

Quick Guide

V940D
Network Dome Camera



XX292-20-02



Vicon Industries Inc. does not warrant that the functions contained in this equipment will meet your requirements or that the operation will be entirely error free or perform precisely as described in the documentation. This system has not been designed to be used in life-critical situations and must not be used for this purpose.

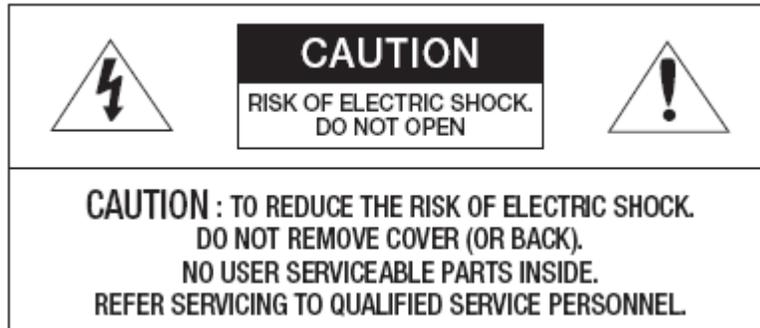
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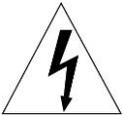
WARNING

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE. DO NOT INSERT ANY METALLIC OBJECTS THROUGH THE VENTILATION GRILLS OR OTHER OPENINGS ON THE EQUIPMENT.

CAUTION



EXPLANATION OF GRAPHICAL SYMBOLS



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

FCC COMPLIANCE STATEMENT

This device complies with the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

FCC INFORMATION: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to the FCC Rules. With these rules and regulations being obeyed to maintain the good working condition of device, the operation is not supposed to be affected by the external interruptions under certain circumstances. This device is electromagnetic, so all the installation and application processing along the device has to follow strictly to the manual or it may hamper telecommunications around. Meanwhile, there is no guarantee that interference will not occur in a certain particular installation situation.

CE COMPLIANCE STATEMENT

WARNING

This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

Read this manual carefully before installation

This manual should be saved for future use.

Important Safety Instructions and Warnings

- Electronic devices must be kept away from water, fire or high magnetic radiation.
- Clean with a dry cloth.
- Provide adequate ventilation.
- Unplug the power supply when the device is not to be used for an extended period of time.
- Only use components and parts recommended by manufacturer.
- Position power source and related wires to assure to be kept away from ground and entrance.
- Refer to qualified personnel for all service matters.
- Save product packaging to ensure availability of proper shipping containers for future transportation.



Indicate that the uninsulated components within the product may carry a voltage harmful to humans.



Indicate operations that should be conducted in strict compliance with instructions and guidelines contained in this manual.

Warning: To avoid risk of fire and electric shock, keep the product away from rain and moisture!

Introduction

The information in this manual provides quick installation and setup procedures for the V940D series network cameras. These units should only be installed by a qualified technician using approved materials in conformance with federal, state, and local codes. Read these instructions thoroughly before beginning an installation. Always refer to Vicon's website to assure you have the most up-to-date manual, www.vicon-security.com.

The V940D Series Dome Camera adopts progressive scan CMOS sensor with an internal HD motorized zoom lens. The camera has an internal Smart IR technology that provides 98 ft/30m IR distance. The IR LEDs output power can be adjusted automatically according to the brightness of the scene so that the IR LEDs do not work at full capacity. The power consumption of the complete unit is greatly lowered and the service life is lengthened.

V940B Series offers 2MP cameras, 4MP cameras and 5MP cameras; the 5MP cameras can support up to 2592×1944@30fps video output. All cameras use H.265/H.264/M-JPEG encoding, providing output with excellent definition and color reproduction, more detailed and accurate information and the accuracy of smart analysis that can, effectively, be guaranteed.

V940D Series cameras boast smart functions, including camera tampering, to detect if the camera/lens has been moved, blocked, low/high brightness or defocused; intrusion detection, providing protection for key areas; and line cross detection, providing border protection, which are important features for many enterprises. These cameras can be widely used in sites that demand high definition image quality in low lighting environments, such as ordinary buildings, supermarkets, hotels, shops, parks, schools, factories, warehouses, underground parking lots, etc.

