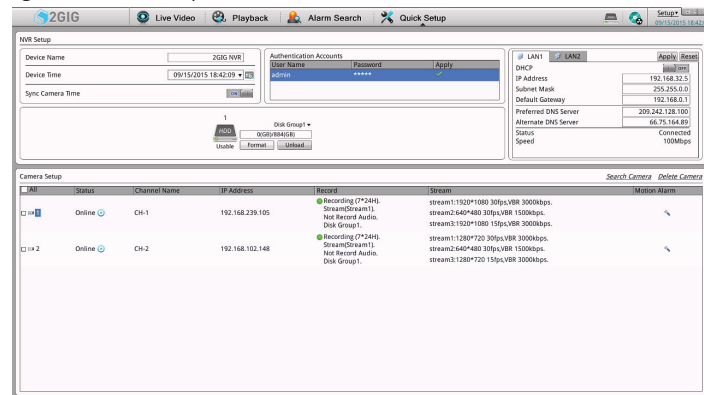
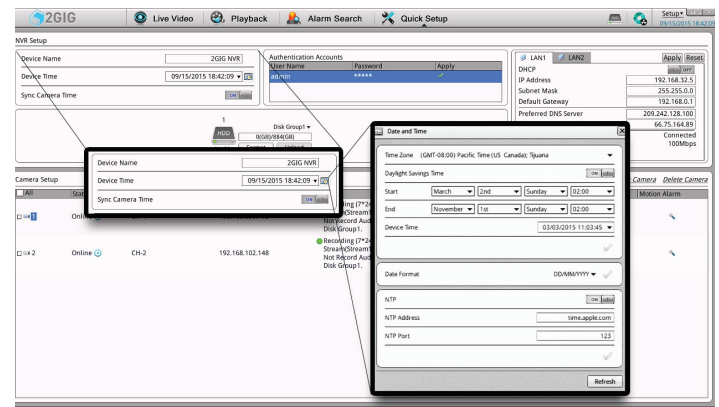
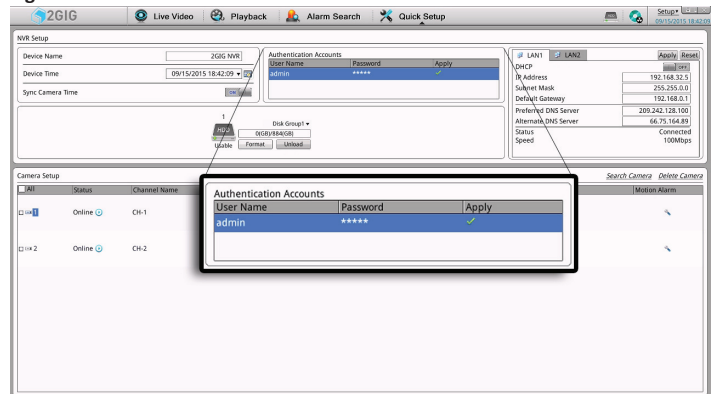


Figure 21. Date & Time

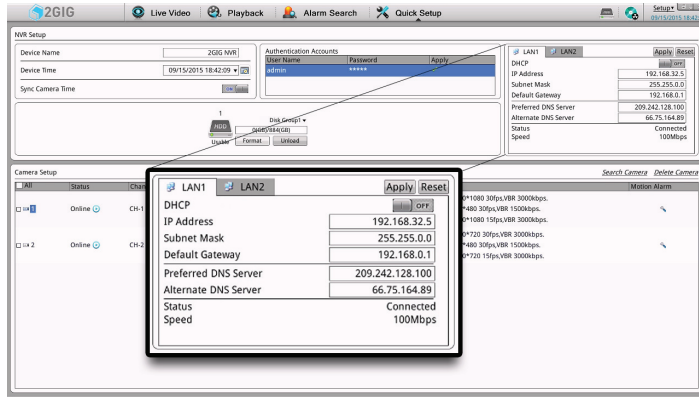


1. Default device name is 2GIG NVR.
2. Click the button to the far right of the DEVICE TIME to open date and time window.
3. In the DATE AND TIME window, select TIME ZONE using down arrow to the far right.
4. Set Daylight Savings Time by entering Start and End times for DST in your region.
5. Set Device 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. Click the GREEN CHECK MARK to Save changes.
10. Close Date & Time window.
11. Make sure "Sync Camera Time" is set to AUTO. The NVR Date and Time will be synchronized to all IP Cameras.

