




**WRN-1632(S)
WRN Network
Configuration**



Hanwha Vision WRN-1632(S) WRN Network Configuration Manual Instructions

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Hanwha Vision WRN-1632(S) WRN Network Configuration



Specifications:

- Model: WRN-1632(S) & WRN-816S
- Operating System: Ubuntu OS
- User Account: wave
- Network Ports: Network Port 1
- Onboard PoE switch: Yes
- DHCP Server: Onboard

Product Usage Instructions

System Initialization:

System Password: After powering on, set a secure password for the wave user account.

System Time and Language:

- **Setting Time and Date:** Verify and adjust time/date under Applications > Settings > Date and Time. Enable Automatic Date & Time for internet-synced time.
- **Language Settings:** Adjust language and keyboard under Applications > Settings > Region & Language.

Connecting Cameras:

Camera Connection: Connect cameras to the recorder via onboard PoE switch or external PoE switch. When using an external switch, connect it to Network Port 1.

Utilizing the Onboard DHCP Server:

DHCP Server Setup:

1. Ensure no external DHCP servers conflict with the network connected to Network Port 1.
2. Start the WRN Configuration tool and enter the Ubuntu user password.
3. Enable DHCP server for PoE Ports, set Start and End IP addresses within a subnet accessible by the Camera Network.
4. Make necessary changes to DHCP server settings as per requirements.
5. Confirm settings and allow PoE ports to power cameras for discovery.

Frequently Asked Questions

- **Q: How do I reset the system password?**
 - **A:** To reset the system password, you will need to access the WRN Configuration Tool and follow the password reset instructions provided in the user manual.
- **Q: Can I connect non-PoE cameras to the recorder?**
 - **A:** Yes, you can connect non-PoE cameras to the recorder by using an external PoE switch that supports both PoE and non-PoE devices.

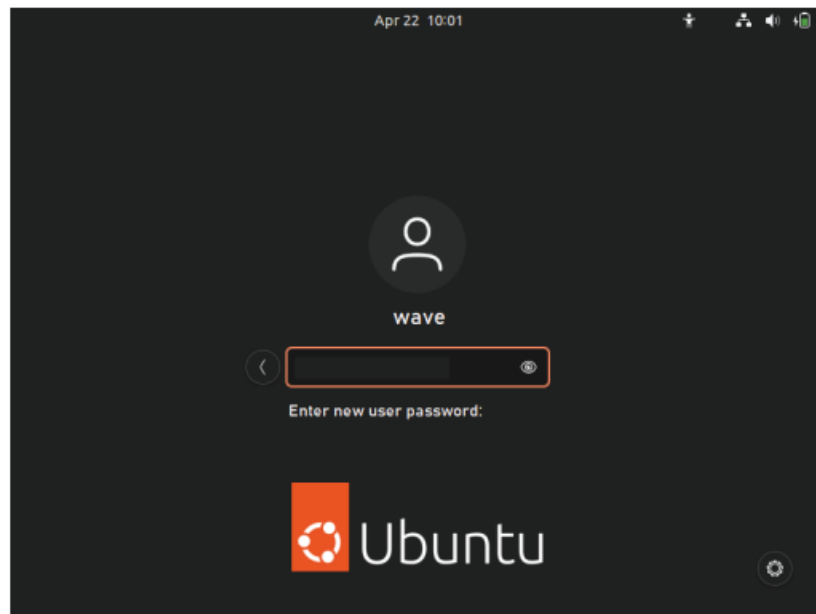
Introduction

DHCP servers automatically assign IP addresses and other network parameters to devices on a network. This is often used to make it easier for network administrators to add or move devices on a network. The WRN-1632(S) and WRN-816S series of recorders can utilize an onboard DHCP server to provide IP addresses to cameras connected to the recorder's onboard PoE switch as well as devices connected to an external PoE switch connected via Network Port 1. This guide was created to help the user understand how to configure the network interfaces on the unit to properly connect to attached cameras and prepare them for connection in Wisenet WAVE VMS.

System Initialization

System Password

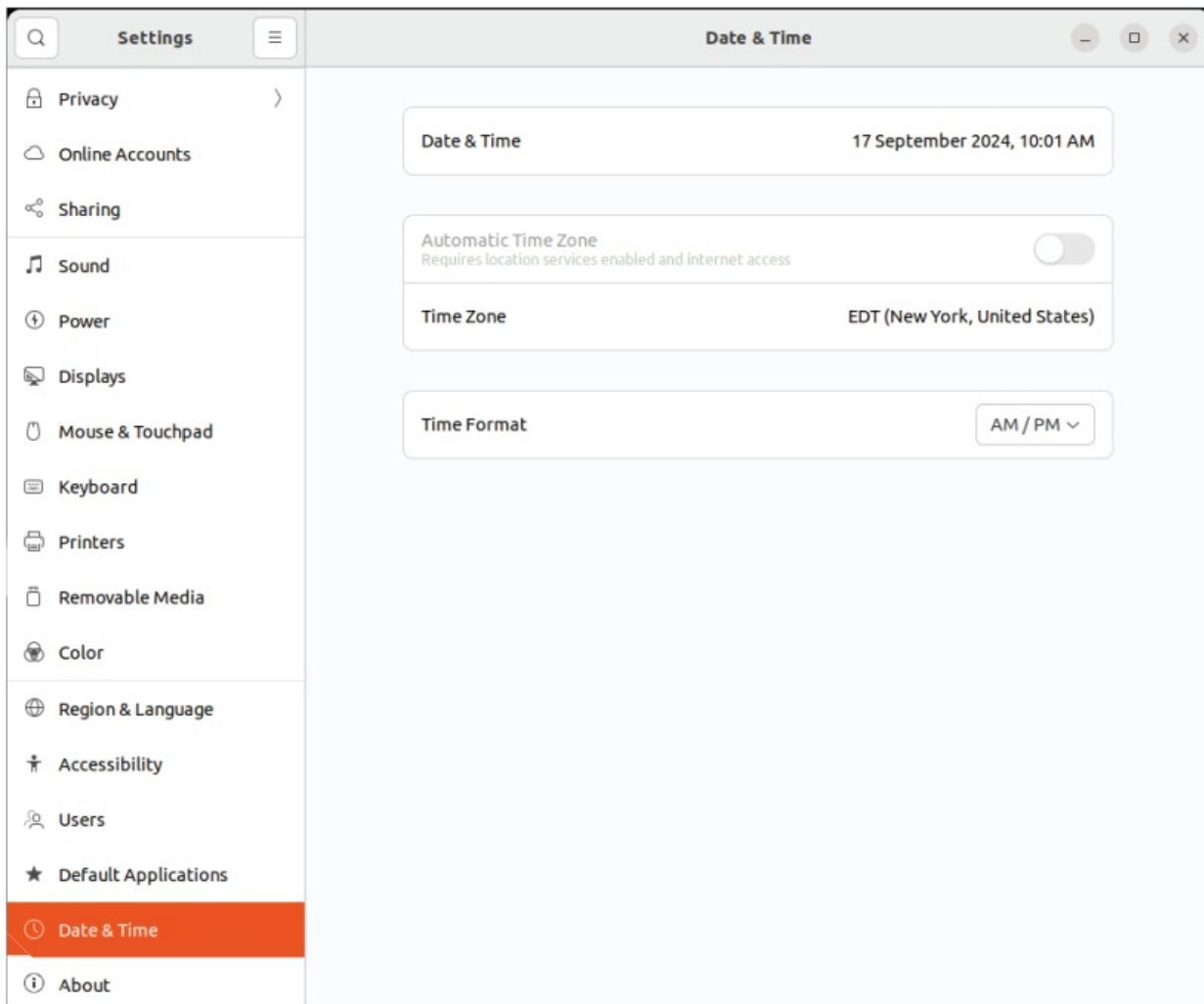
Wisenet WAVE WRN series recorder devices utilize the Ubuntu OS and are preconfigured with the "wave" user account. After powering on your WRN unit, you are required to set the Ubuntu password for the wave user account. Input a secure password.



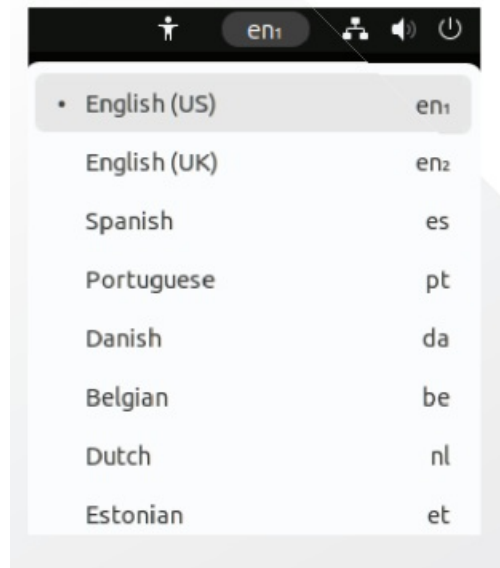
System Time and Language

Before recording begins it is important to ensure that the clock is set correctly.

