Milestone Systems

Milestone Husky™ X8 NVR

Hardware and service guide

September 2019

milestone

Contents

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This product may make use of third-party software for which specific terms and conditions may apply. When that is the case, you can find more information in the file 3rd_party_software_terms_and_conditions.txt located in your Milestone system installation folder.

Safety

> **Warning!**
>
> This appliance does not contain any user-serviceable parts. Do not remove any covers or attempt to gain access to the inside of the product.
>
> Risk of explosion if battery is replaced by incorrect battery type.
>
> Dispose of used batteries according to the instructions.

> **Caution**
>
> Replacement of a BATTERY with an incorrect type that can defeat a SAFEGUARD (for example, in the case of some lithium BATTERY types).
>
> Disposal of a BATTERY into fire or a hot oven, or mechanically crushing or cutting of a BATTERY, that can result in an EXPLOSION.
>
> Leaving a BATTERY in an extremely high temperature surrounding environment that can result in an EXPLOSION or the leakage of flammable liquid or gas.
>
> A BATTERY subjected to extremely low air pressure that may result in an EXPLOSION or the leakage of flammable liquid or gas.

> Make sure to connect the power cord to a socket-outlet with earthing connection.
>
> Suitable for installation in Information Technology Rooms in accordance with Article 645 of the National Electrical Code and NFPA 75.

About this guide

This hardware and service guide for Milestone Husky™ Network Video Recorder (NVR) is a point of reference to the Milestone Husky software and Milestone Husky hardware.

This guide describes Husky Assistant, an applications that helps you maintain and reconfigure your system.

Remember to check the Milestone website (https://www.milestonesys.com/downloads/) for updates to the Husky Tools Installer that gives you the most recent version of Husky Assistant.

This guide also describes how to replace a hardware part such as a data storage hard drive or a power supply.

Support and information page

On the Milestone Husky support and information page (https://www.milestonesys.com/HuskyX8-support/), find the following information about your Milestone Husky unit:

- Manuals and guides

- eLearning

- Performance approved hard drives

- Husky Calculator

- Certifications

- FAQ

- Support community

- Knowledge Base articles

- Warranty information

- How to contact Milestone Support

- How to handle a faulty unit

- Other additional content

Husky Assistant

Husky Assistant is an application that helps you configure, maintain, and see the status of your Milestone Husky system. Find the Husky Assistant shortcut on the Windows desktop.

Husky Assistant properties

The Husky Assistant has these features available:

Navigation element	Description
Overview	A list of details about the unit: • Model: Milestone Husky model • Version: Milestone Husky Assistant version • Image: Husky firmware version • Serial number: The hardware serial number of the unit • MAC: The Husky unit physical address (MAC address) You can change the language in which Husky Assistant appears.
Installed components	A list of installed Milestone software components and versions.
Optimizations	A list of available optimizations you can apply.
Storage management	See the status of the current data RAID array. Change the data RAID configuration.
Intel AMT	See if Intel AMT local management is installed. If you want to install Intel AMT local management, you can do it from here.
Support	✏️ Always contact your Milestone reseller that you have bought the unit from before contacting Milestone Support. Run the Milestone Diagnostics Tool to create files that are needed for the Milestone reseller when the reseller helps you troubleshoot. Visit the Milestone Husky support and information page Lists the information that you need to contact Milestone Support.

Choose your language

To select your preferred language:

1. Open Husky Assistant.

2. On the **Overview** tab, select your preferred language from the list of available languages.
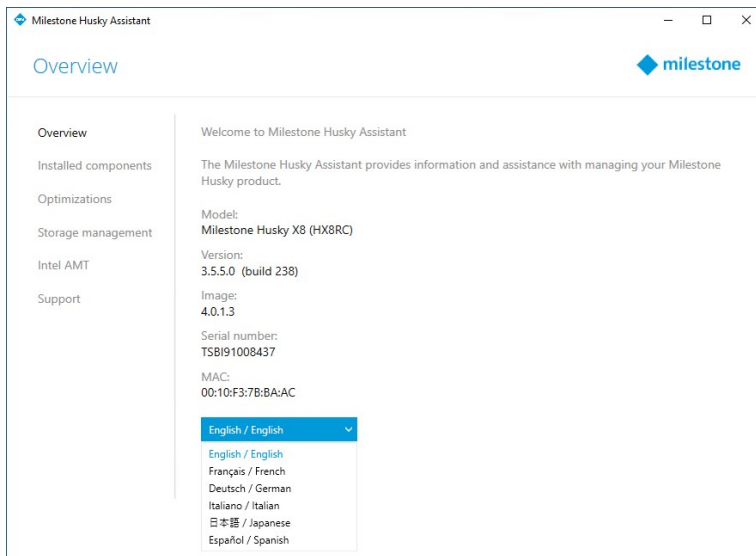

> Husky Assistant chooses English by default. All language changes require a restart of Husky Assistant.