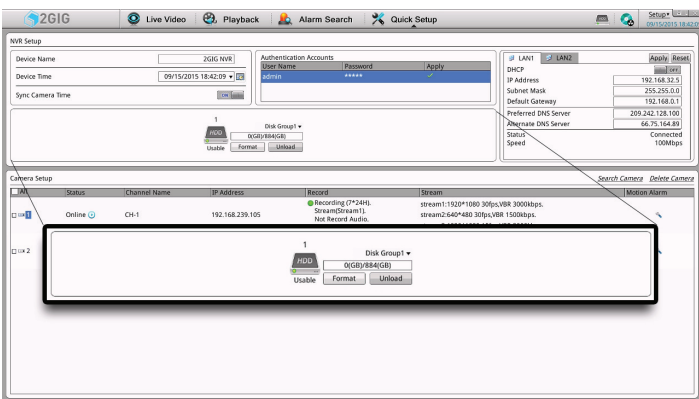
Figure 22 Authentication Accounts



The Authentication Accounts is used when discovering IP Cameras. If the User Name and password needs to be changed, use the mouse, left-click on the Admin line. Doing this will display a Modify account screen where User Name and Password can be changed.

Figure 23. Network Setup


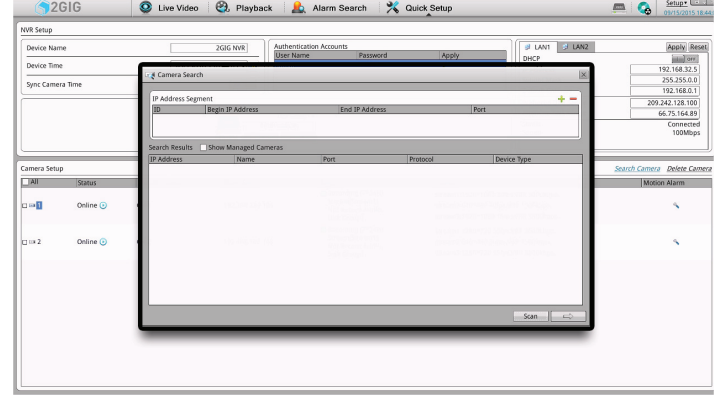
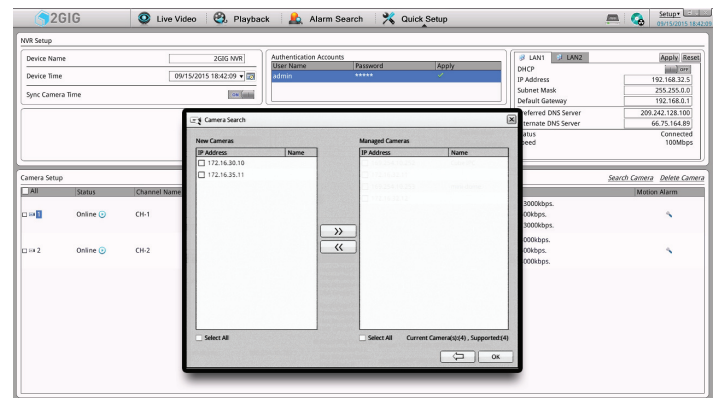
Use the Networks section to set up Local Area Networks (LAN1 & LAN2). To ensure recording of the IP Cameras to the NVR, verify network connectivity. LAN1 should be connected to your existing LAN network. LAN2 is a private network for your IP cameras.

Figure 24. Storage Setup


The 2GIG NVR supports up to one (1) internal Hard Disk Drive (HDD). Prior to turning the NVR on, the HDD should be installed per Section I. 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.