1. Verify the time and date from the menu Applications > Settings > Date and Time.
2. If you have Internet access, you can select the Automatic Date & Time and Automatic \Time Zone options, or manually adjust the clock as needed



3. If you need to adjust the Language or keyboard, click on the en1 drop down from the login screen or the main desktop, or via Applications > Settings > Region & Language.



Connecting Cameras

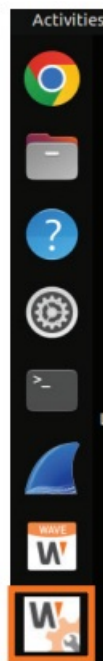
1. Connect cameras to your recorder via the onboard PoE switch or through an external PoE switch, or both.
2. When using an external PoE switch, plug the external switch into Network Port 1.



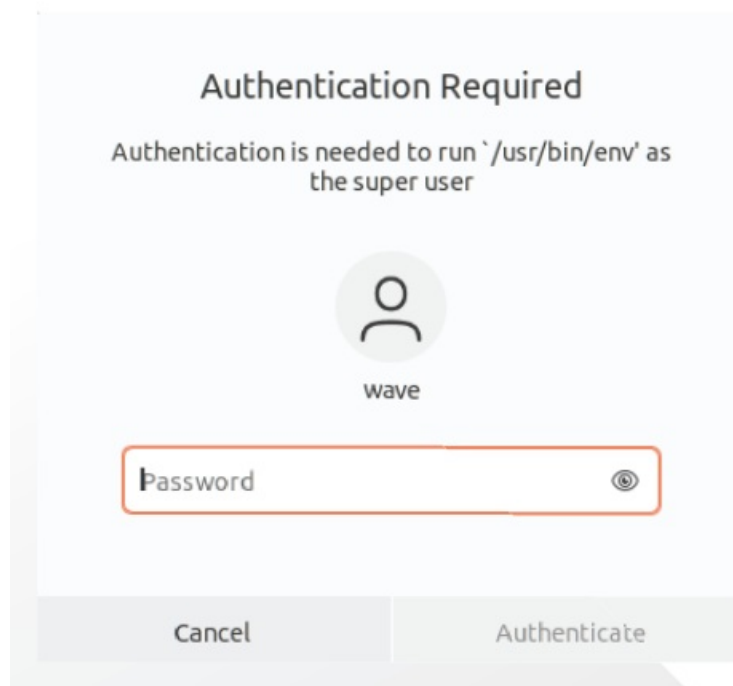
Utilizing the Onboard DHCP Server

To utilize the WRN recorder's onboard DHCP server, several steps must be followed. These steps include switching from the WRN Configuration Tool to the configuration of Ubuntu network settings.

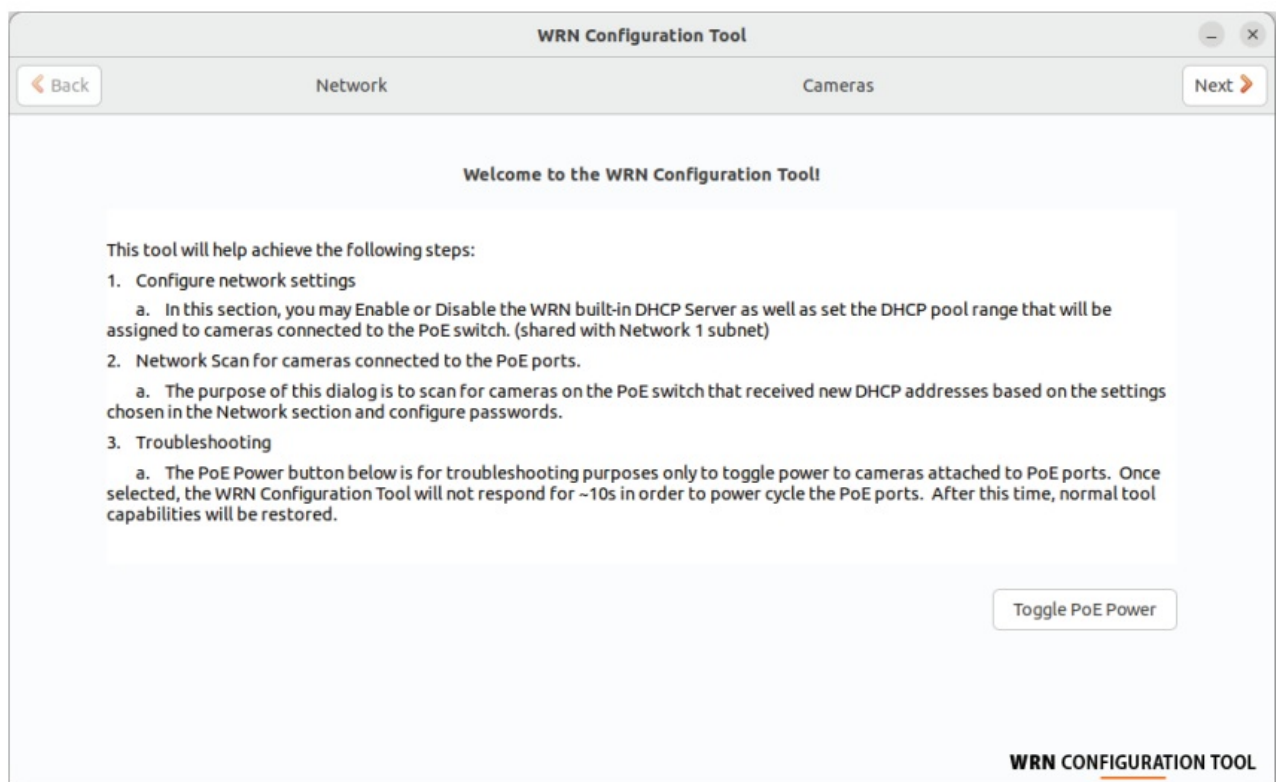
1. Confirm that there are NO external DHCP servers operating on the network that connects to your WRN recorder's Network 1 Port. (If there is a conflict, Internet access for other devices on the network will be affected.)
2. Start the WRN Configuration tool from the side Favorite bar.



3. Enter the Ubuntu user password and click OK.



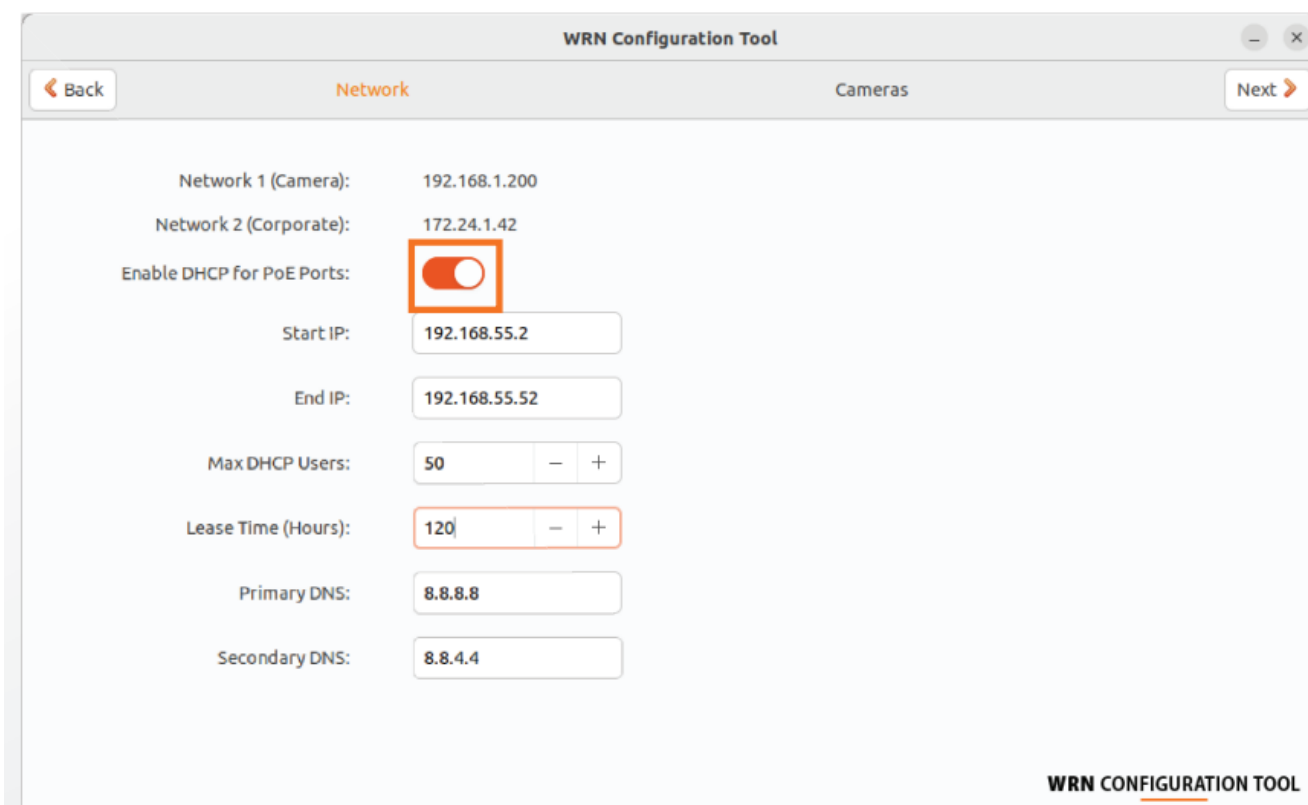
4. Click Next on the Welcome page.