Apply optimizations

If you have installed Milestone XProtect VMS without using Husky Assistant, you need to apply the available optimizations. To check if any optimizations are available:

1. Select the **Optimizations** tab.

2. A list of the available optimizations appears.
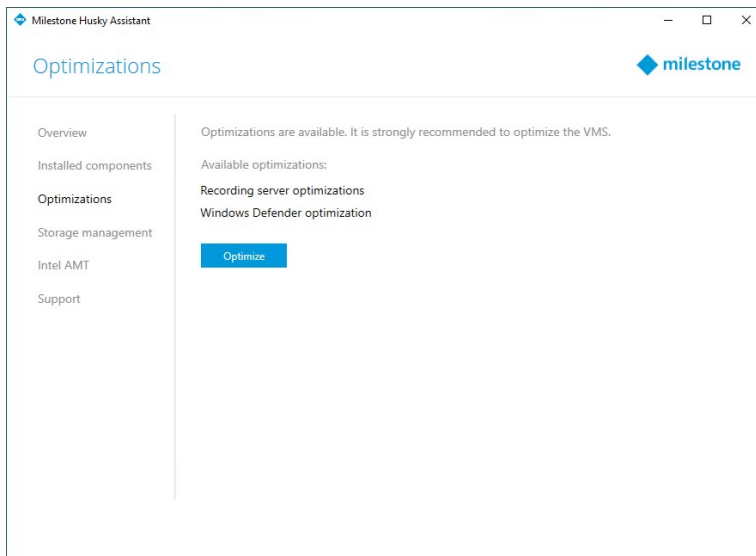
3. If an optimization is available, click **Optimize**.

4. Accept any user account control warning and wait for the optimization to be applied.

5. Check that the optimization is applied.
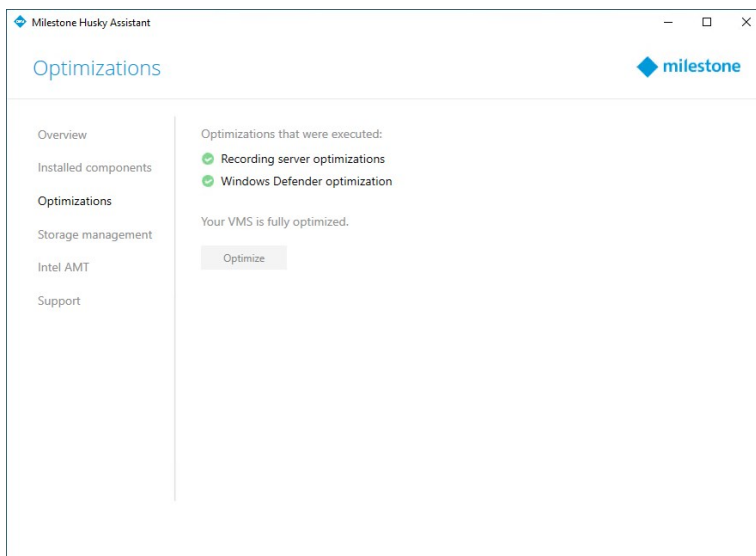
Storage management

On the Storage management tab, you can see the RAID type and status of the current data storage RAID array.

You can also change the RAID type to fit your storage needs for capacity and redundancy.

Check RAID status

To check the type and status of the data RAID configuration:

1. Select the **Storage management** tab.
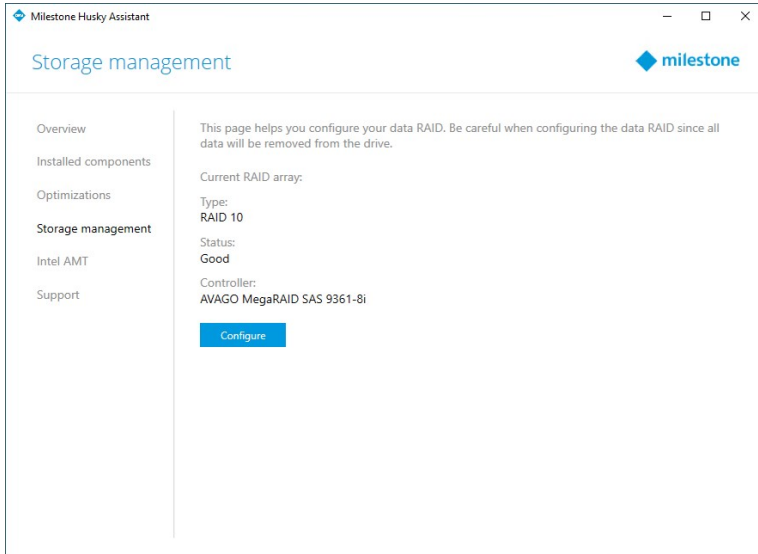
2. The type and status of the current RAID array appears. The different types and statuses are:

Type	Description
RAID 5	Configuration for maximum capacity
RAID 10	Configuration for best performance and most redundancy

Status	Description
Good	Normal working state
Degraded	The RAID is missing a hard drive, but it is still available
Offline	Too many hard drives are missing from the RAID array, so the raid is now unavailable or offline
Not Configured	No RAID is configured
Unsupported	A RAID configuration other than RAID 5 or RAID 10 is in use
Unknown	The status of the RAID array could not be detected

If the current RAID array status is **Degraded** or **Offline** you must replace one or more hard drives. For more information, see Replace a hard drive on page 22.

RAID types

Milestone Husky X8 holds eight hard drives. You can configure these hard drives as a data storage for Milestone XProtect based on your capacity, performance and redundancy needs. The options are:

- **RAID 5**

  Select RAID 5 for maximum capacity. The storage capacity will be one hard drive less than the combined storage capacity of the eight hard drives because you have one redundant hard drive.