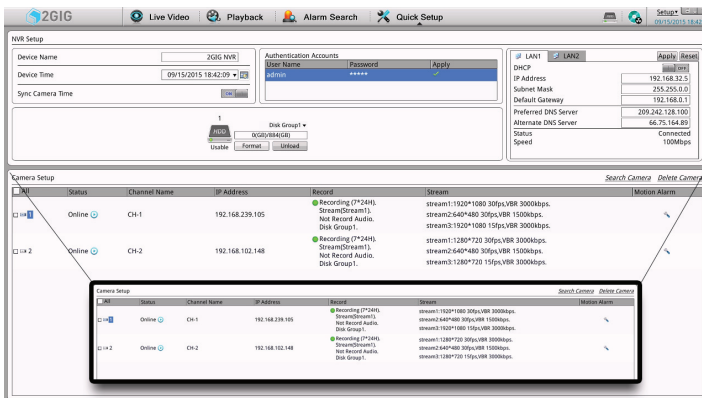
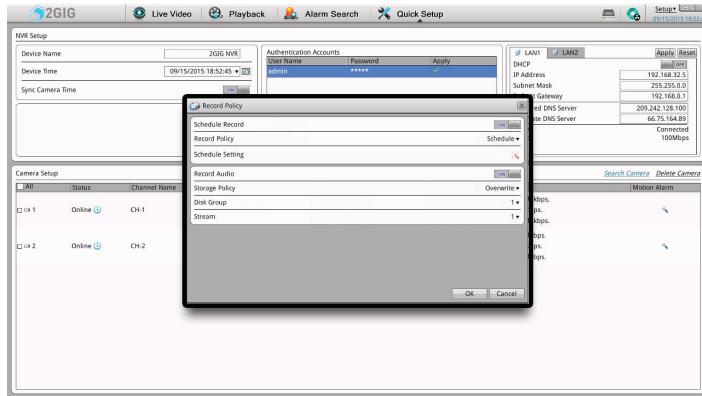
WARNING: Any information previously stored on the HDD will be erased.

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 unrecognized, not installed properly or it needs to be formatted. To remove the HDD from the NVR, click the UNLOAD button. Power off NVR and remove the hard drive. The NVR has four (4) PoE ports which is part of a private network which can be connected to IP cameras. IP cameras can also be connected through LAN. The number of IP cameras supported is four (4).

Figure 25. Adding Cameras

Figure 26. Adding Cameras (Continued)


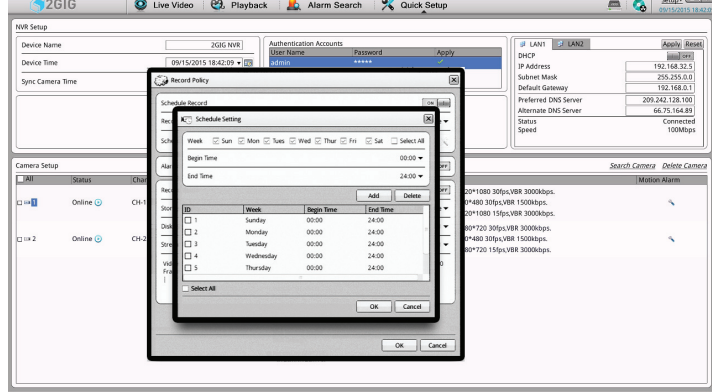
Use the Camera Search dialog to connect IP Cameras to the NVR for recording.

- 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 by Network Range.
- There should be a list of several cameras in the window.
- 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.

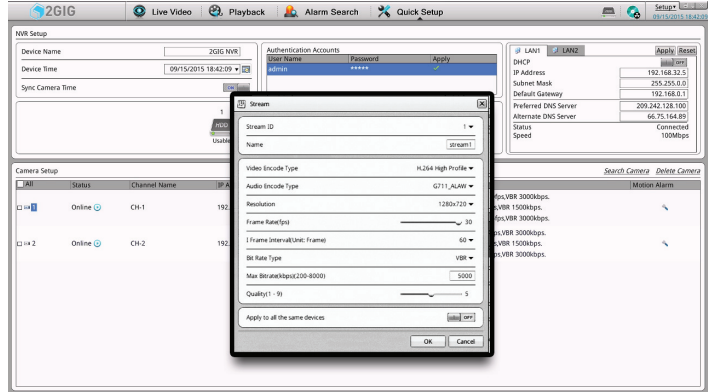
Figure 27. Camera Configuration

Figure 28. Record Policy


The Record Policy Configuration screen configures IP Camera recording to the 2GIG NVR.