5. Enable the DHCP server for PoE Ports and provide the Start and End IP addresses. In this case we will use 192.168.55 as the subnet

NOTE: The start and end IP addresses must be accessible by the Network 1 (Camera Network) subnet. We will need this information to input an IP address on the Camera Network interface (eth0).

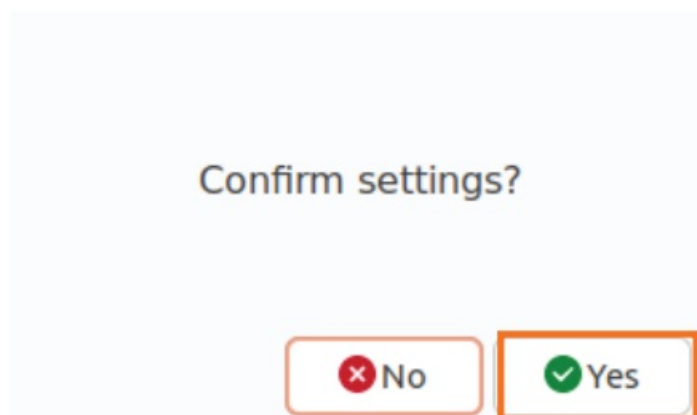
IMPORTANT: Do not use a range that will interfere with the predefined Ethernet (eth0) interface 192.168.1.200 or 223.223.223.200 used for onboard PoE switch configuration



The image shows a screenshot of the 'WRN Configuration Tool' window, specifically the 'Network' tab. The window has a title bar with standard OS controls and navigation buttons for 'Back' and 'Next'. The 'Network' tab is selected, showing configuration options for two networks. Network 1 (Camera) is set to 192.168.1.200, and Network 2 (Corporate) is set to 172.24.1.42. The 'Enable DHCP for PoE Ports' toggle is turned on and highlighted with an orange box. Below this, the 'Start IP' is 192.168.55.2, 'End IP' is 192.168.55.52, 'Max DHCP Users' is 50, and 'Lease Time (Hours)' is 120. The 'Primary DNS' is 8.8.8.8 and 'Secondary DNS' is 8.8.4.4. The bottom right corner of the window displays 'WRN CONFIGURATION TOOL'.

Network 1 (Camera):	192.168.1.200
Network 2 (Corporate):	172.24.1.42
Enable DHCP for PoE Ports:	<input checked="" type="checkbox"/>
Start IP:	192.168.55.2
End IP:	192.168.55.52
Max DHCP Users:	50
Lease Time (Hours):	120
Primary DNS:	8.8.8.8
Secondary DNS:	8.8.4.4

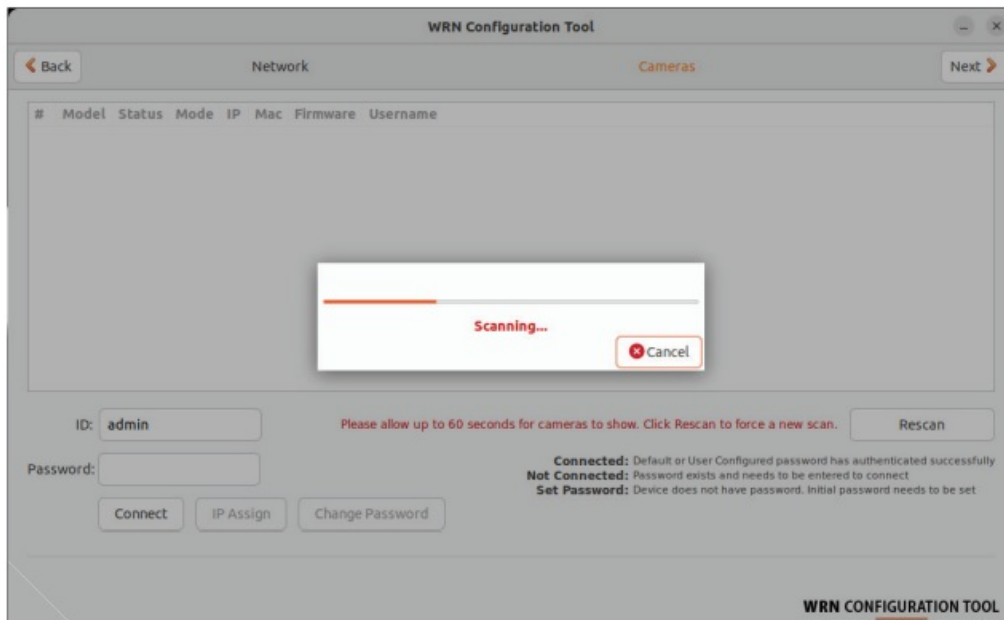
6. Provide any changes to the DHCP server settings as per your requirements.
7. Once you have completed all the settings, click Next.
8. Click Yes to confirm your settings.



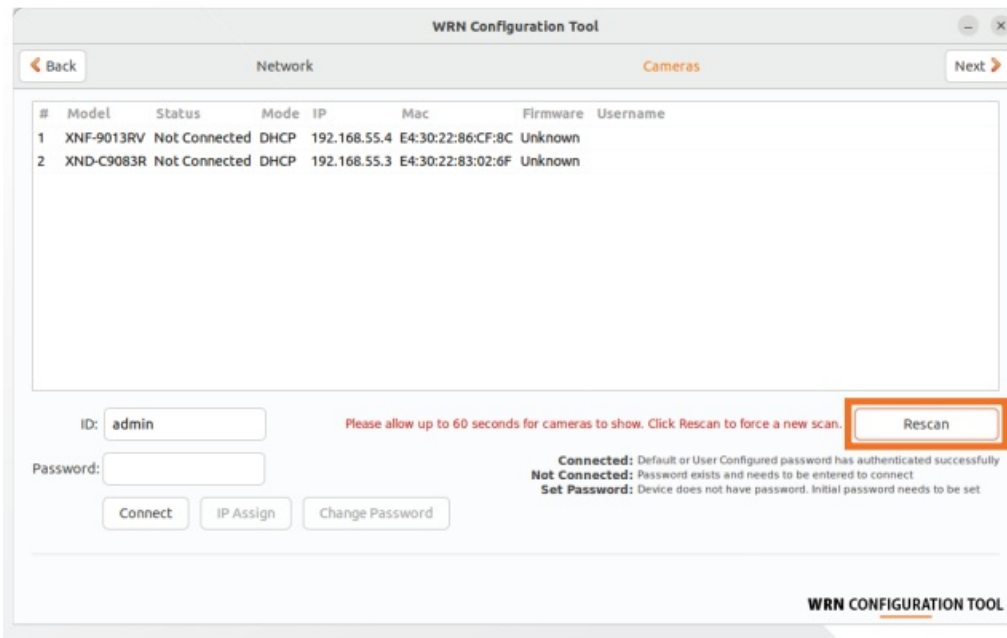
The image shows a 'Confirm settings?' dialog box with two buttons: 'No' and 'Yes'. The 'Yes' button is highlighted with an orange box, indicating it should be clicked to confirm the settings.

Confirm settings?

9. The PoE ports will now deliver power to the cameras allowing camera discovery to begin. Please wait for the initial scan to be completed.



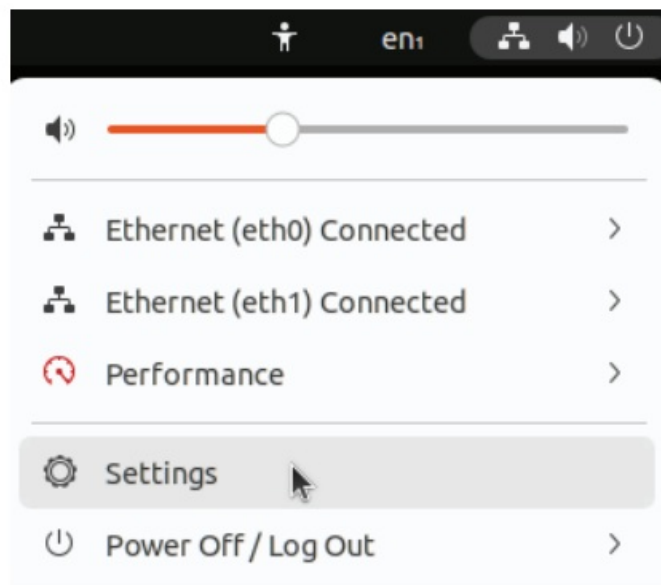
10. Click the Rescan button if needed to begin a new scan if all cameras are not discovered.