- **RAID 10**

  Select RAID 10 for best performance and most redundancy. The storage capacity will be half the combined storage capacity of the eight hard drives because you have four redundant hard drives.

Example of RAID 5 And RAID 10 configurations with different hard drives capacities:

Configuration	RAID with 8 hard drives			
Single hard drive capacity	4 TB	8 TB	10 TB	14 TB
RAID 5 usable capacity	25,5 TB	50,9 TB	63,7 TB	81,9 TB
RAID 10 usable capacity	14,6 TB	29,1 TB	36,4 TB	50,9 TB

To make use of all of the available storage capacity, the eight hard drives should always have identical capacity.

Husky Calculator can help you choose the right storage capacity or other dimensioning of the unit depending on:

- Number of cameras

- Frame rate

- Resolution

- Retention time

- Network bandwidth

Husky Calculator can be found on Milestone Husky support and information page (https://www.milestonesys.com/HuskyX8-support/).

Change RAID type

To change the RAID array type:

1. Check if the current RAID array status is **Good** and click **Configure**.

2. Accept any user account control warning and click **Next**.

3. Select the type of RAID that you would like to configure for data storage and click **Apply**.
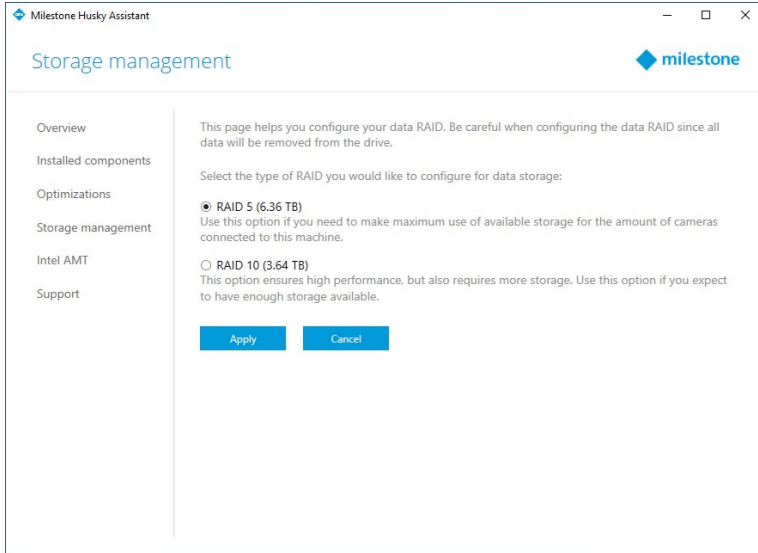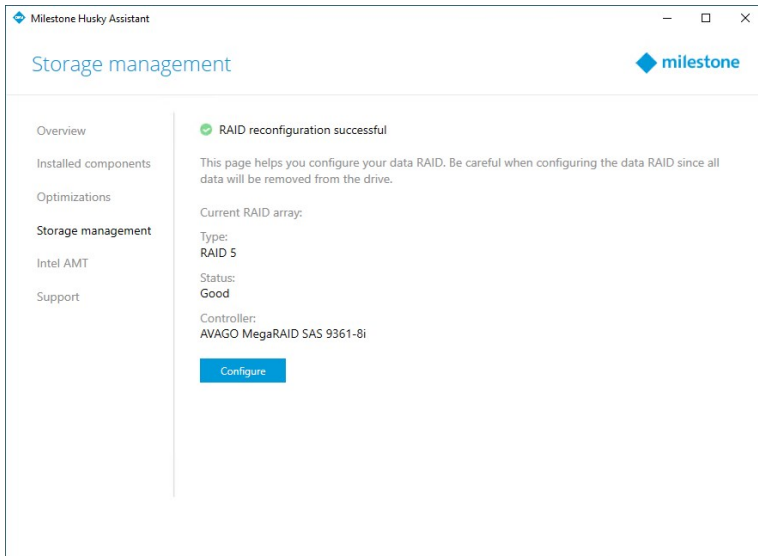

⚠️ Read the warning stating that all data will be deleted if you continue. Your XProtect system records no video during the configuration.