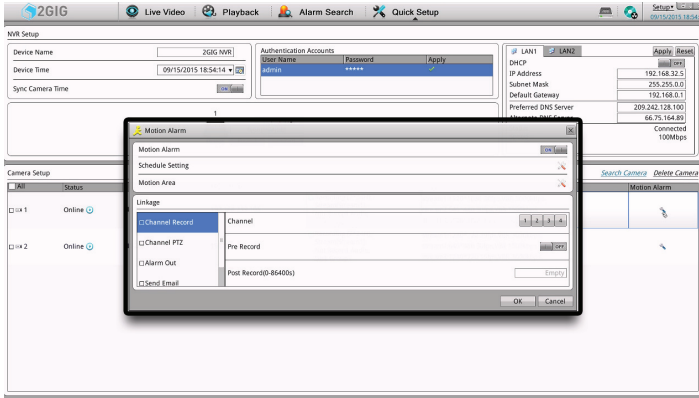
1. Select Schedule Record. Select the "Record Policy" to record the IP Camera 24 hours a day 7 days a week or Schedule Recording.
 - a) For Schedule Recording, setup the Schedule by clicking on the Schedule Setting icon.
 - b) Setup the Schedule in this dialog (Figure 24). After changes are made, click OK to Save the changes.

Figure 29. Record Policy (Continued)


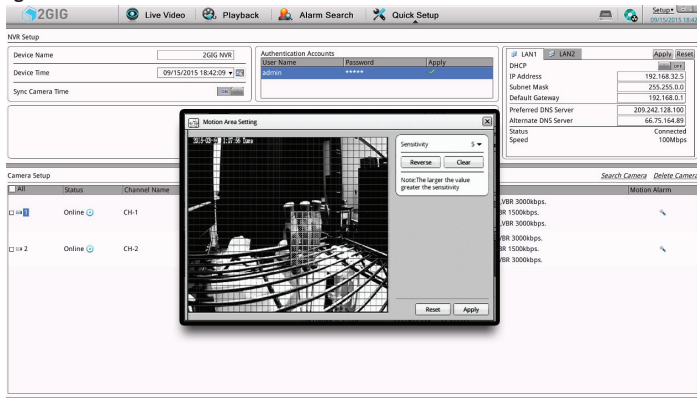
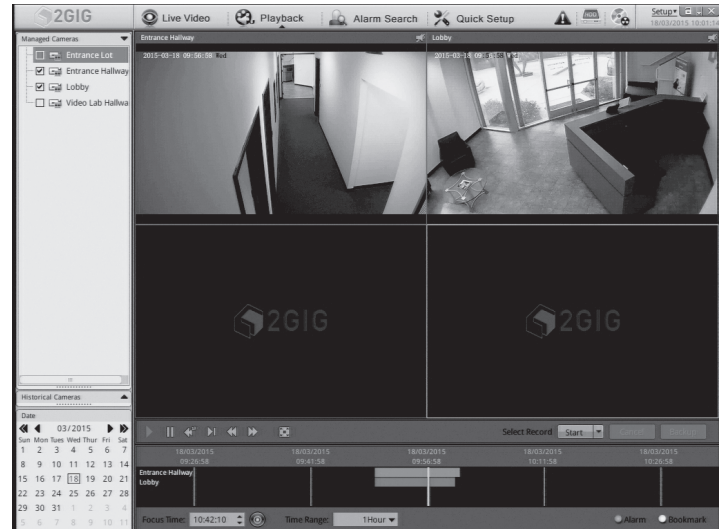
2. Select "Record Audio" to record IP Camera audio.
3. Set the "Storage Policy" to Overwrite the video recording when the disk is full, or save recording of a set number of days. After the set number days, the recording will not be accessible.
4. Set "Disk Group" to designate the disk group the IP Camera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

Figure 30. Stream Setup


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 leave this at default.
8. Set the Bit Rate Type. Constant Bitrate (CBR) will record at an 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 18Mbps.
10. Use "Apply to All the same Devices" to apply the Stream Setup values to an IP Camera with the same Megapixel type.