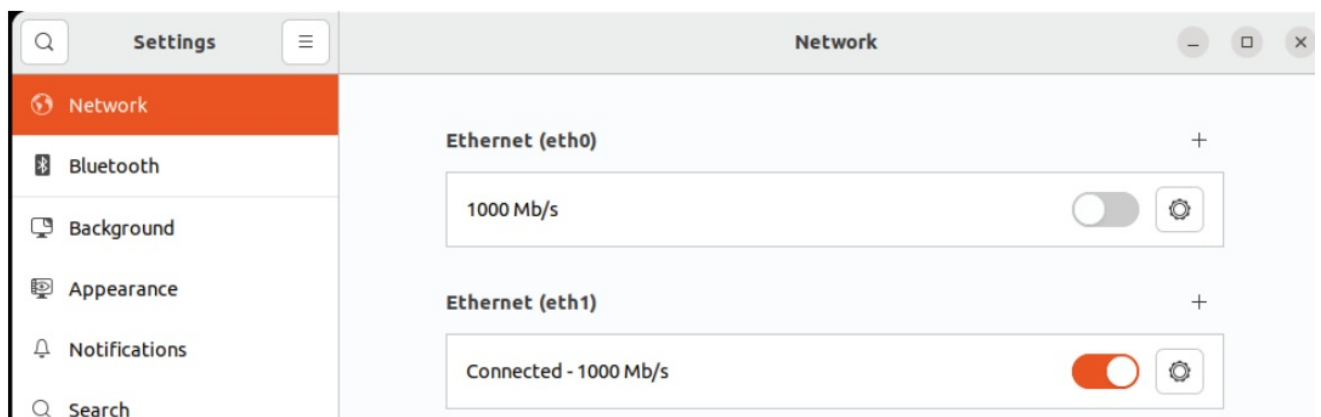
11. Without closing the configuration tool, click on the Network Icon on the top right corner of the screen to open the Network settings menu.

12. Click on Settings

- Ethernet (eth0) (In Ubuntu) = Camera Network = Network 1 Port (as printed on unit)
- Ethernet (eth1) (In Ubuntu) = Coporate Network (Uplink) = Network 2 Port (as printed on unit)



13. Toggle the Ethernet (eth0) network port to the OFF position.



14. Click on the Gear icon for the Ethernet (eth0) interface to open network settings.
15. Click on the IPv4 tab.
16. Set the IP address. Use an IP address outside of the range defined in the WRN Configuration Tool in Step 5.
(For our example, we will use 192.168.55.100 to be outside of the defined range while remaining on the same subnet.)
NOTE: If the configuration tool has assigned an IP address, in this case 192.168.55.1, it will need to be changed as addresses ending in ".1" are reserved for gateways.
IMPORTANT: Do not remove the 192.168.1.200 and 223.223.223.200 addresses as they are required to work with the PoE switch web interface, this is true even if you have a WRN-1632 without the PoE interface.
17. If 192.168.55.1 was not assigned, enter a static IP address to be on the same subnet as defined previously

Wired

Cancel Apply

Details Identity **IPv4** IPv6 Security

IPv4 Method

☐ Automatic (DHCP)
 ☐ Link-Local Only

☒ **Manual**
☐ Disable

☐ Shared to other computers

Addresses

Address	Netmask	Gateway
192.168.1.200	255.255.255.0	
223.223.223.200	255.255.255.0	
192.168.55.100	255.255.255.0	

18. Click Apply.

19. Toggle Network 1 on your WRN recorder, Ethernet (eth0), to the ON position.

Settings

Network

Bluetooth

Background

Appearance

Notifications

Search

Network

Ethernet (eth0)

Connected - 1000 Mb/s

Ethernet (eth1)

Connected - 1000 Mb/s

20. If needed, repeat the above steps for the Ethernet (eth1) / Corporate / Network 2 to connect the other network interface to another network (ex: for remote viewing while keeping the camera's network isolated).

21. Return to the WRN Configuration Tool.

22. If the discovered cameras display a Need Password status:

- a) Select one of the cameras indicating a need password status.
- b) Enter a camera password.
- c) Please refer to the Wisenet camera manual for more information on the required password complexity.
- d) Verify camera password entered.

23. Click on Set Password.

WRN Configuration Tool

Back Network Cameras Next

#	Model	Status	Mode	IP	Mac	Firmware	Username
1	XNF-9013RV	Not Connected	DHCP	192.168.55.4	E4:30:22:86:CF:8C	Unknown	
2	XND-C9083R	Need Password	DHCP	192.168.55.3	E4:30:22:83:02:6F	Unknown	

ID:

New Password:

Confirm Password:

Set Password

Please allow up to 60 seconds for cameras to show. Click Rescan to force a new scan. Rescan

Connected: Default or User Configured password has authenticated successfully
 Not Connected: Password exists and needs to be entered to connect
 Set Password: Device does not have password. Initial password needs to be set

WRN CONFIGURATION TOOL

24. If the camera status displays a Not Connected status, or the cameras have already been configured with a password:

- a) Verify that the IP address of the camera is accessible.
- b) Enter the camera's current password.
- c) Click the Connect button.
- d) After a few seconds, the selected camera status will change to Connected

WRN Configuration Tool

Back Network Cameras Next

#	Model	Status	Mode	IP	Mac	Firmware	Username
1	XNF-9013RV	Not Connected	DHCP	192.168.55.4	E4:30:22:86:CF:8C	Unknown	
2	XND-C9083R	Not Connected	DHCP	192.168.55.3	E4:30:22:83:02:6F	Unknown	

ID:

Password:

Connect IP Assign Change Password

Please allow up to 60 seconds for cameras to show. Click Rescan to force a new scan. Rescan

Connected: Default or User Configured password has authenticated successfully
 Not Connected: Password exists and needs to be entered to connect
 Set Password: Device does not have password. Initial password needs to be set

WRN CONFIGURATION TOOL

WRN Configuration Tool

Back Network Cameras Next

#	Model	Status	Mode	IP	Mac	Firmware	Username
1	XNF-9013RV	Connected	DHCP	192.168.55.4	E4:30:22:86:CF:8C	2.22.02_20231027_R333	admin
2	XND-C9083R	Connected	DHCP	192.168.55.3	E4:30:22:83:02:6F	2.22.03_20231025_R429	admin

ID:

Password:

Connect IP Assign Change Password

Please allow up to 60 seconds for cameras to show. Click Rescan to force a new scan. Rescan

Connected: Default or User Configured password has authenticated successfully
 Not Connected: Password exists and needs to be entered to connect
 Set Password: Device does not have password. Initial password needs to be set

WRN CONFIGURATION TOOL

25. If the Camera status does not change to Connected, or the cameras already have a configured password:

- a) Click on a camera row.
- b) Enter the camera's password.
- c) Click Connect.

26. If you wish to change the camera IP address mode/settings, click the IP assign button. (Wisenet cameras default to DHCP mode.)

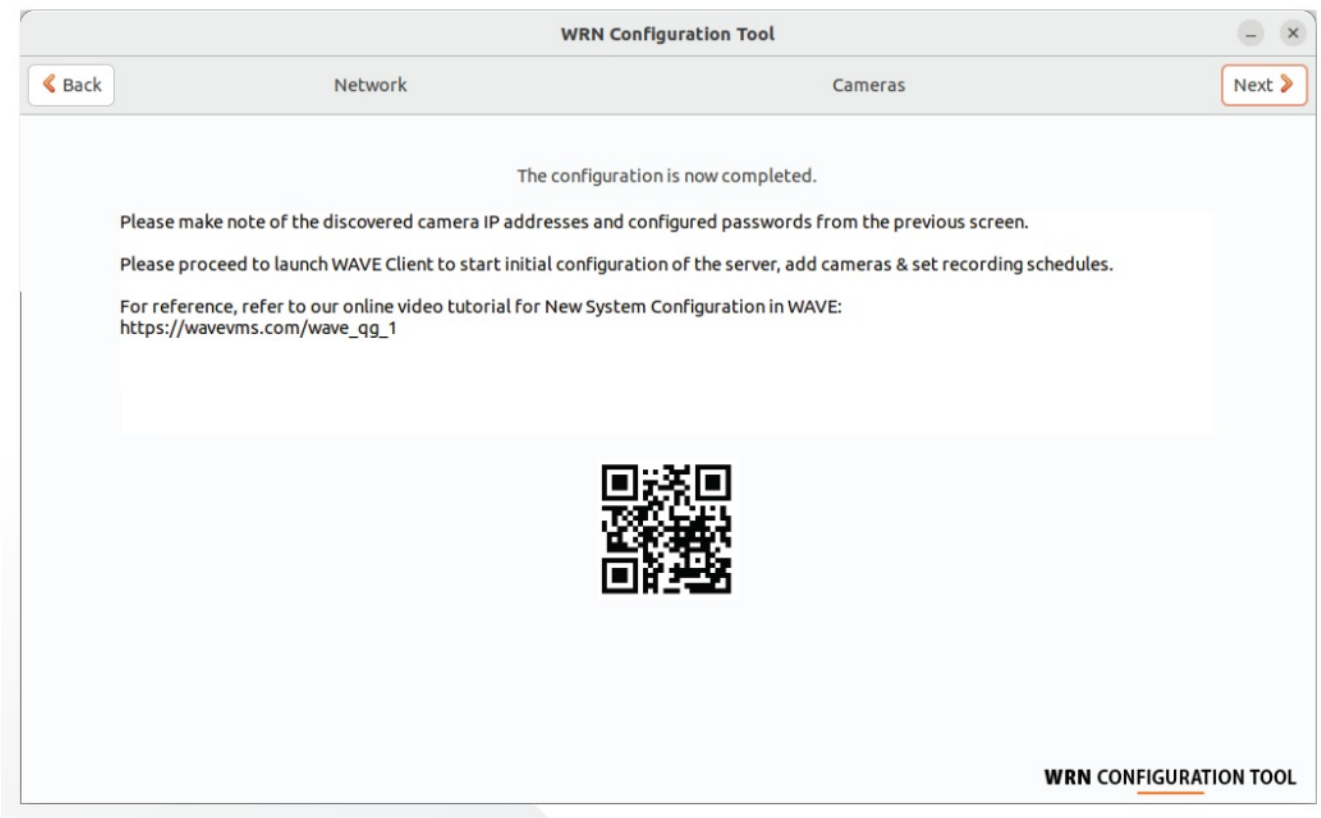
27. Click Next to proceed.