The compact design makes it easy to install and provides 3-axis adjustment, for easy adjustment of the monitoring angle.

System Requirement

Configuration of the computer to display image and control the camera:

CPU: Intel Pentium 4, 2.4 GHz or above
RAM: 512MB or greater
Network Port: 100M Ethernet port
Operating System: Microsoft Windows 10, Windows 7, Windows XP
IE browser version: Microsoft Internet Explorer 8.0 or above

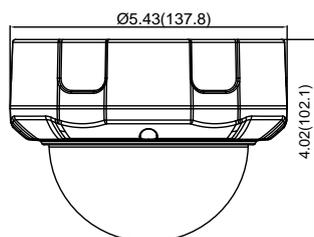
Installation

For the network camera to operate, it is necessary to connect a network cable for data transmission and power connection from a power adapter. The unit also has alarm and audio connections.

Installation Precautions

- Do not drop the camera or subject it to harsh movement.
- Do not point the camera lens directly toward the sun or other strong light.
- Do not install the camera in environments with temperature beyond the acceptable range (-40°F to 140°F/-40°C to 60°C), or with high humidity, direct rainfall, frequent vibrations and shocks.

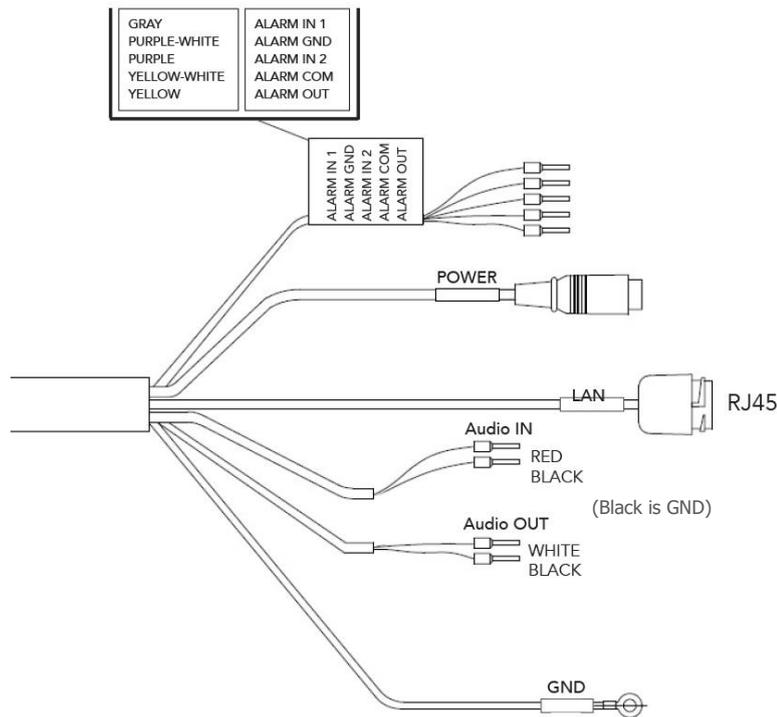
- **Dimensions**



Dimensions Unit: in. (mm)

The camera is supplied with an accessory kit that includes mounting hardware (screws, anchors and grommets), an RJ-45 connector protective cover, a power connector (2-pin screw terminal), replacement/spare locking screws (screws that secure the camera module in its cradle), a BNC cable connector that allows connection of spot monitor (for installation use only) and an Allen tool to loosen the screws.

- **Cable Connections**



Item	Description
LAN RJ-45	Ethernet, RJ-45 port compatible with 10/100Mbps PoE modular jack
Power	Standard adapter jack for 12 VDC or 24 VAC
Alarm In	Alarm input and output, 5-pin terminal
GND	
Alarm Out	
Alarm COM	
Audio In	Audio input, 2-pin terminal; line-level microphone
GND	
Audio Out	Audio output, 2-pin terminal; amplified speaker
GND	
GND	Ground

- **Installing & Adjusting Camera**

Select a location that is clear of obstacles and can support the weight of the unit. Exercise maximum caution when installing the unit to the wall or ceiling the unit falling can result in injuries and accidents. As a failsafe against falling, attach the unit by chain, wire cable or other safety restraint to an appropriate anchor point.