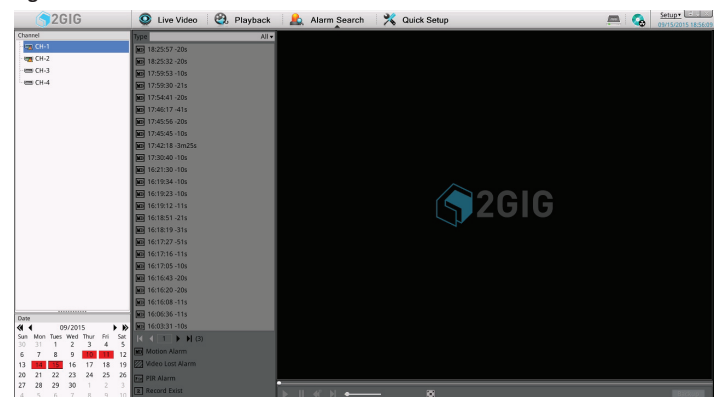
Figure 31. Motion Alarm

1. Select Motion Alarm in the Quick Setup menu to configure Motion Detection settings on the IP Camera.
2. Select Motion Alarm to enable Motion Alarm.
3. Select Schedule Setting to schedule when Motion Detection will be active.
4. Select Motion Area to configure the Motion Grid. See Figure 32.
5. In the Linkage menu, select Channel Record to configure: which IP Cameras will be recorded upon a motion event, enable Pre-Record, and configure Post Record Settings.
6. Channel PTZ is reserved for future use.
7. Select Alarm to trigger the Alarm Output on the NVR.
8. Select Send Email to send an email notification upon a Motion Event. Go to the NVR Setup -> Network Service -> SMTP menu to configure email settings.

Figure 32. Motion Grid**Figure 33. Video Playback**

1. Select IP Cameras on the left column.
2. The Playback screen allows viewing of the recording of multiple IP Cameras.
3. Select a calendar date. Green highlight means that there is recording on that date.
4. The timeline bar shows a graphical recording representation of the selected IP Cameras. Red highlights indicate Alarm recording (motion) & Green highlights indicate continuous recording (not alarms).
5. To go to a specific time in the recording, use the Focus Time option.
6. The Time Range allows expanding the time start and end points in the Timeline bar.
7. 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.

Figure 34. 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.

iOS NVR App Quick Start

Figure 35 2GIG NVR app icon.

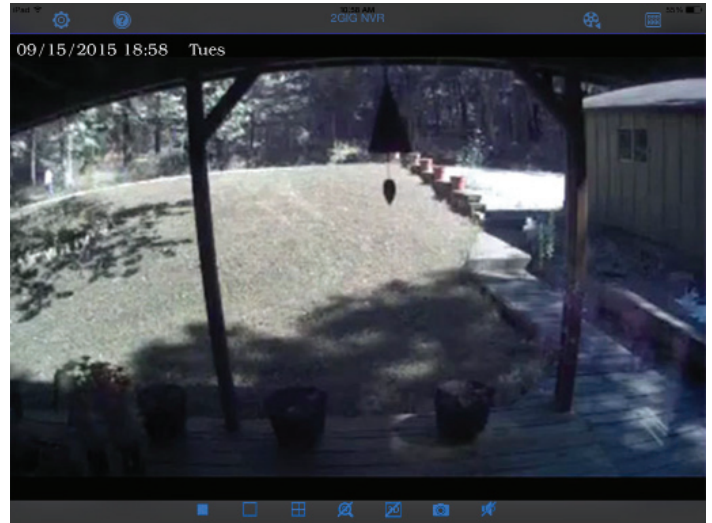
1. From the Apple App Store search for 2GIG NVR app.
2. Install and launch the 2GIG NVR app.

Figure 36. Login Screen

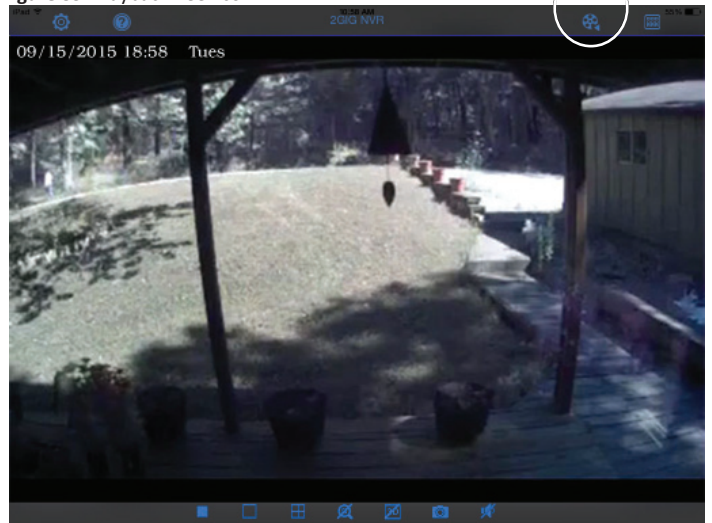
3. Type in the Login credentials to connect to the NVR.