28. Click Yes to confirm the settings.

Confirm settings?



29. Click Next on the final page to exit the WRN Configuration Tool.



30. Launch the Wisenet WAVE Client to run the New System Configuration.

NOTE: For best performance, it is recommended to enable the Hardware Video Decoding feature from the WAVE Main Menu > Local Settings > Advanced > Use Hardware Video Decoding > Enable if supported.

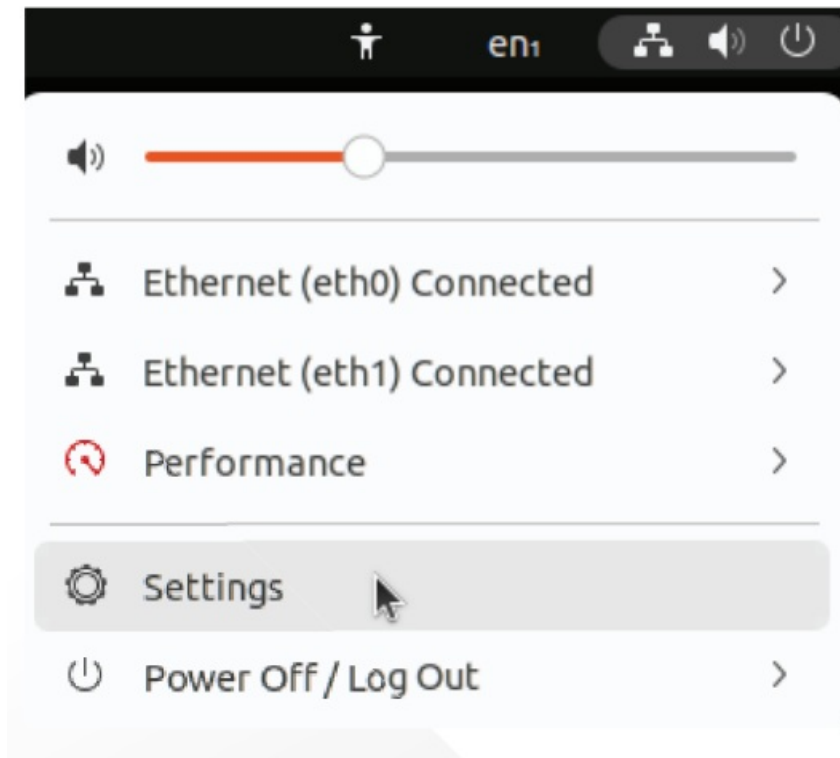
Utilizing an External DHCP Server

An external DHCP server connected to the WRN Camera Network will provide IP addresses to cameras connected to its onboard PoE switch and externally connected PoE switches.

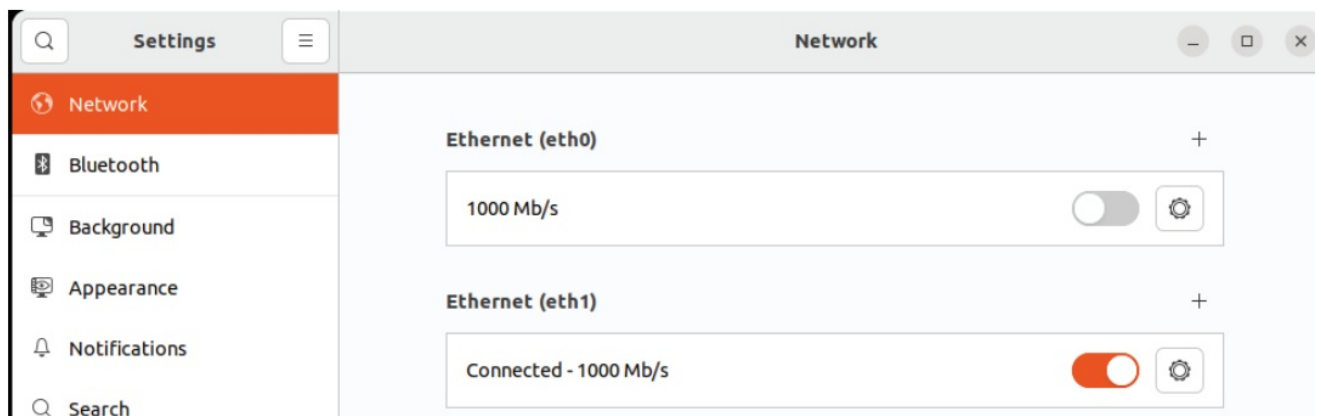
1. Confirm that there is an external DHCP server on the network that connects to the WRN unit's Network 1 Port.
2. Configure the WRN-1632(S) / WRN-816S Network Ports using the Ubuntu Network settings menu:
 - Ethernet (eth0) (In Ubuntu) = Camera Network = Network 1 Port (as printed on unit)
 - Ethernet (eth1) (In Ubuntu) = Coporate Network (Uplink) = Network 2 Port (as printed on unit)



3. From Ubuntu Desktop, click on Network Icon on the top right corner.
4. Click on Settings.



5. Toggle the Ethernet (eth0) network port to the OFF position

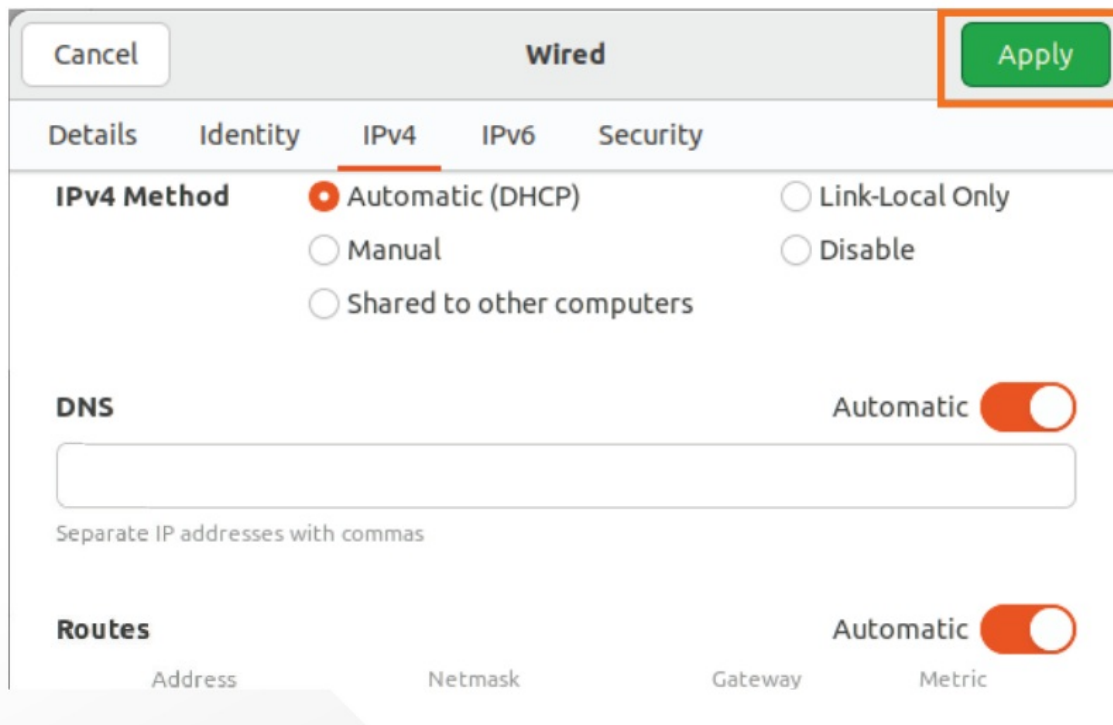


6. Click on the Gear icon for the Ethernet (eth0) interface as shown in the picture above.
7. Click on the IPv4 tab.
8. Use the following settings:

