Avigilon Video Archive Installation and Setup

Head Unit and optional add-on Expansion Unit

AVA-HED1-XXXTB, AVA-EXP1-XXXTB

1. Before you begin

Check the *Avigilon Video Archive Pre-Deployment Checklist* to ensure that you have received all of the components of the Video Archive solution. Depending on your storage requirements, your Video Archive solution includes:

- Video Archive head unit for up to 0.75 PB of storage
- Video Archive expansion unit to add extra storage up to a total of 1.5 PB
- Video Archive Connectivity Kit for each NVR4 to be connected
- NVR 2nd CPU Kits for each NVR4 STD, NVR4X STD, and NVR4X PRM 64/96/128/157TB to be connected

A Video Archive unit requires 220V power and C20 or NEMA power plugs.

2. Install required add-on kits to NVRs

Before you can connect the Avigilon Video Archive to an NVR4, you must install additional equipment on each NVR4.

Warning: You must power down the NVRs to install these kits.

For each NVR4, you must install the Video Archive Connectivity Kit (the Connectivity Kit). Each kit contains a converged network adapter (CNA) card for an NVR4 and the necessary SFP+ transceivers and optical cables to connect an NVR4 to a Video Archive. Refer to the instructions in *Installing NVR4 Video Archive Connectivity Kit*. Make sure to use the connectivity kit that corresponds to your NVR4 model:

- **NVR4 PRM** and **NVR4 STD**: AVA-HED1-NVR4-CONNECT
- **NVR4X PRM 64/96/128/157TB**: AVA-HED1-NVR4X-PRM1-CONNECT
- **NVR4X PRM 192/217TB**: AVA-HED1-NVR4X-PRM2-CONNECT
- **NVR4X STD**: AVA-HED1-NVR4X-STD-CONNECT

For each **NVR4 Standard**, **NVR4X Standard**, and **NVR4X Premium 64/96/128/157TB** you also must install a 2nd CPU Kit. This kit provides all the components needed to add CPU redundancy to these NVR4s. Refer to the installation instructions provided with this kit.

- **NVR4 STD**: HD-NVR4-STD-2NDCPU (ordered separately)
- **NVR4X PRM 64/96/128/157TB**: 2nd CPU Kit included with AVA-HED1-NVR4X-PRM1-CONNECT
- **NVR4X STD**: 2nd CPU Kit included with AVA-HED1-NVR4X-STD-CONNECT

You can connect as many as 4 NVR4s to a Video Archive head unit. See step 7 for connection instructions.

3. Unpack the Video Archive units

Warning: Before you set up and operate any Video Archive head or expansion unit, review the safety instructions that came with the hardware.

The Video Archive head unit includes:

- Documentation QR card (used to access the equipment documentation online)
- 5U head unit
- 2 × power cables
- 1 to 3 packages of 28 disk drives in carriers (DDICs)
- Rackmount kit for the unit
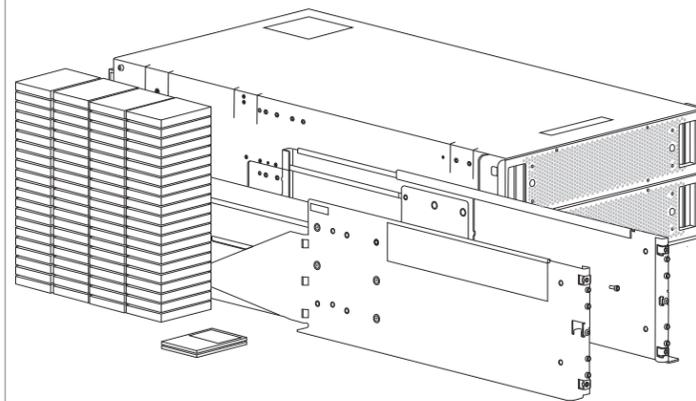
Figure 1. Video Archive units

You can connect one expansion unit to the head unit. The expansion unit adds additional disk storage capacity to an Video Archive system and is physically the same as the head unit (see figures 1 and 2), except the expansion unit has no controller modules and can only be connected to a controller module on a Video Archive head unit.