Figure 37. Home Screen

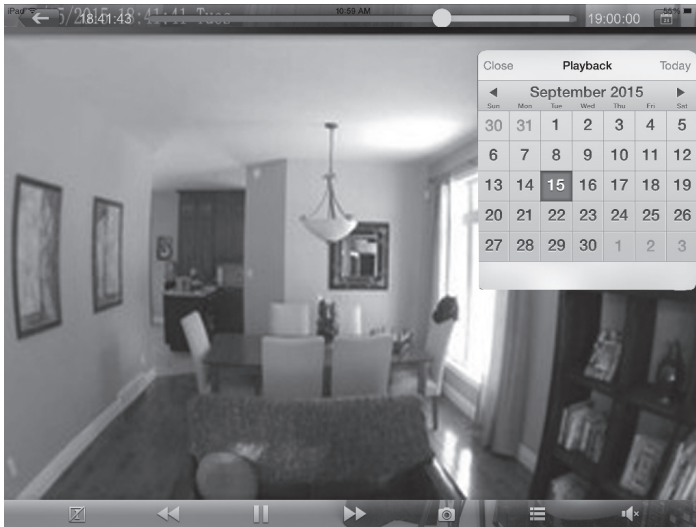
4. Click on the "+" icon to connect to the desired camera.

Figure 38. Live View

5. The function bar allows you change layouts, zoom in/out, enable audio, and perform a snapshot.
6. If you tap once on the image you can record video to your mobile device and switch streams. To switch streams press the arrow icon on the left side of the live video stream.

Figure 39. Playback Reel Icon

7. To access the Playback, click on the playback reel icon.
8. Select a camera to playback.

Figure 40 Playback Calendar

9. In the playback screen you can select on the Calendar icon to change the date.
10. Highlighted calendar days means there is recorded video.

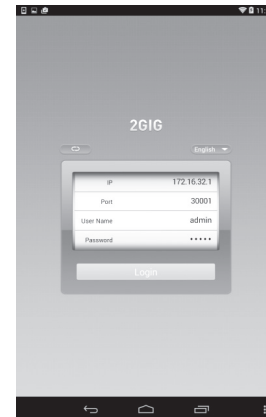
Figure 41. Playback Hour

11. To change the hour of playing back, select the Time list icon to bring up a list of recorded times.
12. Press the recorded playback icon to playback video from the NVR. Select a camera to play back.

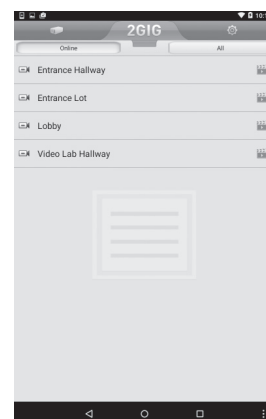
Android NVR App Quick Start

Figure 42. 2GIG NVR app icon

1. From the Google Play Store, search for 2GIG NVR app
2. Install and launch the 2GIG NVR app.

Figure 43. Login Screen

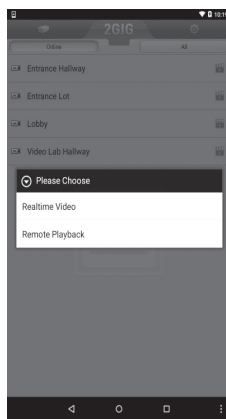
3. Type in the Login credentials to connect to the NVR.

Figure 44. Camera List

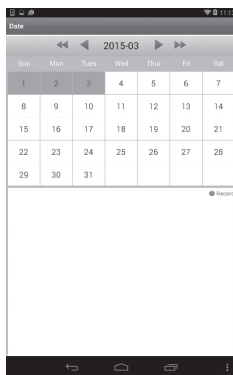
4. After logging in to the NVR, the connected IP Cameras are displayed.
5. Select one camera and stream to view live video.

Figure 45. Live View

5. The function bar allows you to change layouts, zoom in/out, and perform a snapshot.
6. To playback video go to the IP cameras connected screen.
7. Hold down the camera you want to playback.

