X-Series NVR Quick Start Guide

Introduction

The exacqVision X-Series is part of exacqVision's series of network video recorders (NVR). The exacqVision X-Series NVR provides high-performance hardware with exacqVision surveillance video management software (VMS).

Installation requirements

The X-Series NVR is mountable in a 19 in. (482.6 mm) wide server rack mount system. Before you install the NVR, ensure that you meet the following requirements:

Mounting, grounding, and operating environment requirements

- Mount the exacqVision server in a dust-free and climate-controlled location where the temperature is between 40°F and 95°F (4.5°C to 35°C), and the humidity level is less than 80% non-condensing.
- If the hard drives dispatch separately to the system, insert each drive into the appropriate hard drive slot in numerical order.
- Ensure that a qualified technician connects the server permanently to the ground wire. Use an 18 AWG wire or larger to make the connection, and label the grounding screw near the power connector with the following image:

Note: Dust can cause components of the server to overheat, and elevated temperatures can contribute to premature hard drive failures.

Figure 1: Grounding wire

Electrical environment requirements

- For maximum reliability, connect the X-Series to an inline UPS. An inline UPS filters power surges and dips that can damage the server.
- Connect a mouse and keyboard to the server.
- Connect the exacqVision server network interface cards (NIC) to the appropriate network switch ports.
- Ensure that a qualified person replaces the battery.

Network connection requirements

- If the video surveillance system does not have a physically isolated network, connect all IP cameras and one server NIC to a dedicated camera VLAN or dedicated physical camera network. For information on suggested configurations, see https://support.exacq.com/#/knowledge-base/article/868
- Install the camera manufacturer's software on a PC in this subnet or configure the router to connect a client computer in the camera subnet. For information on how to configure the network, see Configuring the server.

Note: A configuration that isolates the camera traffic reduces the chances of other network traffic conflicts and unauthorized access to cameras.

Installing the server in a rack

The X-Series NVR includes sliding rails for installation in a server rack with square or round unthreaded mounting holes. You can use the rails to fully extend the system from the rack for service.

Installing the rails

1. In your server rack, choose an appropriate location for the system.
2. Remove the rails from their packaging and find the decal that indicates the front end.
3. On the rack, push the first rail's front pegs into the mounting holes.

4. Align the rear of the rail with the corresponding holes in the rack, then use the sliding mechanism to push the pegs into place.
5. Repeat these steps for the second rail. To change the location of the rails, pull out the blue tabs.

Mounting the server

1. On each rail, pull out the inner slides until they lock in place.
2. Align the nuts on each side of the X-Series chassis with the slots on the rails.
3. Seat the X-Series into the rails, then push in the direction of the rack until the release latch locks in place.
4. On the sides of the rails, press the slide release tabs, then push the X-Series into the rack.
5. On each side of the X-Series front panel, lift the screw covers and screw the system into the rack.
6. Connect the power cables to the power supplies. For maximum reliability, connect the X-Series to an inline UPS. To relieve tension on the cable, use the velcro wraps.
7. Attach the bezel right side first, then press the button on the left side and push the bezel into place. You can use the key to lock the bezel.
8. Connect a monitor or keyboard, video, mouse (KVM) switch to the VGA output.

Starting the server

About this task:
When you start the exacqVision server for the first time, create an operating system user name and password, then create an exacqVision user name and password.

1. Turn on the exacqVision server.
2. To create an operating system user account, in the **Log on** dialog box, enter a user name and password.
3. Configure the operating system settings as required.
4. If prompted, log on to the operating system again with the operating system user name and password that you just created.
5. To create an exacqVision admin user account, in the **exacqVision** dialog box, enter a user name and password.

   ⓘ **Note:** Use your exacqVision credentials to log on to the X-Series.

Headless setup

Integrated Dell Remote Access Controller (iDRAC) is a proprietary technology that allows IT administrators to remotely manage and monitor Dell-built servers. This includes software and hardware components. The exacqVision X-Series NVRs feature an out-of-the-box enabled iDRAC micro port on the front of the system and an iDRAC network interface on the rear of the system. You can use the iDRAC micro USB port to configure the system without connecting a monitor, keyboard, and mouse, if you have a laptop or computer workstation.

Before you begin:

- To connect to the iDRAC micro port, use a 3ft (.91 m) or shorter USB 2.0 Micro-A or Micro-B cable.
- On the laptop or computer workstation that you use to connect, disable all other network and wireless interfaces.

1. With the USB 2.0 cable, connect your computer to the iDRAC micro port.
2. Use the Windows `ipconfig` or Linux `ifconfig` commands to see when the computer detects a new virtual network interface. The assigned IP address is `169.254.0.4`.
3. In a browser address bar, enter the iDRAC micro port IP address: `169.256.0.3`.
4. Use the following credentials to log onto the iDRAC dashboard:
   - **Username**: `root`
   - **Password**: `admin256`

Enabling the virtual console

You can use the iDRAC virtual console to configure the exacqVision software, for example to add and configure cameras, manage licensing, and check system logs. With the virtual console, you do not need to configure Remote Desktop Protocol (RDP) or Virtual Network Computing (VNC) to configure the system with a GUI. Do not use the virtual console to monitor cameras. To monitor cameras, install the exacqVision client on a suitable workstation.