The Video Archive expansion unit includes:

- Documentation QR card
- 5U expansion unit
- 2 × power cables
- 2 × SAS cables
- 1 to 3 packages of 28 DDICs
- Rackmount kit for the unit
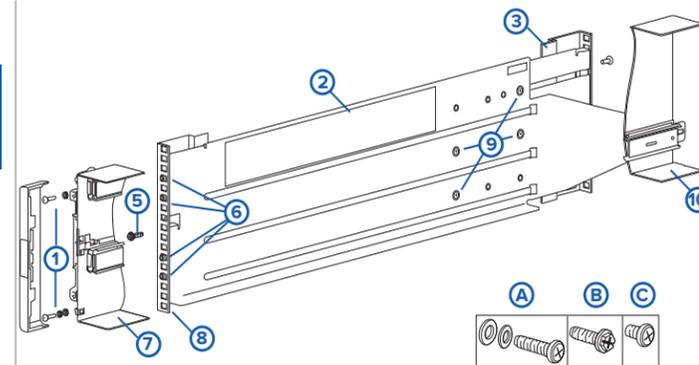
Figure 2. Video Archive rack mounts

ITEM	DESCRIPTION	ITEM	DESCRIPTION
1	Fastening screws (A)	8	Front rack post (square hole)
2	Left rail	9	Middle slide locking screws
3	Rear rack post - square hole	10	Front left portion of 5U chassis shown for reference
4, 5	Clamping screw (B)		
6	Rail location pins (4 per rail)	11	Fastening screw (C)
7	Rear left portion of 5U chassis shown for reference	A, B, C	Rail kit fasteners used in rack-mount installation

4. Mount the units

Follow the the same instructions for mounting the head unit and installing the disk cartridges if you are connecting an expansion unit at the same time as the head unit.

- Before mounting, remove the rear panel modules.
- Use a mechanical lift to mount a Video Archive unit.
- The rack may fall over if allowed to become top-heavy. Load the rack from the bottom up with the heaviest chassis at the bottom.
- Secure the head unit to the rack using the mounting screws located in the plastic bag.

Warning: Potential injury — each chassis is heavy.

1. With the preassembled rails at their shortest length, locate the rail location pins inside the front of the rack, and extend the length of the rail assembly to position the rear location pins. Ensure the pins are fully inserted in the square or round holes in the rack posts.
2. Fully tighten all clamping screws and middle-side locking screws.
3. Ensure the 4 rear space clips (not shown) are fitted to the edge of the rack post.
4. Slide the unit until it is fully seated on its rails.
5. Fasten the front and rear of the unit using the fastening screws.
6. Reinsert the rear panel modules.

5. Cable together the controller and expansion unit if supplied

Use the SAS cables provided with the expansion unit to connect the head unit to the expansion unit.
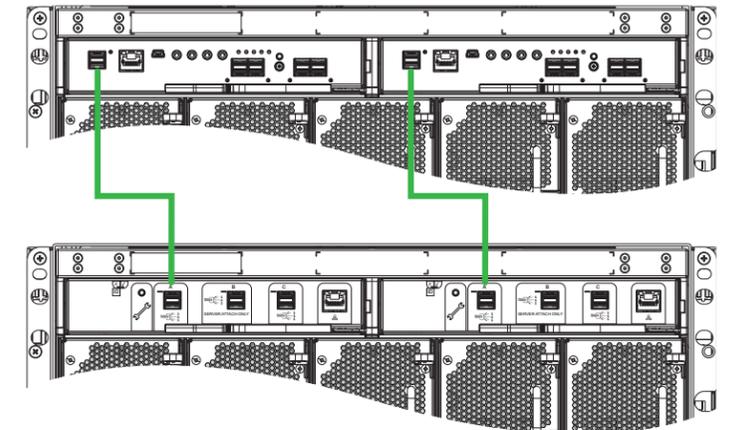
Figure 3. Head to expansion unit cabling (rear of unit)

6. Install the DDICs

Video Archive head and expansion units are shipped without the DDICs installed. The DDICs are shipped in packages of 28, ready to be installed in the Video Archive units. You must install all the DDICs supplied with your Video Archive solution.