4. Click **Format** to accept the data deletion and start the configuration of the data RAID storage.
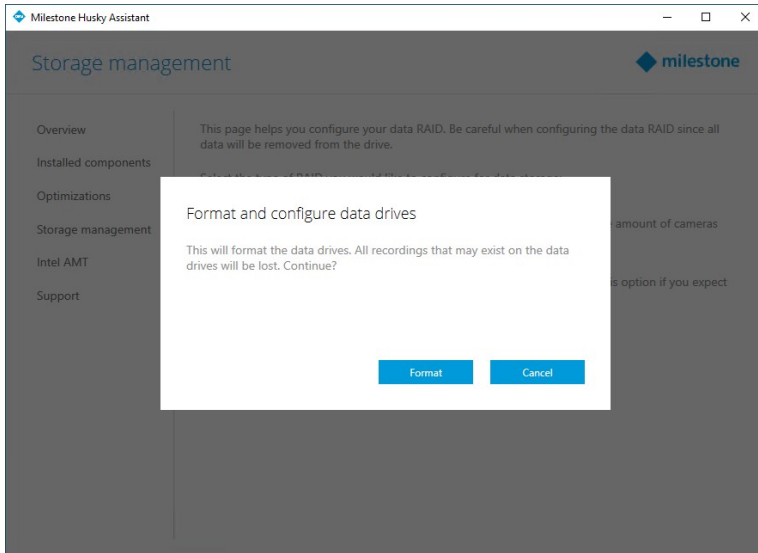
5. A summary window of the RAID configuration appears. Check the type and status of your current RAID array.
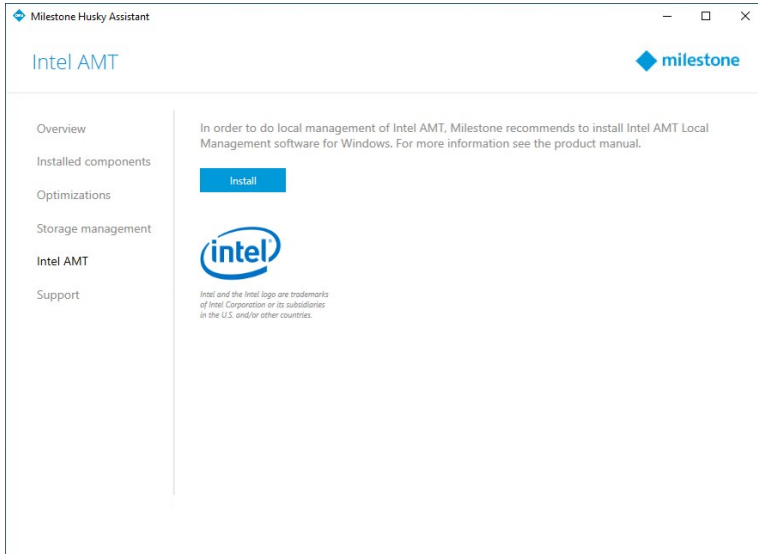

Intel AMT

In order to do local management of Intel® Active Management Technology (Intel AMT), Milestone recommends that you install Intel AMT local management software.

Intel AMT lets the user and administrator monitor the status of the management and security technologies that are built in the Intel chips inside your Milestone Husky X8. Only users and administrators connected via LAN port 1 can use this feature.
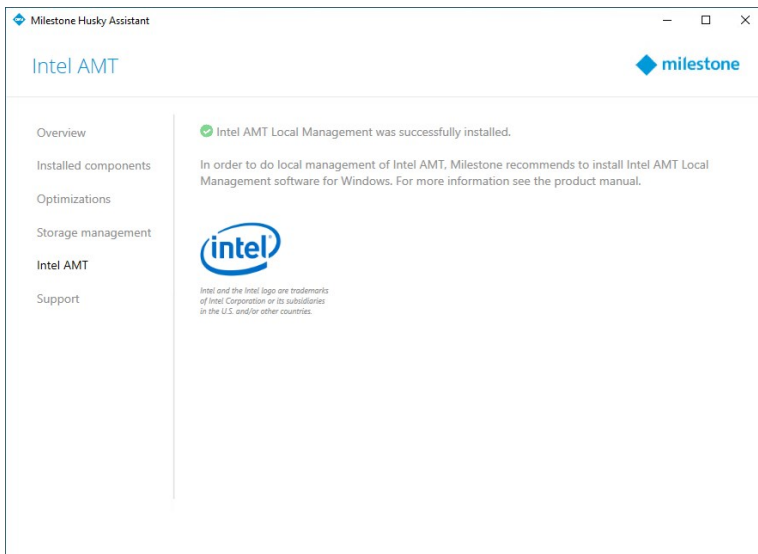
Install Intel AMT local management

To check the status and install Intel AMT local management:

1. Select the **Intel AMT** tab to verify that Intel AMT local management is not installed.

2. Click **Install**.

3. Accept any user account control warning.

4. Click **Next** to install Intel AMT local management.

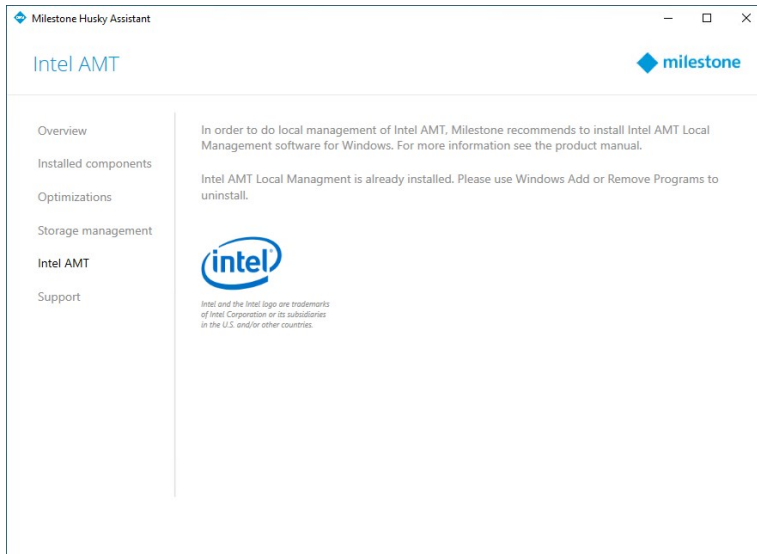5. A summary screen appears. Check that the installation was successful.