1. On the iDRAC dashboard, in the upper right of the **Virtual Console** panel, click **Settings**.
2. On the **Virtual Console Settings** page, from the **Enabled** list, select **Enabled**, then click **Apply**. On the dashboard, the **Virtual Console** panel displays an image from the system based on its current state.
3. To open a virtual console session, select the inset image, or click **Start the Virtual Console**.

   ⓘ **Note:** For more information on the iDRAC dashboard and iDRAC network interface, see https://support.exacq.com/#/knowledge-base/article/20148.

Accessing the server from a remote workstation

About this task:
You can use the exacqVision client software to monitor live video, see archived footage, and configure the X-Series from workstations on the LAN or over the WAN.

1. Download the latest exacqVision Client software from the Exacq website at: https://www.exacq.com/support/downloads.php.
2. Install the client software on a system administrator computer.
3. Use the ping command and the server's IP address to confirm connectivity. If the client PC cannot communicate with the server, contact your network administrator.

Configuring the server

1. Open the Exacq client.
2. From the navigation tree, click **Configure System** > **Network**.
3. In the **Network** tab, choose one of the following options:
   - To install the server on a network that uses static IP addressing, click **Static** and enter the IP address.
   - To install the server on a network using dynamic host configuration protocol (DHCP), click **Dynamic**. If the information does not configure automatically, contact your network administrator.
4. Click **Apply**.
5. Repeat this procedure for any additional network ports. For more information about configuring the server, see https://exacq.com/support/manspecs/.

Remote access for administrative support

For administrative support to access to the server remotely, configure remote desktop for Windows, or SSH for Linux depending on the computer operating system. For more information, refer to the following Exacq Knowledge Base articles:

- *Using remote desktop to manage Windows-based exacqVision servers*: https://support.exacq.com/#/knowledge-base/article/579
- *Enabling/Disabling SSH on exacqVision Linux Server*: https://support.exacq.com/#/knowledge-base/article/7498

Configuring the client

1. Start the Exacq client application.
2. When the local client is launched for the first time, enter the Exacq user name and password you created during initial startup.
3. Verify that the server appears in the **Systems** list and displays a **Connected** status.

   ⓘ **Note:** If the server does not connect to the client, check the remote client machine for antivirus software that can block communication between the server IP addresses and ports.

Connecting the cameras

About this task:
To determine the compatibility of a particular camera model and firmware combination with exacqVision servers, use the following link: http://www.exacq.com/support/ipcams.php.

1. Use the camera manufacturer's software to configure the IP addresses for each camera, and record this information for future reference. For troubleshooting information on connecting cameras to the server, see https://support.exacq.com/#/knowledge-base/article/2075.

   ⓘ **Note:** Do not change the user name and password until after you establish connectivity with the exacqVision server.
2. To test the connectivity between the camera and the server, complete the following steps:
   a. Log on to the operating system as an administrator.
   b. Type the camera's IP address into the address bar of your internet browser.
   c. Press **Enter**.

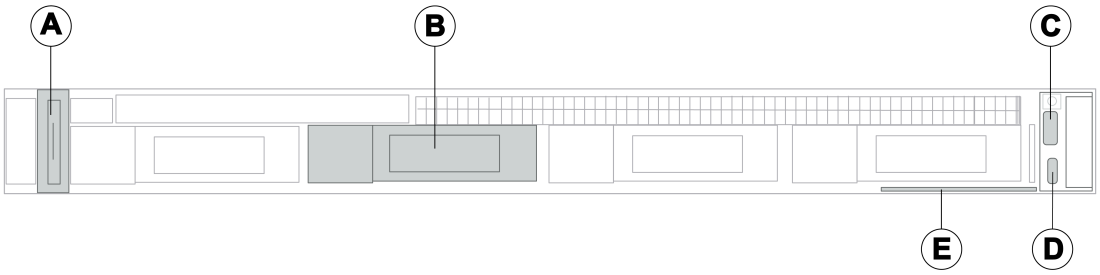
   ⓘ **Note:** If the server does not connect to the client, check the remote client machine for antivirus software that can block communication between the server IP addresses and ports.
3. To add a camera, in the exacqVision client, select **Configure System** > **Add IP Cameras** > **New** and enter the camera address and credentials.
   To bulk add cameras, you can use the **Find IP Cameras** and **Quick Add** tabs. For detailed information, see the *exacqVision User Manual*.
4. Repeat this process for all other camera connections.

Cybersecurity

Cybersecurity guidance for use in planning, deployment, and maintenance periods is available in the exacqVision Hardening Guide. For additional cybersecurity information and other resources, see https://www.johnsoncontrols.com/trust-center/cybersecurity/resources#AdditionalResources.