The DDICs are installed in two disk drawers that are accessed from the front of the units. You must install a minumum of 14 DDICs (one row) in each drawer for a total of 28 DDICs.

The top of each DDIC has a latch button in the center, an orange arrow label at one end, and a single Drive Fault LED at the other end. The yellow indicator next to the center latch button indicates the latch is unlocked

1. Use the recessed handles at the side to slide a drawer open.
2. Beginning at the front of each drawer:
   a. Add the DDICs to the disk slots in the drawer in complete rows (14 disks at a time).
   b. Alternate between the top and bottom drawers. Install the first 14 DDICs in slots 0 through 13 in the top drawer and the next 14 DDICs in slots 42 through 55 in the bottom drawer. After that, install slots 14 through 27, and so on, working from back to front in each drawer.
3. Insert each drive cartridge into its slot with the orange arrow pointed to the back of the unit:
   a. Push the DDIC down into the slot.
   b. Firmly push the DDIC in the direction of the arrow until the center latch locks into place.
   c. Check that the yellow unlocked indicator is no longer showing.

7. Prepare the equipment to be connected.

On an **NVR4 STD**, **NVR4X STD**, **NVR4X PRM 64/96/128/157TB**:

1. Ensure the 2nd CPU Kit is installed.
2. Ensure the CNA card from the Connectivity Kit is installed in **PCI slot 4**.
3. Insert an Intel SFP+ transceiver (from a box labeled Intel® in the Connectivity Kit) in each short-range optical transceiver slot of the CNA.
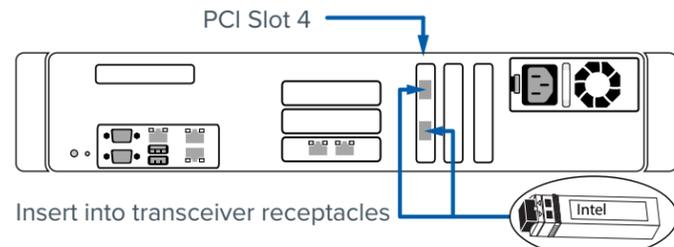
Figure 4. NVR4 STD, NVR4X STD, NVR4X PRM 64/96/128/157TB transceiver installation

On an **NVR4 PRM**, **NVR4X PRM 192/217TB**:

1. Ensure the CNA card from the Connectivity Kit is installed in **PCI slot 4**.
2. Insert an Intel SFP+ transceiver (from a box labeled Intel in the Connectivity Kit) in each short-range optical transceiver slot of the CNA.
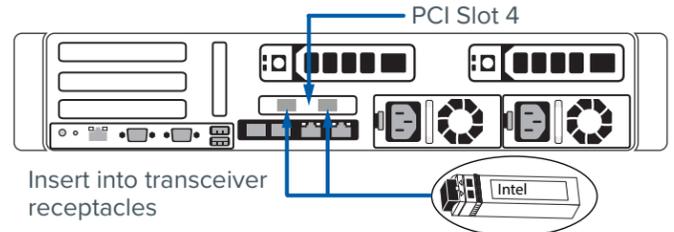
Figure 5. NVR4 PRM transceiver installation
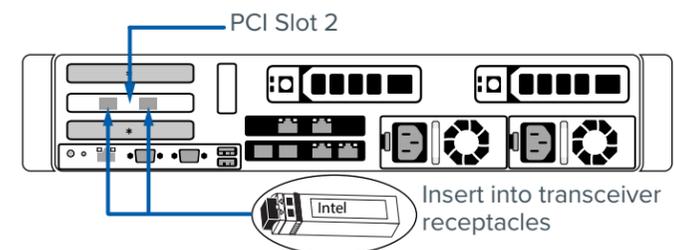
Figure 6. NVR4X PRM (192/217TB) transceiver installation

On the **Video Archive**, install a Dell SFP+ transceiver for each NVR4 you are connecting in each controller. There are two Dell SFP+ transceivers (in a box labeled Dell) in each Connectivity Kit:

- Start with right-most port on each controller (port 0) for the first NVR4.
- Proceed in order from right to left (ports 1, 2, and 3) for each NVR4 you add.