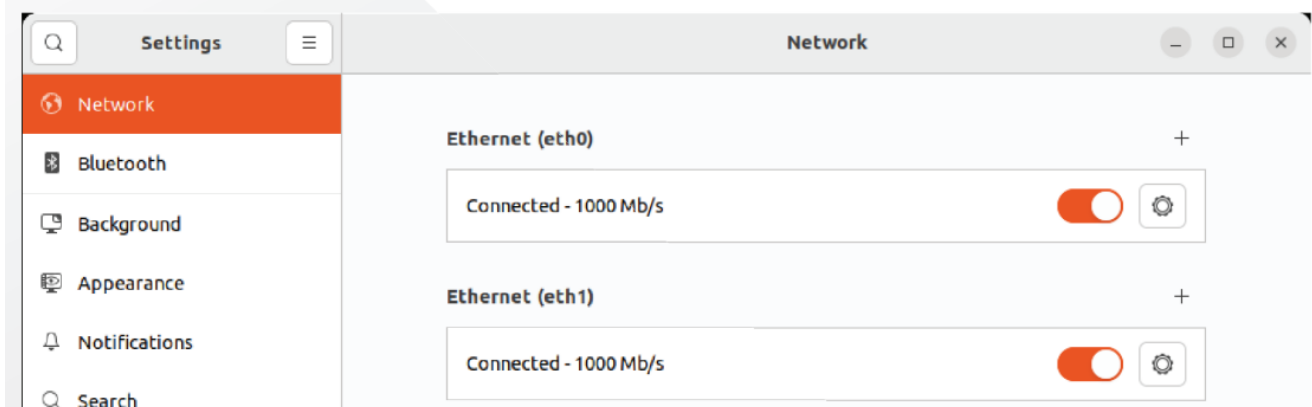
- a) IPv4 Method to Automatic (DHCP)
- b) DNS Automatic = ON

NOTE: Depending on your network configuration, you may enter a static IP address by setting the IPv4 Method to Manual and setting DNS and Routes to Automatic = off. This will allow you to enter a static IP address, subnet mask, default gateway, and DNS information.

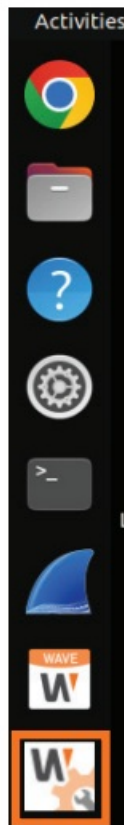
9. Click Apply.



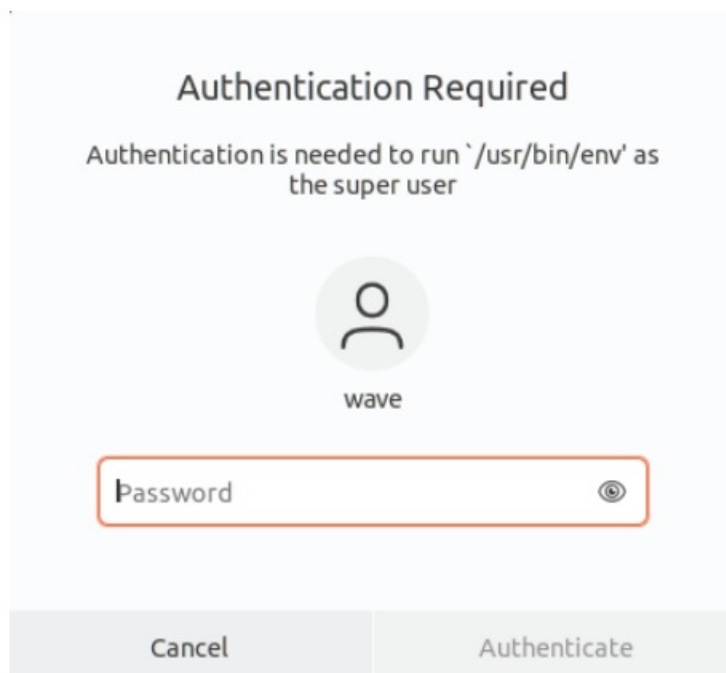
10. Toggle the Ethernet (eth0) network port to the ON position



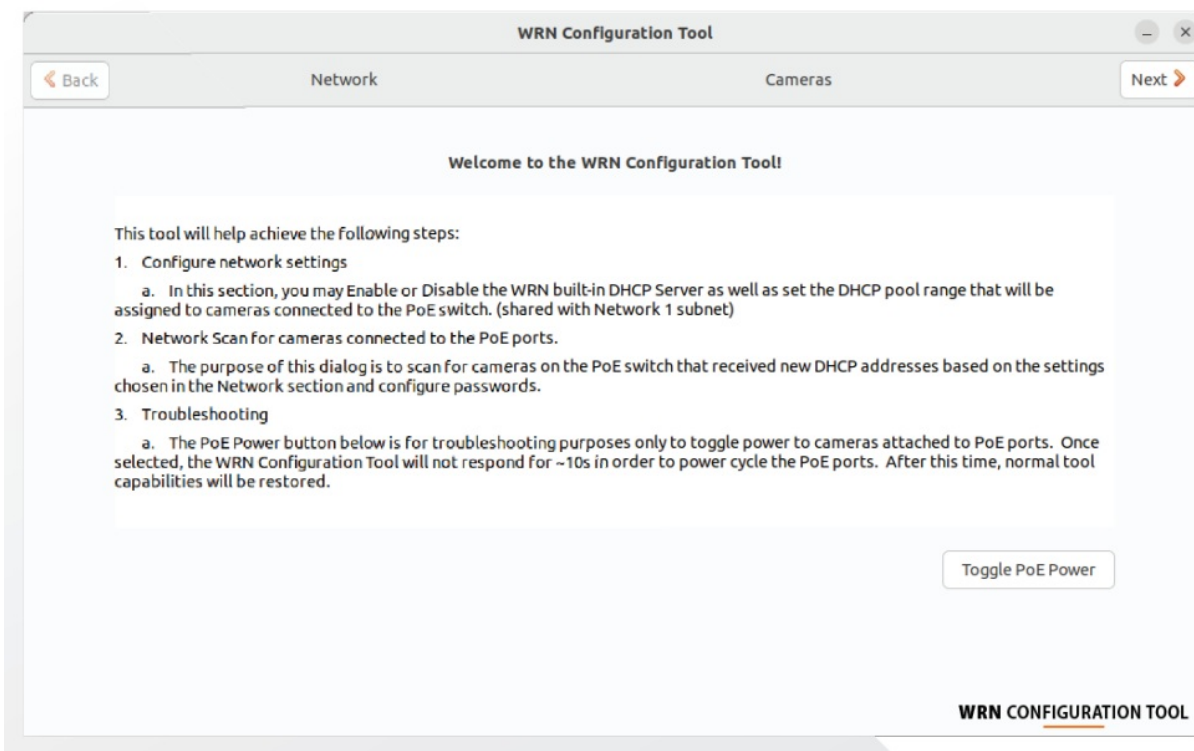
11. Start the WRN Configuration tool from the side Favorite bar.