Step 1: Prepare the mounting holes

To provide for cable management, the camera can be mounted to a back box, model V940D-BOX or using an adapter plate to allow mounting to a 4x4 electrical box, model V940-PLATE.

Note: Make sure there is room for a cable routing hole at the location and drill a hole to route the cables. Cabling should be routed to the installation location.

The V940D-BOX is supplied with a mounting template and hardware necessary to mount it. Using the mounting template, prepare the three mounting holes. Secure the box to the surface using the screws and anchors supplied or hardware appropriate for the mounting surface. There are three cable access holes provided, one on the side and two on the rear. Route the cables through one of these access holes.



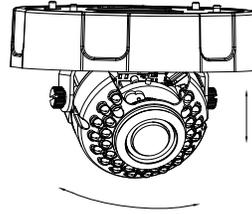
Loosen the three screws on the clear dome assembly to remove the clear bubble. Note that there is a bag of desiccant inserted in the camera assembly; do NOT remove this. Secure the camera dome to the standoffs in the back box using the screws and washers provided in the accessory kit.

The V940-PLATE can be used to mount the camera dome to a standard 4x4 electrical box. Refer to the drawing below.

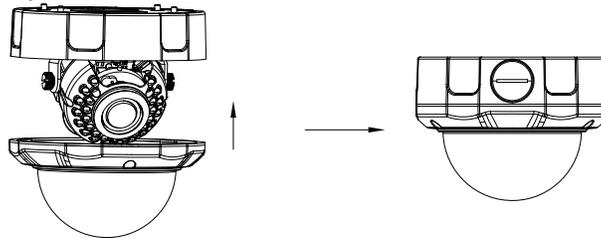


Step 3: Adjust the camera angle

Loosen the locking screws, adjust the camera angle and direction to the desired position and then tighten the screws.



Re-install the clear dome assembly to the camera and secure with the screws.



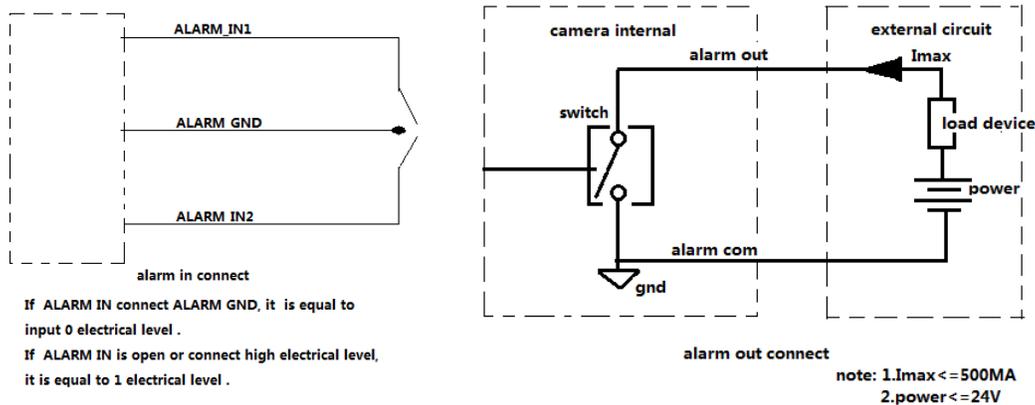
Connections

• Connecting to the RJ-45

Connect a standard RJ-45 cable to the network port of the network camera. Generally a cross-over cable is used for direct connection to PC, while a direct cable is used for connection to a hub. You can also use a router featuring PoE (Power over Ethernet) to supply power to the camera. An RJ-45 connector protective cover is supplied in the accessory kit to protect the connection.