Figure 46. Playback Options

8. Select Realtime playback.

Figure 47. Playback Calendar**Figure 48. Playback Hour**

9. Select a highlighted calendar day. A highlighted day means that there is recorded video.
10. In the playback screen, audio and snapshot are available on the function bar.
11. To select a different playback hour within the same day, click on the list icon to display the available playback times.

TROUBLESHOOTING

Q: I cannot see the IP Camera on my network

A: Make sure that the IP Camera is powered on. If using PoE for power ensure that the Ethernet cable is connected to the correct PoE port. If using a power supply ensure that the power is plugged into the wall.

On the back of the 2GIG-CAM-100W IP Camera, the Power LED should be solid red. On the 2GIG-CAM-250P IP Camera, remove the cover to check that the power LED is solid red. Ensure that the network cable is connected to the router/switch on the Local Area Network. If using WPS, ensure that router supports WPS and is active when syncing wirelessly with the IP Camera. If using a tablet or smart phone to detect the IP Camera, make sure the mobile device is on the same network as the IP Camera(s).

Q: I cannot see the NVR on my network

A: Make sure that the NVR is powered on. Verify the PWR LED is solid red. Ensure the Ethernet cable is connected to the LAN plug on the back of the NVR and not the PoE ports. Login to the NVR by using a VGA or HDMI supported monitor. Default Username and Password is "admin." Once logged in, navigate to the QUICK SETUP menu and verify "Obtain an IP Address Automatically" is enabled. A valid IP address should appear that is part of the Local Area Network. If a valid IP Address does not appear, check network connection from the IP Camera to the router or if DHCP is not enabled on the Local Area Network, manually enter a valid IP Address.

Q: The image is not clear at night

A: Check the IP cameras' lens for any smudges or moisture left from fingerprints. Wipe down with a non-abrasive towel. Also make sure that no object is blocking the path of the IR Emitter. Check the Sensor Settings in the IP Camera to verify that the Day/Night option is set to Auto. The WDR feature of the IP camera may need to be disabled when the IR LEDs are active.

Q: I cannot see Video when I am away from my home network.

A: The ports needed to see the video from a mobile device is 30001 (control port) and 36000 (forward port). Forward these ports in the router using the UDP/TCP protocol option. When registering the device on the 2GIG NVR app, the WAN IP address or DDNS name will be needed. The WAN IP Address can be found when logging into the router.

Q: Can I port forward the same control port multiple times?

A: No. Each device needs to have each unique Control Port. If you have an NVR and multiple IP Cameras, each device will need its own control port which also needs to be forwarded in the router. The 2GIG Video app and the 2GIG NVR will use the WAN IP address and control ports to connect to your video devices from outside your network.

Q: I cannot add more than four cameras on the NVR.

A: Currently the 2GIG NVR only supports 4 IP Cameras.

Q: What is maximum throughput of the NVR?

A: Currently the 2GIG NVR only supports 18 Mbps.

Q: How many concurrent streams does the NVR support?

A: The 2GIG NVR supports eight (8) concurrent streams when streaming to a Browser or mobile device.

Q: How many remote Browser sessions does the NVR support?

A: The 2GIG NVR supports five remote browser sessions concurrently and only serves four video streams.

Q: Does the NVR store video on remote storage devices?

A: At this time the 2 GIG NVR only supports internal storage.

Q: Can you configure the IP Cameras using the NVR app?

A: At this time remote IP Camera configuration is not supported on the 2GIG NVR app.

Q: I cannot view multiple high resolution video streams on my mobile device.

A: High resolution streams require high amounts of data to be processed on mobile devices. The application and mobile device have a limit on how many high resolution streams can be processed.

Q: How do I format the SD card for recording on the IP Camera?

A: Insert the SD Card into the IP Camera(s). Refer to the installation manual for the exact location of the SD Card slot. Login to the IP Camera(s). Default UserName and Password is admin. Navigate to Device Configuration-> Record Configuration -> Record Directory. Select SD Card and press the Format Button.

Q: Can I record to the IP Camera SD Card and the NVR at the same time?

A: Yes, this is supported.

Q: What type of Wi-Fi networks are supported on the 2GIG-Cam-100W?