Figure 7 shows a transceiver installed into controller port 0 to connect the first NVR4.
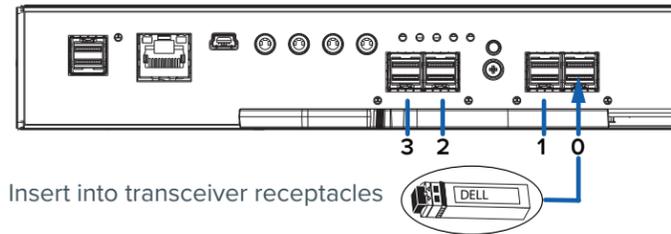
Figure 7. Video Archive transceiver slots

8. Cable NVRs to the Video Archive

Connect each NVR to the Video Archive with an orange optical cable. There are two optical cables ine each Connectivity Kit.

Figure 8 shows how to connect the first NVR4 STD, NVR4X STD, or NVR4X PRM (64/96/128/157TB) to **controller port 0** on the Video Archive head unit.
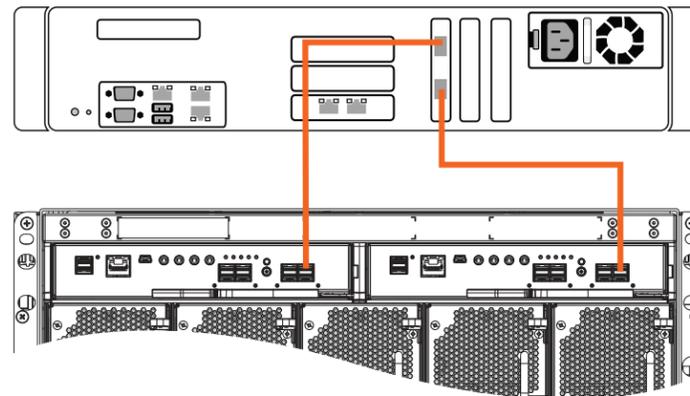
Figure 8. NVR4 STD, NVR4X STD, NVR4X PRM (64/96/128/157TB) to head unit cabling

Figure 9 shows how to connect the first NVR4 Premium to **controller port 0** on the Video Archive.
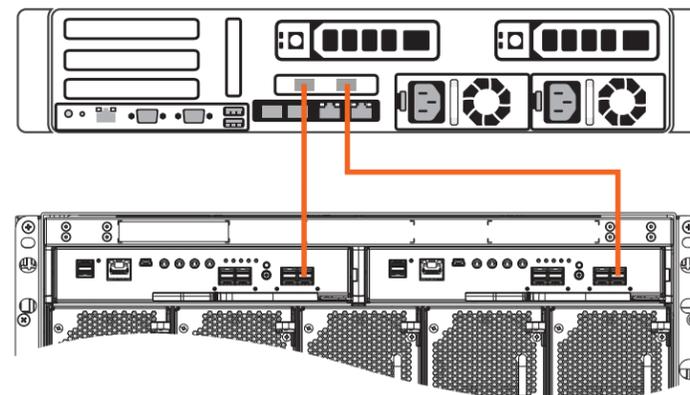
Figure 9. NVR4 PRM to head unit cabling

Figure 10 shows how to connect the first NVR4X PRM (192/217TB) to **controller port 0** on the Video Archive.
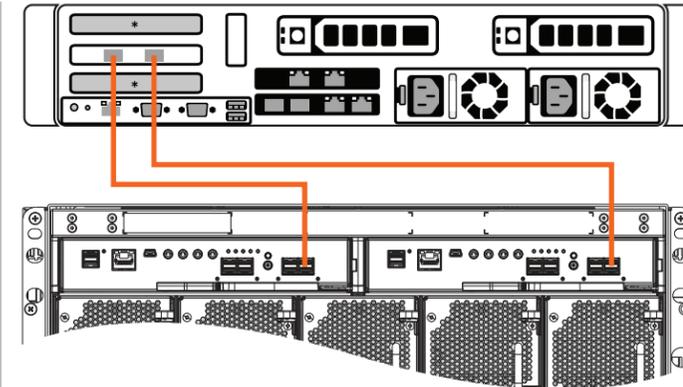
Figure 10. NVR4X PRM (192/217TB) to head unit cabling

9. Connect power cables and power on the equipment

When powering on, ensure the units and associated NVRs are powered on in the following order:

1. Power on any network switches, routers, or other standalone components.
2. Power on the expansion unit if present.
3. Power on the head unit.
4. Power on the NVRs (if powered down to install the Connectivity or 2nd CPU kits).