• Connecting Alarms

There are two dry contact alarm inputs and one alarm output provided; the alarm output acts as a switch to drive an external device, such as a light. Refer to the figures below for connection and utilization of alarm input/output. Be sure to follow the current limits noted in the diagrams.



• Connecting the Power

Connect the power for the network camera, 24 VAC or 12 VDC. For 12 VDC, connect the positive (+) pole to the '+' position and the negative (-) pole to the '-' position for the DC power.

- Be careful not to reverse the polarity when connecting a 12 VDC power cable.
- A router featuring PoE (Power over Ethernet) can also be used to supply power to the camera.

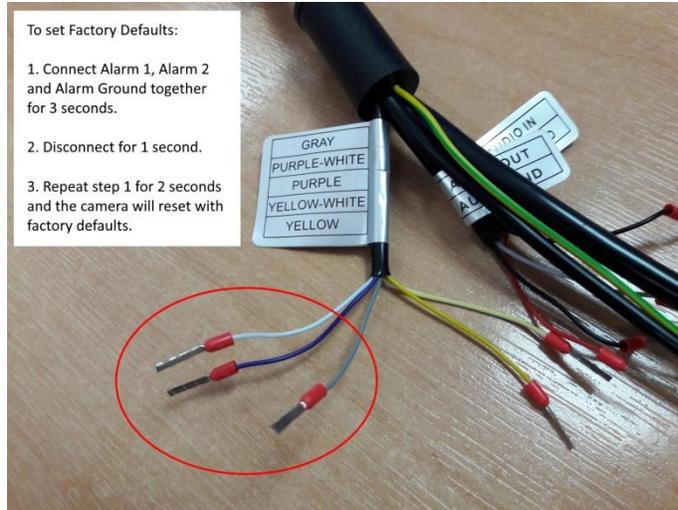
• Connecting Audio

There is one audio input and one audio output. Connect an external line level Mic to Audio input and a Speaker to Audio output.

- **Restore Factory Default Procedure**

If the equipment cannot be connected, try to reset the hardware of the camera. Follow up steps below to process.

To reset the hardware, to connect the Alarm1, Alarm2 and Alarm Ground together while the camera is on, as shown in the picture below. The camera can then be rediscovered using the IPC Config tool.



- **Spot Monitor Connection**

There is a BNC cable connector supplied in the accessory kit to allow connection to a spot monitor to allow for installation adjustments. This is connected to the two-pin connector on the back of the camera module.

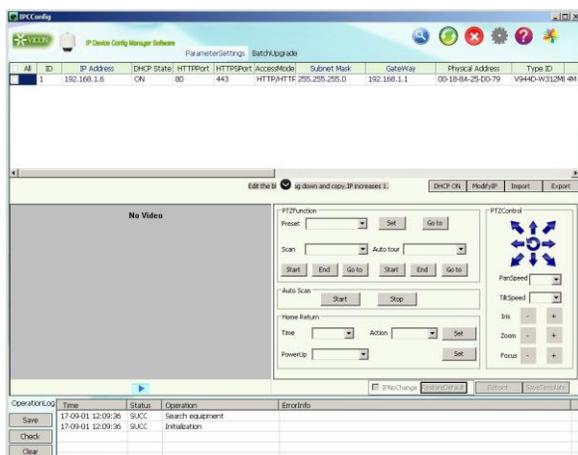
Network Connection and IP Assignment

The network camera is designed for use on an Ethernet network and requires an IP address for access. Most networks today have a DHCP server that automatically assigns IP addresses to connected devices. By the factory default, your camera is set to obtain the IP address automatically via DHCP server. If your network does not have a DHCP server the camera will use a link local IP, i.e. 169.254.x.x.

If DHCP is enabled and the product cannot be accessed, run the Discovery Tool utility to search for and allocate an IP address for the camera. The Discovery Tool (IPCConfig.exe) can be found on Vicon's website, www.vicon-security.com, on the Software Downloads page for Vicon cameras.

Note: The approved browser for the camera is Internet Explorer*. Depending on the version of Windows and IE, your screens may be slightly different but similar in function.