12. Enter the Ubuntu user password and click OK.

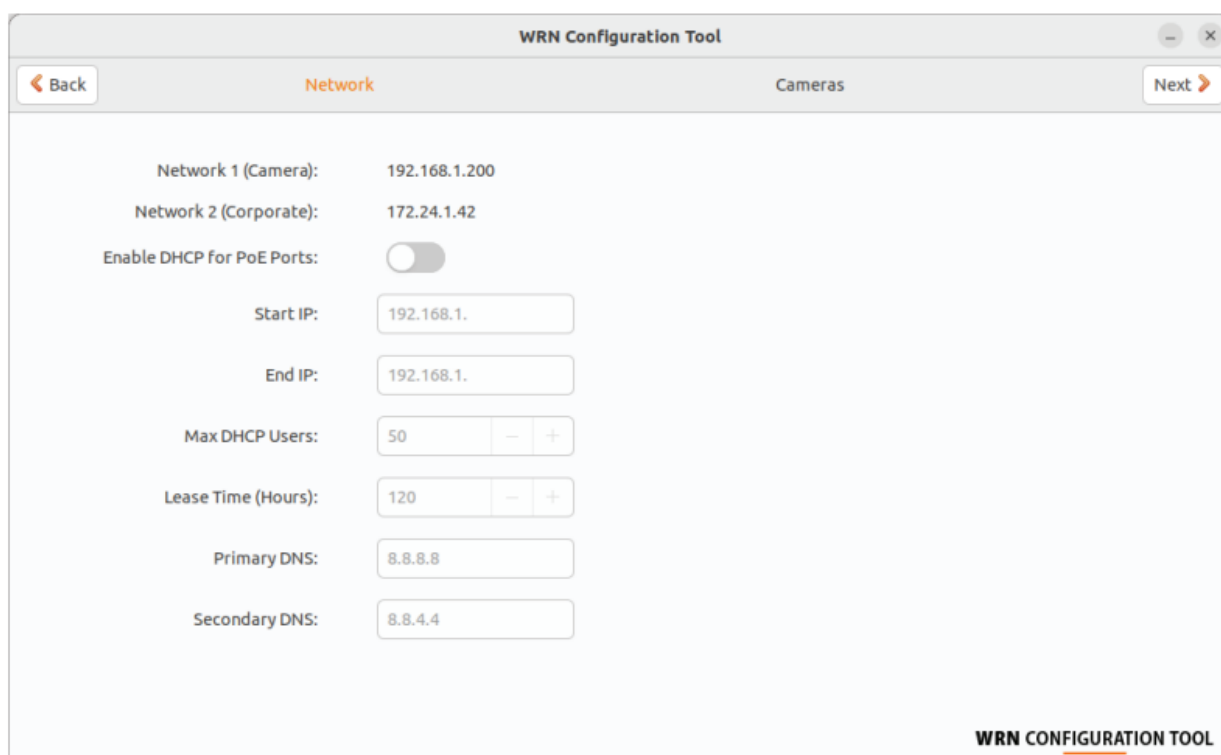


13. Click Next on the Welcome page

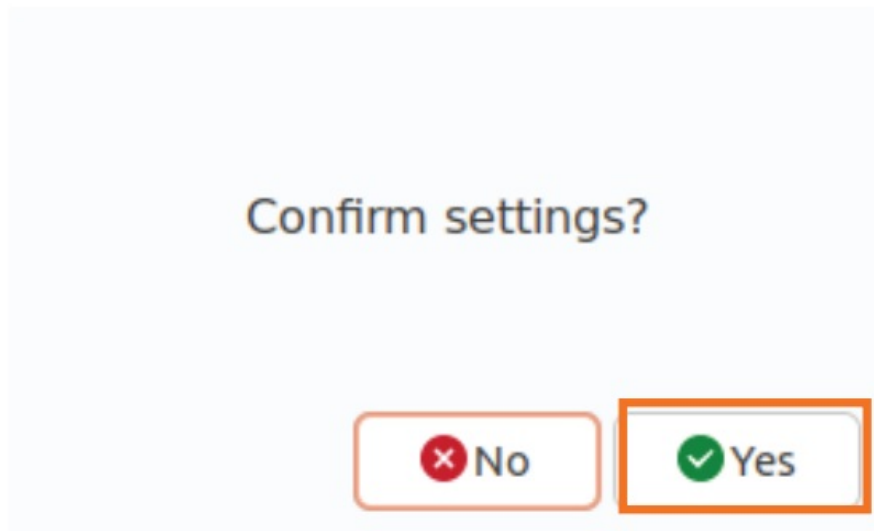


14. Make sure the Enable DHCP for PoE Ports option is Off.

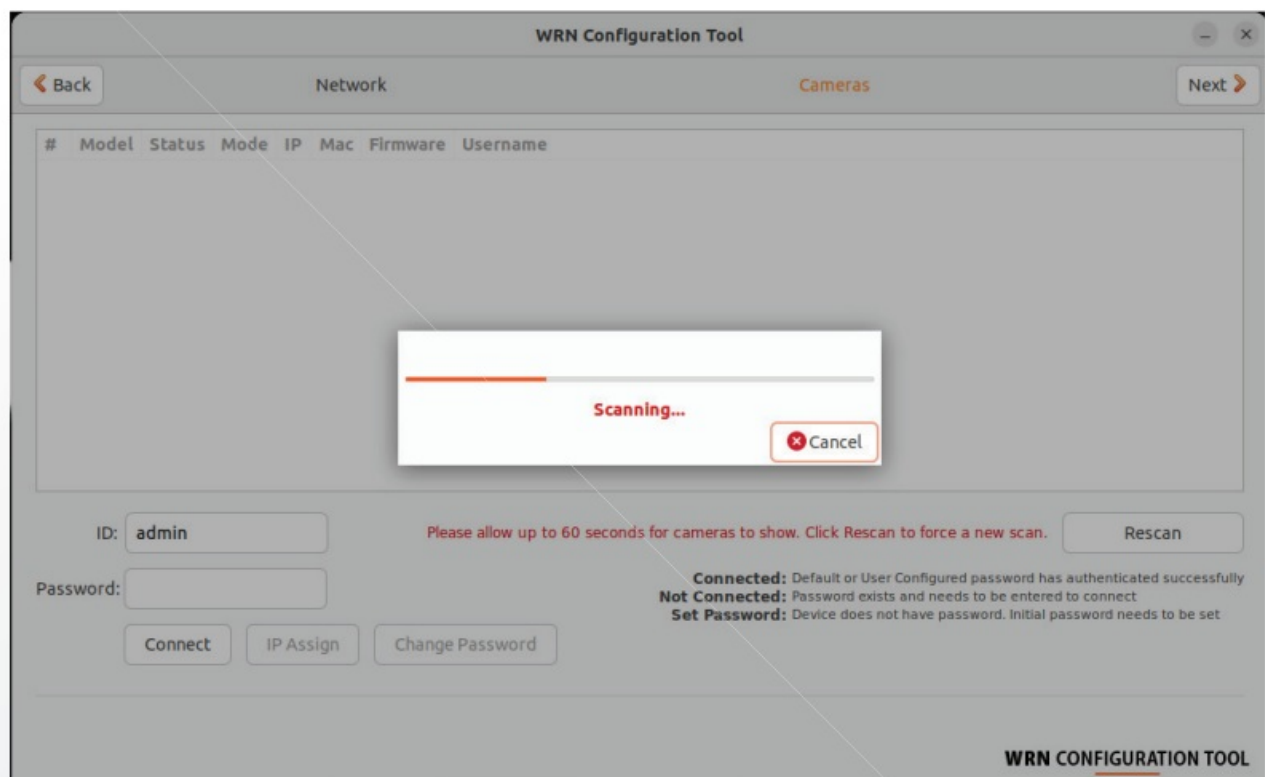
15. Click Next.



16. Click Yes to confirm your settings.



17. The PoE ports will be powered-on to deliver power to the cameras. Camera discovery will begin. Please wait for the initial scan to be completed



18. Click the Rescan button if needed to begin a new scan if all cameras are not discovered

WRN Configuration Tool

Back
Network
Cameras
Next

#	Model	Status	Mode	IP	Mac	Firmware	Username
1	XNF-9013RV	Not Connected	DHCP	192.168.55.4	E4:30:22:86:CF:8C	Unknown	
2	XND-C9083R	Not Connected	DHCP	192.168.55.3	E4:30:22:83:02:6F	Unknown	

ID:

Password:

Connect
IP Assign
Change Password

Please allow up to 60 seconds for cameras to show. Click Rescan to force a new scan.

Rescan

Connected: Default or User Configured password has authenticated successfully

Not Connected: Password exists and needs to be entered to connect

Set Password: Device does not have password. Initial password needs to be set

WRN CONFIGURATION TOOL

19. If the discovered Wisenet cameras display a Need Password status:

- a) Select one of the cameras with the “need password” status.
- b) Enter a camera password. (Please refer to the Wisenet camera manual for more information on the required password complexity.)
- c) Verify the password set.
- d) Click on Set Password.

WRN Configuration Tool

Back
Network
Cameras
Next

#	Model	Status	Mode	IP	Mac	Firmware	Username
1	XNF-9013RV	Not Connected	DHCP	192.168.55.4	E4:30:22:86:CF:8C	Unknown	
2	XND-C9083R	Need Password	DHCP	192.168.55.3	E4:30:22:83:02:6F	Unknown	

ID:

New Password:

Confirm Password:

Set Password

Please allow up to 60 seconds for cameras to show. Click Rescan to force a new scan.

Rescan

Connected: Default or User Configured password has authenticated successfully

Not Connected: Password exists and needs to be entered to connect

Set Password: Device does not have password. Initial password needs to be set

WRN CONFIGURATION TOOL

20. If the camera status displays a Not Connected status, or the cameras have already been configured with a password:

- a) Verify that the IP address of the camera is accessible.
- b) Enter the camera’s current password.

- c) Click the Connect button.

WRN Configuration Tool

Back Network Cameras Next

#	Model	Status	Mode	IP	Mac	Firmware	Username
1	XNF-9013RV	Not Connected	DHCP	192.168.55.4	E4:30:22:86:CF:8C	Unknown	
2	XND-C9083R	Not Connected	DHCP	192.168.55.3	E4:30:22:83:02:6F	Unknown	

ID: Please allow up to 60 seconds for cameras to show. Click Rescan to force a new scan.

Password:

Connected: Default or User Configured password has authenticated successfully
Not Connected: Password exists and needs to be entered to connect
Set Password: Device does not have password. Initial password needs to be set

WRN CONFIGURATION TOOL

21. After a few seconds, the selected camera status will change to Connected

WRN Configuration Tool

Back Network Cameras Next

#	Model	Status	Mode	IP	Mac	Firmware	Username
1	XNF-9013RV	Connected	DHCP	192.168.55.4	E4:30:22:86:CF:8C	2.22.02_20231027_R333	admin
2	XND-C9083R	Connected	DHCP	192.168.55.3	E4:30:22:83:02:6F	2.22.03_20231025_R429	admin

ID: Please allow up to 60 seconds for cameras to show. Click Rescan to force a new scan.