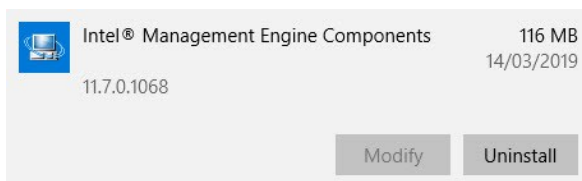## Uninstall Intel AMT local management

> ✏ You will need to restart your Milestone Husky X8 unit.

To uninstall Intel AMT local management:

1. Select the **Intel AMT** tab to verify that Intel AMT local management is installed.

2. Close Husky Assistant.

3. Got to Windows **Add or remove programs**.

4. Locate **Intel Management Engine Components** in the Apps & features list and click it.

5. Click **Uninstall** and read the information that appears.

6. Click **Uninstall** again.

7. Accept any user account control warning. The Intel uninstaller message appears. Click **Next** to uninstall.

8. A summary screen appears. Click **Finish** to restart your unit and finish uninstalling Intel AMT local management.

Support

If you have a problem and need support, contact your Milestone reseller that you bought the unit from.
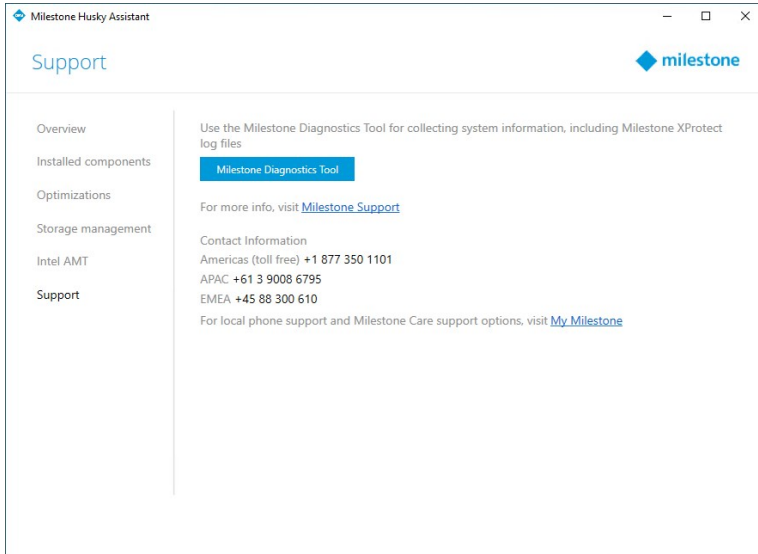
> ⚠ This appliance does not contain any user-serviceable parts. Do not remove any covers or attempt to gain access to the inside of the product.

Create a diagnostics file

To help your Milestone reseller get logs and details about your system, create a Milestone diagnostics .zip file that lists the system information:
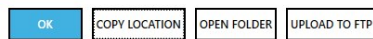
1. Select the **Support** tab.

2. Click **Milestone Diagnostics Tool**.

3. Accept any user account control warning. The **Main Page** appears.

4. Click the **Collect Defaults** icon to start creating a diagnostics .zip file.

5. When finished, the diagnostics .zip file is saved on the Windows desktop. You can now move or transfer the file to any preferred location.

6. Close Milestone Diagnostics Tool.

7. Provide your Milestone reseller with the diagnostics .zip file, when they assist you in troubleshooting a problem.
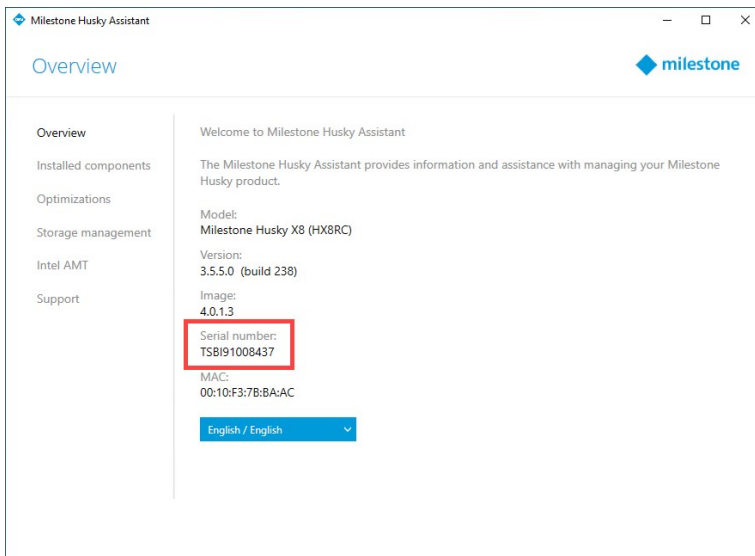
Locate the serial numbers

Your Milestone Husky unit and hard drives have unique identification codes called serial numbers. When you contact your Milestone reseller about your unit, always provide your reseller with the serial numbers.

Find the serial numbers in the software and on labels attached to the hardware.