Connect the network camera to the network and power up. Start IPCConfig. The main window displays and the devices connected to the network will display. Right click on the camera IP to open a browser. A login will display.



(1) Login

Enter user name and password in the pop-up login interface. For first time users, the default admin login is ADMIN (case sensitive; password: 1234). For increased security, it is recommended to change the password. After a successful login, a screen will display to change the password; this can be done here or using the Settings, Users screen. Select Change or No change. If no change is selected you will open the Live camera interface.

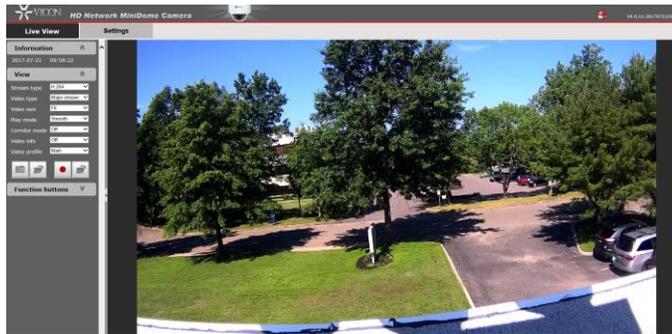
*Supports Internet Explorer 8.0 or above, however, IE 10 or above is required for full functionality, including the file upgrade function.

(2) Install control

You may be prompted to allow running a Vicon add-in. Click to install manually and run the add-in. Follow the prompts.

Attention: Please allow running VICON add-ins. If it does not load automatically, please [click here](#) to install manually, and refresh the page after that.

Live View interface displaying the major stream at H.264 format:



Click the Settings tab and select Network. On this page (below), select Off to turn off DHCP. Then enter the required IP address, Subnet mask and Default gateway. DNS server is not required. Click Save and restart device. Click Yes and exit IPConfig.

Network	
IP mode:	IPv4
DHCP:	<input checked="" type="radio"/> On <input type="radio"/> Off
IP address:	10.82.19.119
Subnet mask:	255.255.255.0
Default gateway:	10.82.19.1
Primary DNS server:	192.168.0.254
Secondary DNS server:	10.82.1.6
<input type="button" value="Save"/> <input type="button" value="Cancel"/>	

Live View Page

From the Live View page, users can select Stream Type, Video Type, Video Size, Play Mode, Corridor Mode, Video Info, Video Profile, Snapshot and Local recording can be configured. From here, the Settings screens can be accessed by the admin.

Function Buttons

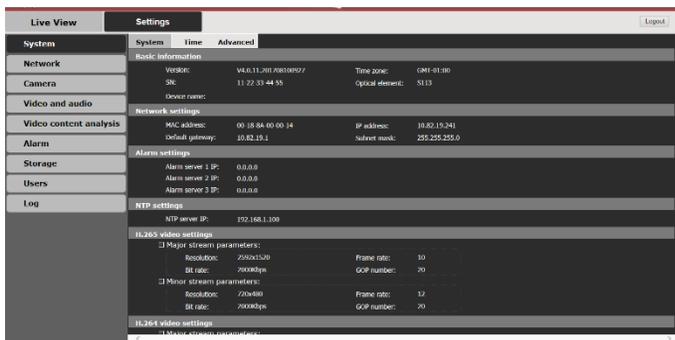
  Indicate audio input/output are disabled. Click the buttons to enable audio input/output; the buttons will be shown as  .

  Indicate that the motion detection and privacy mask functions are disabled. Click the buttons to enable them; the buttons will be shown as  .

 Indicates that the intelligence functions are disabled. Click the button to enable them; the button will be shown as .

Note: The motion detection and privacy mask settings can only be set in the Live view settings interface when they are enabled in the Audio & Video Settings.