A: The Wi-Fi IP Camera works on 2.4Ghz compatible N and G networks. It is not supported on 5GHz compatible N and AC networks.

Q: What if SD Card formatting fails?

A: Remove the SD Card and format it on another device such as a PC or Camera that supports SD cards. After formatting, re-insert the SD Card into the IP Camera(s) and format the SD card again in the IP Camera(s). Note that the SD Card file format needs to be ext4.

Q: What type of Wi-Fi networks are supported on the 2GIG-CAM-100W?

A: The Wi-Fi IP Camera works on 2.4Ghz compatible N and G networks. It is not supported on 5GHz compatible N and AC networks.

Q: How many users can stream video at the same time on the IP Cameras?

A: When connected to the IP Camera using Flash technology the maximum number of video connections is 2. When connected to the IP Camera using ActiveX technology, the maximum number of video connections is 10.

Q: How long does it take to update the firmware on the IP Camera and NVR?

A: The Update Tool is designed to update the IP Camera and NVR firmware. Note that the firmware update process can take between 5 and 10 minutes for both wired and wireless updates.

!CAUTION!

Symbol	Description
	This symbol is intended to alert the user to presence of un-insulated "dangerous voltage" within the products enclosure that may be of sufficient magnitude to constitute a risk of electric shock.
	This symbol is intended to alert the user to the presence of important operating and maintenance (Servicing) instructions in the literature accompanying the device.

- Keep the device away from heat sources such as radiators, electric heaters, or other heat equipment.
- Keep the device away from moist, dusty, extremely hot or cold places with strong electric radiation.
- Strictly observe installation requirements when installing the device. The manufacturer shall not be held responsible for device damage caused by users' non-conformance to these requirements.
- Strictly conform to local electrical safety standards and use power adapters that are marked with the LPS standard when installing and using this device. Otherwise, this device may be damaged.
- Use accessories delivered with this device. The voltage must meet input voltage requirements for this device.
- When device is in use, ensure no water or any liquid flows into the device. If water or liquid unexpectedly flows into the device, immediately power off the device and disconnect all cables (such as power cables and network cables) from the device.
- Do not focus strong light (such as lighted bulbs or sunlight) on this device. Otherwise, the service life of the image sensor may be shortened.
- If this device is installed in places where thunder and lightening frequently occur, ground the device nearby to discharged high energy such as lightening strikes in order to prevent device damage.
- Avoid heavy loads, intensive shakes, and soaking to prevent damages during transportation and storage. The warranty does not cover any device damage that is caused during secondary packaging and transportation after the original packaging is opened.
- Protect this device from dropping and intensive strikes, keep the device away from magnetic field interference, and do not install the device in places with shaking surfaces or under shocks.
- Clean the device with a soft dry cloth.
- Do not block or penetrate ventilation opening with steel objects. Follow the installation instructions provided in this document when installing the device.

REGULATORY INFORMATION

WARNING: Changes or modifications not expressly approved by Nortek Security & Control could void the user's authority to operate the equipment.

This device complies with FCC Part 15 Rules and Industry Canada licence-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.

Cét appareil est conforme la norme d'Industrie Canada exempts de licence RSS. Son fonctionnement est soumis aux deux conditions suivantes: (1) cet appareil ne peut pas provoquer d'interférences, et (2) cet appareil doit accepter toute interférence, y compris les interférences qui peuvent causer un mauvais fonctionnement de la dispositif.

LIMITED WARRANTY

This Nortek Security & Control LLC product is warranted against defects in material and workmanship for two (2) years. This warranty extends only to wholesale customers who buy direct from Nortek Security & Control LLC or through Nortek Security & Control normal distribution channels. Nortek Security & Control does not warrant this product to consumers. Consumers should inquire from their selling dealer as to the nature of the dealer's warranty, if any.

There are no obligations or liabilities on the part of Nortek Security & Control for consequential damages arising out of or in connection with use or performance of this product or other indirect damages with respect to loss of property, revenue, or profit, or cost of removal, installation, or reinstallation. All implied warranties for functionality, are valid only until the warranty expires. This Nortek Security & Control Warranty is in lieu of all other warranties expressed or implied.

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Visit www.nortekcontrol.com for technical support hours of operation

For technical support outside of the USA and Canada:

Contact your regional distributor

Visit dealer.2gig.com for a list of distributors in your region

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