Serial numbers in the software

Find the Milestone Husky unit serial number in Husky Assistant:

1. Open Husky Assistant.

2. On the **Overview** tab, find the serial number in the center of the window.

Find the serial numbers of the hard drives in MegaRAID Storage Manager:

1. Open MegaRAID Storage Manager.

2. On the **Remote servers** tab, click the IP address next to the host name.

3. A login screen appears. Enter your Windows user name and password. Click **Login**.

4. The **Dashboard** appears. Select the **Physical** tab.

5. Select slots 0-7 to see the serial numbers of the disks.
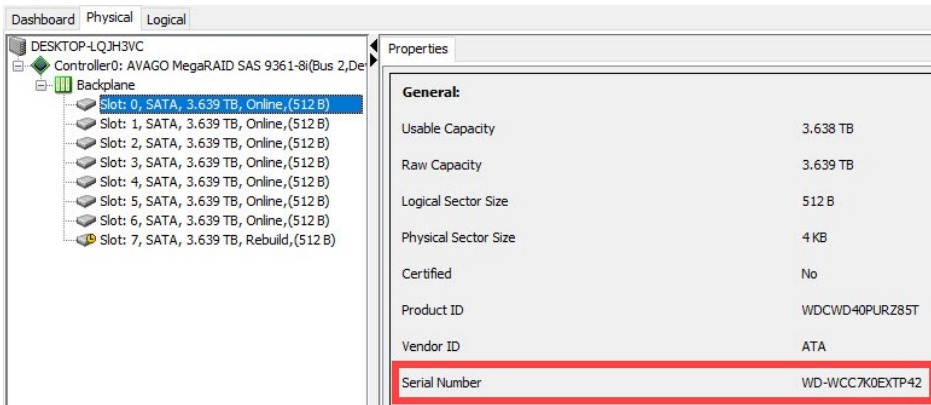
Serial number labels

Find the Milestone Husky unit serial number on the back of the unit.

1. Locate the barcode that has the serial number.

2. Scan the barcode to see the serial number.

> ✏️ You can also scan the QR code to get to the Milestone Husky support and information page. (https://www.milestonesys.com/HuskyX8-support/).

Find the hard drive serial number on the front of the hard drive.

Replace a hard drive

If the RAID array status is **Degraded** this section will help you replace a hard drive.

Follow these steps:

1. Identify a faulty hard drive on page 22.

2. Replace a faulty hard drive on page 23.

3. RAID rebuild on page 24.

Identify a faulty hard drive

| ✎	If one of the hard drives fails, an audible alarm starts.

Find the data hard drive tray with a red LED status indicator (1) on the front of your unit. Red shows that there is a hard drive failure and that the hard drive must be replaced.

LED status indicators	LED colors
1. Data hard drive failure	Red
2. Data hard drive activity	Flashing green
3. Data hard drive power	Blue means ON

Replace a faulty hard drive

1. Unlock the tray and pinch the buttons inside the tray to remove the faulty hard drive from the bay.

2. Remove the screws to pull the faulty hard drive out of the tray.
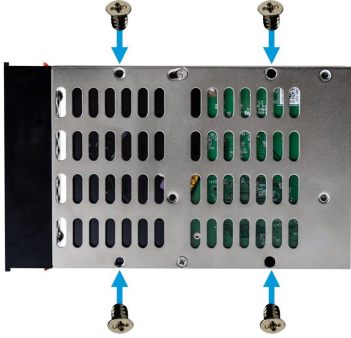
3. Locate the replacement hard drive and slide the hard drive into the tray.

> ✎ Make sure that your hard drives performance is approved for use with the Milestone Husky products. For information on performance approved hard drives, go to the Milestone Husky support and information page (https://www.milestonesys.com/HuskyX8-support/).
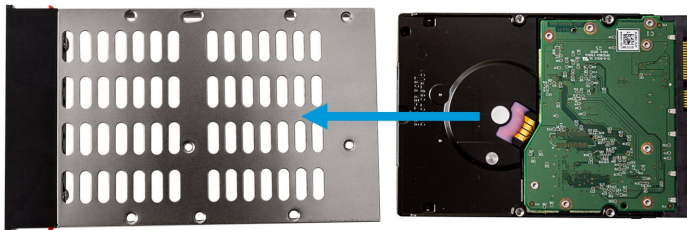
4. Use the screws to fasten the hard drive to the tray.

5. Slide the tray into the empty hard drive bay. Pinch the buttons inside the tray before you insert the tray.

6. Lock the trays to protect your hard drives from unauthorized removal.

RAID rebuild

To make the hard drive that you just replaced available for the RAID array, rebuild the RAID:

1. Click **Manual configuration** to open MegaRAID Storage Manager.
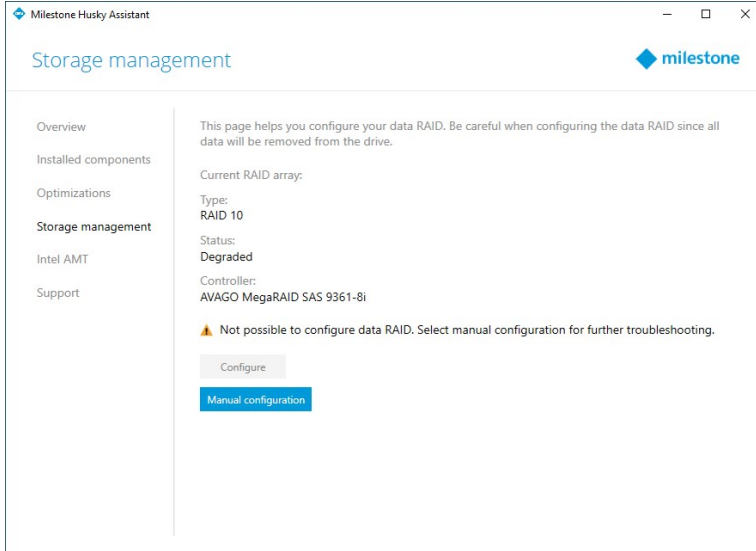
You can use the MegaRAID Storage Manager for status, configuration, and maintenance of your data storage RAID array.