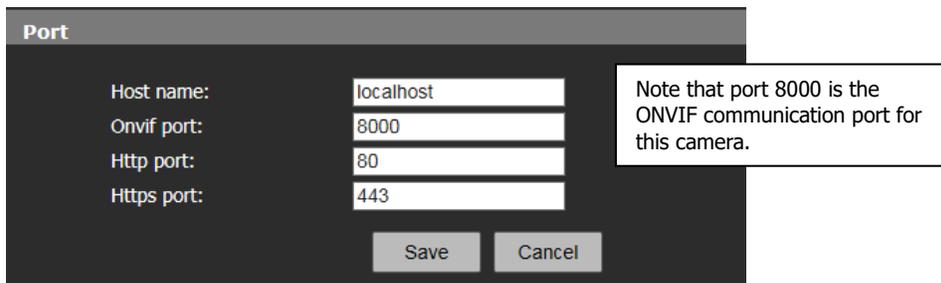
Click the option tab "Settings" to enter the system Settings interface.



From the Settings tab, an admin has access to all the configuration screens: System, Network, Camera, Video and audio, Alarm, Storage, Users and Log.

Port Settings

From the Network Settings screen, port settings are made.

The image shows a 'Port' settings dialog box. It has four input fields: 'Host name' with the value 'localhost', 'Onvif port' with the value '8000', 'Http port' with the value '80', and 'Https port' with the value '443'. Below the fields are 'Save' and 'Cancel' buttons. A callout box points to the 'Onvif port' field with the text: 'Note that port 8000 is the ONVIF communication port for this camera.'

The Onvif port is for Onvif connection; the default value is 8000.

Http port is for web connection; the default value is 80.

Https port is for web https connection; the default value is 443.

If it is necessary to change the port settings, change the port value and click Save.

Note: The port settings of the software platform must be the same as the port settings of the camera. If inconsistent, the settings should be modified.

RTSP Settings

From Network Settings, RTSP tab, the RTSP streams are configured.

The RTSP stream is accessed through the following links when Allowed anonymity is turned on.

For major stream: `rtsp://IP/ch1/stream1`

For minor stream: `rtsp://IP/ch1/stream2`

For third stream: `rtsp://IP/ch1/stream3`

The RTSP stream is accessed through the following links when Allowed anonymity is turned off.

For major stream: `rtsp://ADMIN:password@IP/ch1/stream1`

For minor stream: `rtsp://ADMIN:password@IP/ch1/stream2`

For third stream: `rtsp://ADMIN:password@IP/ch1/stream3`

Network	FTP	SMTP	HTTPS	802.1X	QoS	IGMP	SIP	DDNS	UPnP
NAS	RTSP	IP filter	Monitor						
RTSP									
Allowed anonymity:	<input type="radio"/> Off <input checked="" type="radio"/> On								
Login type:	<input type="text" value="Digest"/>								
RTP packet max size	<input type="text" value="1"/> MTU								
<input type="button" value="Save"/> <input type="button" value="Cancel"/>									

Stream settings

From the Video and audio Settings, you may set Major stream, Minor stream and Third stream. After the streams are set, be sure to click Save.

H.265		H.264			
<input type="radio"/> Major stream		<input checked="" type="radio"/> Minor stream		<input checked="" type="radio"/> Third stream	
Resolution:	<input type="text" value="2592x1520"/>	Resolution:	<input type="text" value="720x480"/>	Stream type:	<input type="text" value="MJPEG"/>
Frame rate:	<input type="text" value="15"/>	Frame rate:	<input type="text" value="15"/>	Resolution:	<input type="text" value="640x480"/>
GOP number:	<input type="text" value="20"/>	GOP number:	<input type="text" value="20"/>	Frame rate:	<input type="text" value="1"/>
Smart codec:	<input type="text" value="Off"/>	Smart codec:	<input type="text" value="Off"/>	Image quality:	<input type="text" value="Average"/>
Bit rate control:	<input type="text" value="CBR"/>	Bit rate control:	<input type="text" value="CBR"/>	<input type="button" value="Save"/>	
Bit rate:	<input type="text" value="4000"/> Kbps (256~10000)	Bit rate:	<input type="text" value="2000"/> Kbps (256~2000)		
<input type="button" value="Save"/>		<input type="button" value="Save"/>			



VICON INDUSTRIES INC.

For office locations, visit the website: www.vicon-security.com