After the head unit is powered on, the Power on/Standby LED on the head unit Ops panel turns green.
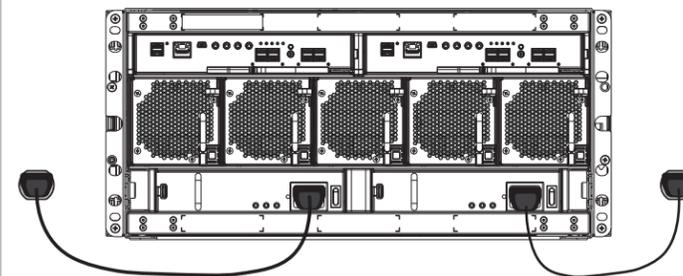
Figure 11. Head unit AC connections
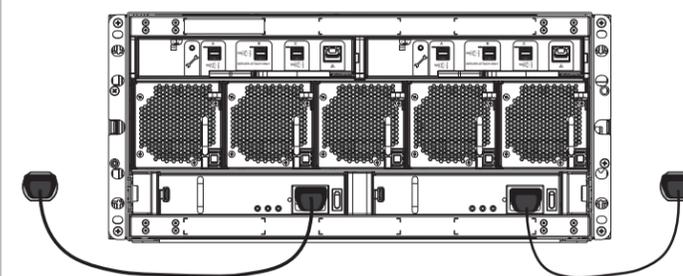
Figure 12. Expansion unit AC connections

> A Video Archive unit requires 220V power and C20 or NEMA power plugs.

10. Connect a laptop to the Video Archive

Connect a laptop to the **Controller A management port** on the Video Archive to access the management interface.

1. Connect an RJ45 Ethernet cable to the Management Port on the controller.
2. Connect the other end of the Ethernet cable to a laptop computer.
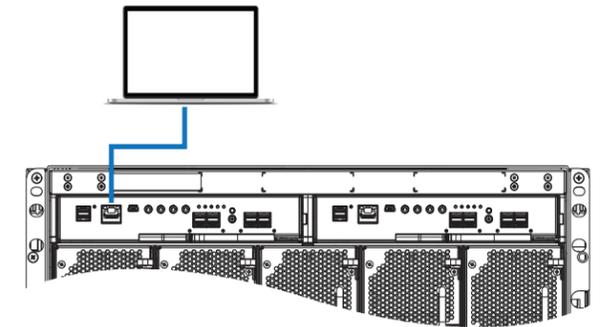
Figure 13. Connect laptop to management nvent port of Controller A

11. Initialize the storage

Access the Video Archive head unit from the laptop connected to the **Controller A management port** to perform system initialization.

> Refer to the *Video Archive Initialization Guide* for instructions to complete the system initialization.

12. Connect to the ACC™ Client network

After completing system initialization, connect the **Controller B management port** to the ACC Client network to receive notifications, SNMP traps, and support data.
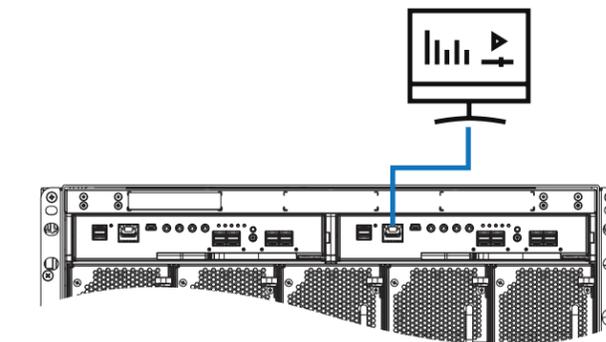
Figure 14. Management Port B connection to the ACC software in your network

> Refer to the *Avigilon Video Archive Advanced Deployment Guide* for instructions to add more disks to a head unit, or to connect an expansion unit and additional disks to a head unit after the initial initialization of the head unit is completed.