Password:

Connected: Default or User Configured password has authenticated successfully
Not Connected: Password exists and needs to be entered to connect
Set Password: Device does not have password. Initial password needs to be set

WRN CONFIGURATION TOOL

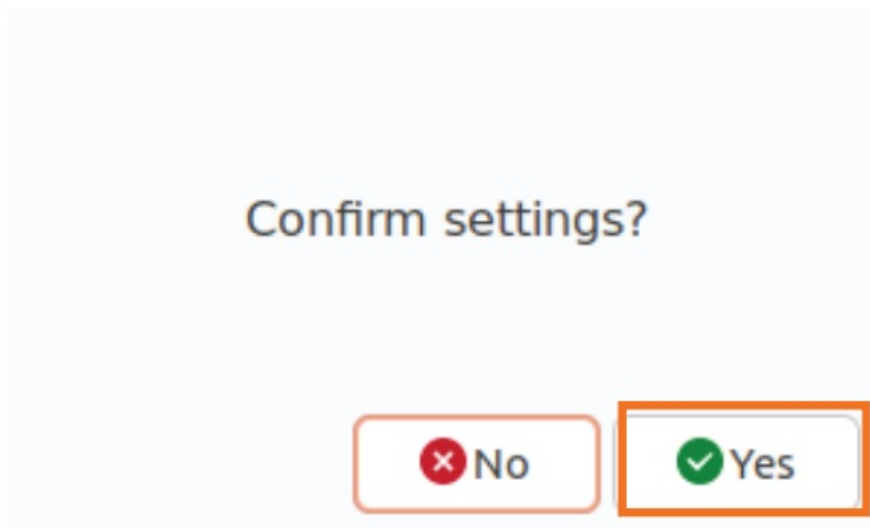
22. If the Camera status does not change to Connected, or the cameras already have a configured password:

- a) Click on a camera row.
- b) Enter the camera's password.
- c) Click Connect.

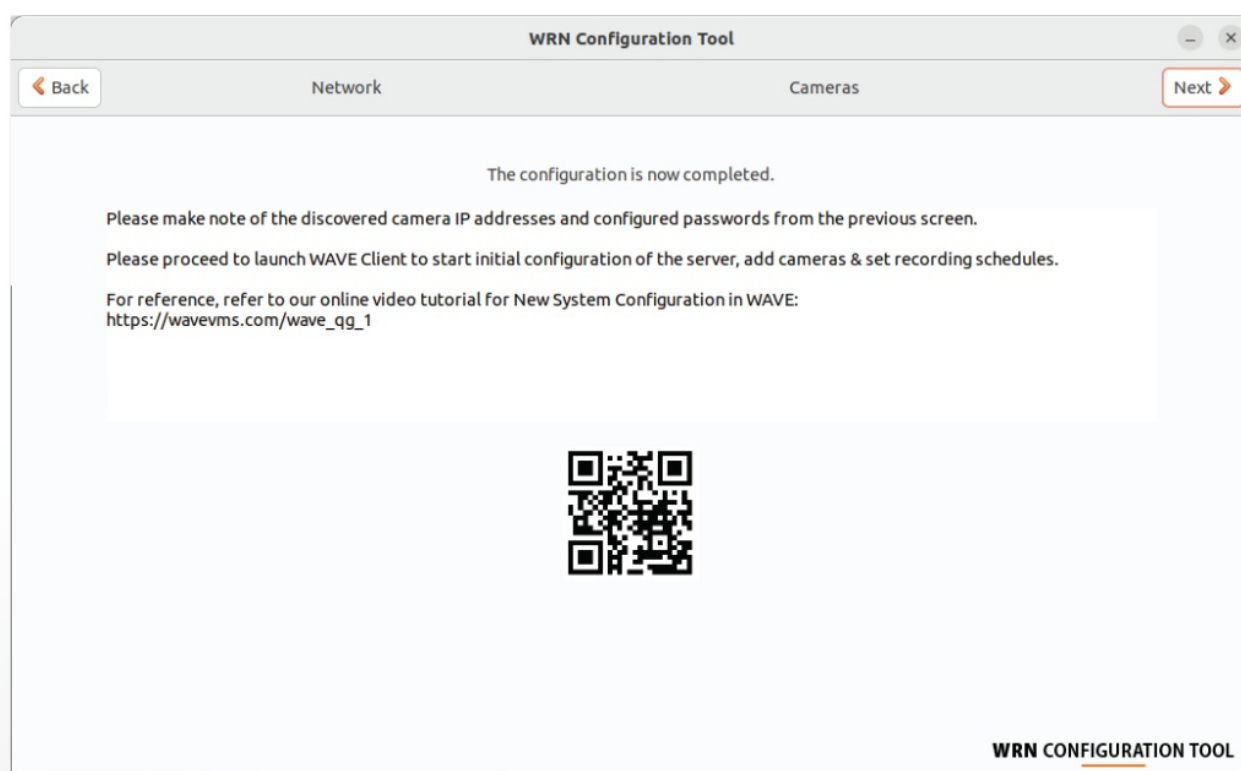
23. If you wish to change the camera IP address mode/settings, click the IP assign button. (Wisenet cameras default to DHCP mode.)

24. Click Next to proceed.

25. Click Yes to confirm the settings



26. Click Next on the final page to exit the WRN Configuration Tool

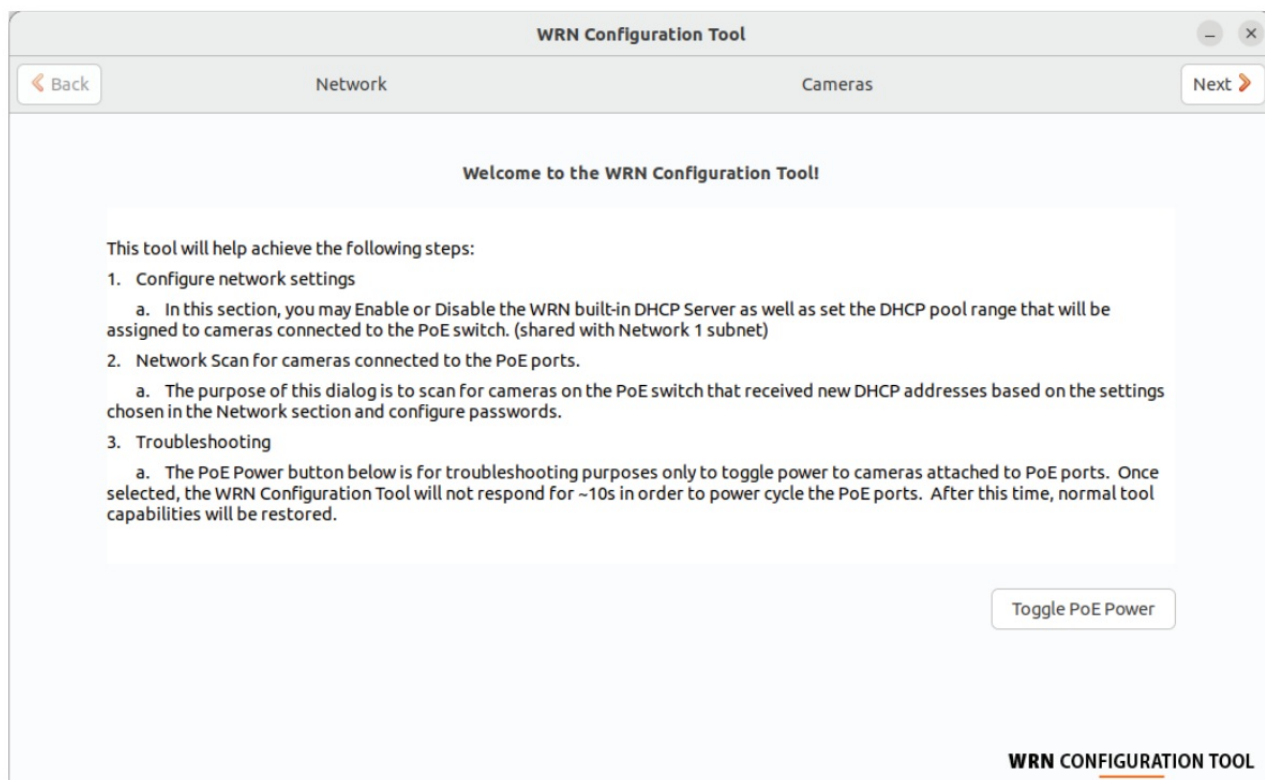


27. Launch the Wisenet WAVE Client to run the New System Configuration.

NOTE: For best performance, it is recommended to enable the Hardware Video Decoding feature from the WAVE Main Menu > Local Settings > Advanced > Use Hardware Video Decoding > Enable if supported.

WRN Configuration Tool: The Toggle PoE Power Feature


The WRN Configuration Tool now has the ability to toggle power to the WRN recorders onboard PoE switch should one or more cameras require a reboot. Clicking the Toggle PoE Power button in the WRN Configuration Tool will power cycle all devices connected to the WRN unit's onboard PoE switch. If it is necessary to power cycle only a single device, it is recommended that you use the WRN webUI.





Contact

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- Wisenet is the proprietary brand of Hanwha Vision, formerly known as Hanwha Techwin.

Documents / Resources

	<p>Hanwha Vision WRN-1632(S) WRN Network Configuration Manual [pdf] Instructions WRN-1632 S, WRN-816S, WRN-1632 S WRN Network Configuration Manual, WRN-1632 S, W RN Network Configuration Manual, Network Configuration Manual, Configuration Manual, Manu al</p>
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References

-  [Hanwha Vision - Innovative Video Surveillance Systems](#)
-  [Hanwha Vision - Innovative Video Surveillance Systems](#)
- [User Manual](#)

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