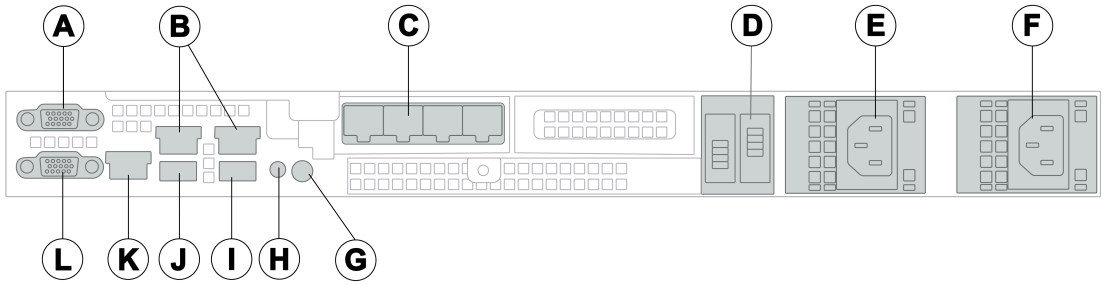
Hardware components

Figure 2: 1U front panel



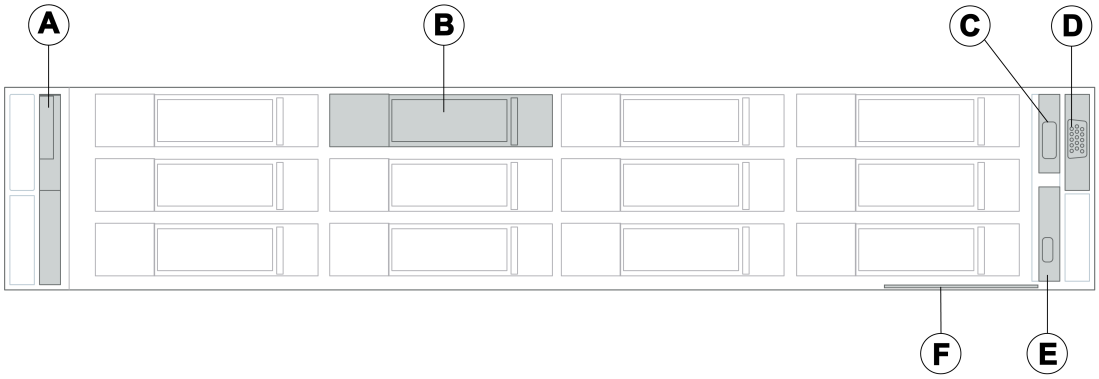
Callout	Description	Callout	Description
A	Left control panel	D	iDRAC direct micro port
B	Drive	E	Information tag
C	USB 2.0 port		

Figure 3: 1U back panel



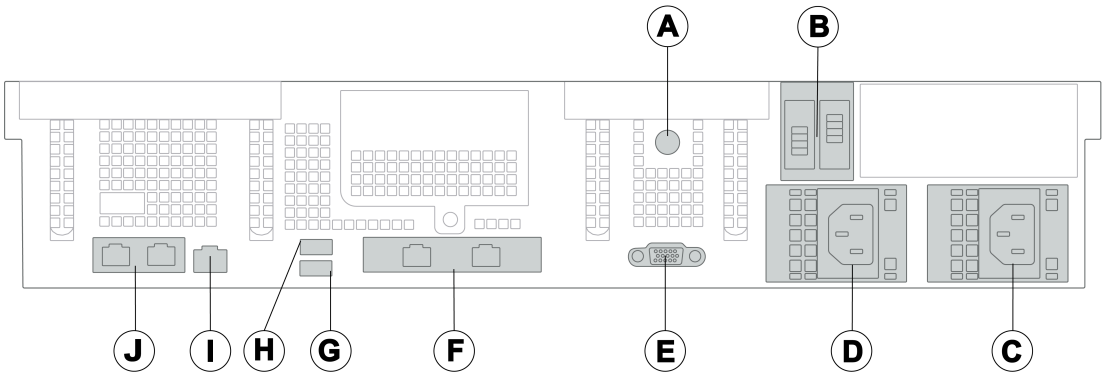
Callout	Description	Callout	Description
A	Serial connector	G	System identification button
B	2 x 1 Gbps Ethernet ports	H	CMA jack
C	4 x 1 Gbps Ethernet ports	I	USB 3.2 Gen 1 port
D	Boot optimized server storage (BOSS) slots	J	USB 2.0 port
E	Power supply unit (PSU 1)	K	iDRAC Ethernet port
F	Power supply unit (PSU 2)	L	VGA port

Figure 4: 2U front panel



Callout	Description	Callout	Description
A	Left control panel	D	VGA port
B	Drive	E	iDRAC direct micro port
C	USB 2.0 port	F	Information tag

Figure 5: 2U back panel



Callout	Description	Callout	Description
A	System identification button	F	2 x OCP 10 Gbps ports
B	Boot optimized server storage (BOSS) slots	G	USB 3.0 port
C	Power supply unit 2	H	USB 2.0 port
D	Power supply unit 1	I	iDRAC Ethernet port
E	VGA port	J	2 x 1 Gbps Ethernet ports