2. On the **Remote servers** tab, click the IP address next to the host name.

3. A login screen appears. Enter your Windows user name and password. Click **Login**.

4. The **Dashboard** appears. Under **Actions**, select **Silence alarm** to stop the audible alarm.

> ✏️ The audible alarm starts every time there is a change in the storage status.

5. Select the **Logical** tab.
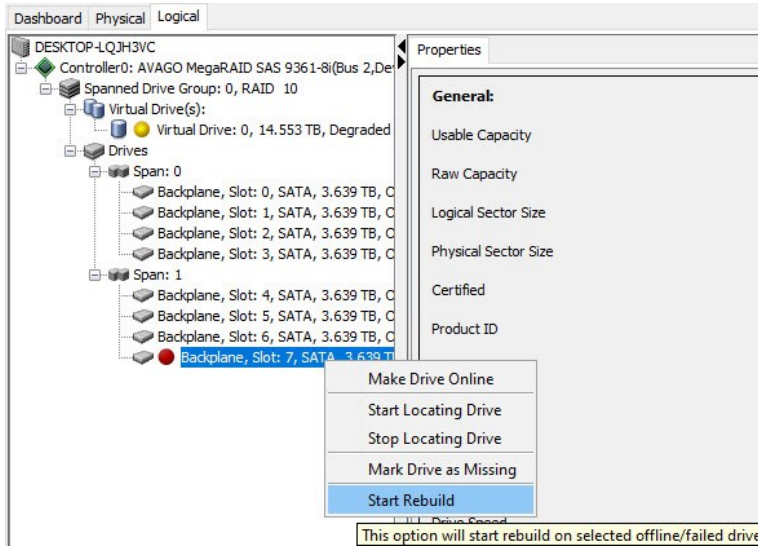
6. Right-click the degraded hard drive with a red mark and select **Start Rebuild**. A warning appears. Select **Confirm** and click **Yes** to start the RAID rebuild.

> ✏️ The rebuild is faster if you stop the recording server service. Then your XProtect system records no video during the rebuild process.

7. Select **Dashboard** to **Silence alarm**, and under **Background Operations**, click **More details** to check the progress of the rebuild.

8. When the rebuild is complete, close the application and check that the current RAID array status in Husky Assistant is Good.

> ✏️ Remember to start the recording server service if you stopped it during rebuild.

Find the shortcut for MegaRAID Storage Manager on the Windows desktop.

Replace a power supply

Milestone Husky X8 holds two hot swappable power supplies in a redundant power supply configuration. PSU1 and PSU2. Because the unit only needs one power supply to operate, you can replace a faulty power supply without interrupting the power supply for the unit.

Each power supply (PSU) has a LED status indicator. The colors are:

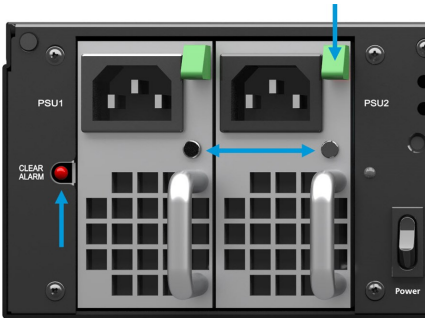| LED color	Status	Audible alarm	Description
Green	OK	No	Connected in the PSU bay and delivers power
Red	Failure	Yes	Connected in the PSU bay but no power delivered
Off	No status	Yes	Not connected in the PSU bay, or PSU fails

If one of the power supplies fails, an audible alarm starts. Press the clear alarm button next to PSU1 to mute the audible alarm.

Troubleshoot the power supply with the LED status indicator that is **red** or **off**.

Red: Check that the power cable is plugged into a power socket and is firmly connected to the power supply. If the LED is red, replace the power supply.

Off: Check that the power supply is pushed all the way back into the PSU bay, just like the PSU with green LED. If the LED is off, replace the power supply.

To replace a power supply:

1. Locate the faulty power supply.

2. Disconnect the power cable.

3. Press down on the green release handle and pull out the faulty power supply.

4. Slide the replacement power supply all the way into the power supply bay.

5. Connect the power cable and check that the LED is **green**.

Network interfaces

This section describes the network interfaces that you connect the different types of network traffic to. The network bandwidth requirements for the different types of traffic are usually not the same. The different types of network traffic are:

- Management

- Viewing

- Camera

- Storage

Connectors

The table below helps you choose the right network interface for the different types of network traffic. The LED status indicators can help check if the wanted network link speed is established.
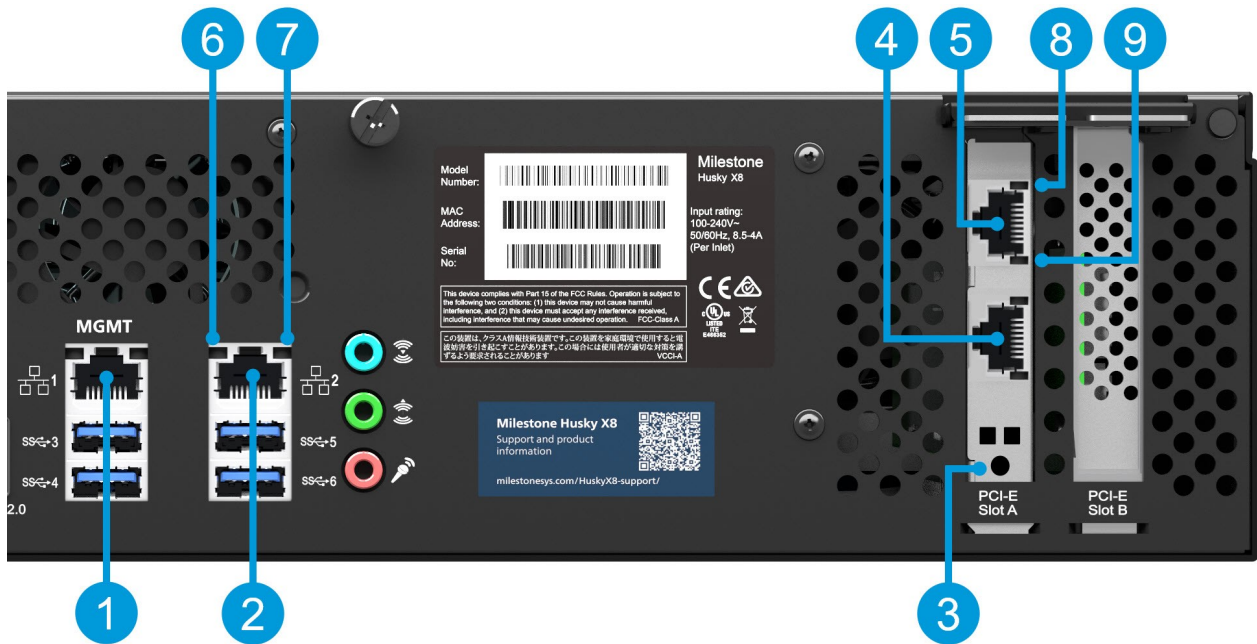
Connectors	Description
1. LAN port 1 (1Gb/s)	Connect your local area network with internet connection, if available. This network is for management and viewing.
2. LAN port 2 (1Gb/s)	Connect your camera network. If your unit is equipped with a CNA card, connect your camera network to the LAN ports on the CNA card.
3. PCI-E slot A	2 x 10Gb/s CNA card (option)

Connectors	Description
4. CNA card LAN port 2 (10Gb/s)	Connect these types of networks to the CNA card LAN ports:
5. CNA card LAN port 1 (10Gb/s)	- Camera network - Network for viewing - Storage using iSCSI connections - Storage using FCoE connections

LED status indicators	LED colors	Description
6. LAN ports activity	Flashing yellow	Actively transmitting or receiving packets
7. LAN ports link speed	Green	1Gb/s
	Yellow	100Mb/s
	Off	10Mb/s
8. CNA card LAN ports link speed	Green	10Gb/s
	Yellow	1Gb/s or 100Mb/s
9. CNA card LAN ports activity	Flashing green	Actively transmitting or receiving packets

Troubleshoot a network interface

1. Check the status indicators on the LAN port connector:
   - If the link speed indicator does not light up, check all cable connections
   - If the activity indicator does not light up, the network driver files might be damaged or missing. Remove and reinstall the drivers if applicable. For more information, see the CNA cards documentation
   - Use another connector on the switch or hub

2. In Windows 10, go to **Network status > Change adapter options** to check that the LAN ports are enabled and connected.

3. Make sure that the LAN ports and switches on the network are all set to the same data transmission speed and duplex. For more information, see the documentation for each network device.

4. Make sure that all network cables are of the proper type and that the cables do not exceed the maximum length.

   > ✎ If all troubleshooting fails, contact your Milestone reseller.

Recovery

Your Milestone Husky unit has a built-in recovery option, which resets your unit to the factory default state and lets you start over and reconfigure your unit from scratch.

Recovery will:

- Make a new Windows installation

- Run Husky Assistant to configure your unit

- Help you install Milestone XProtect

⚠️ All data on the Windows (C:) drive will be lost, and your XProtect system will not record any video during the recovery of your unit. You can save the Milestone XProtect VMS configuration before you start the recovery.

✏️ Data on the Data (D:) drive will not be deleted.

For detailed feature descriptions and procedures for configuration and maintenance, download the XProtect VMS Administrator manual from the Milestone website. (https://www.milestonesys.com/support/help-yourself/manuals-and-guides/).

To start the recovery process:

1. Restart your unit.

2. Press F11 during the boot process.

3. Your unit boots into recovery mode. Follow the instructions to complete the process.

   ✏️ For more information on first time use, see the Milestone Husky X8 Getting started guide, which you can download from the Milestone Husky support and information page (https://www.milestonesys.com/HuskyX8-support/).

Upgrade

Your Milestone Husky unit can run with any product variant and version of Milestone XProtect VMS determined by the Software License Code (SLC). Your Milestone Husky unit has a preloaded XProtect VMS version ready to be installed, but you can always download and install a newer or older version of Milestone XProtect VMS that matches your license. Go to the Milestone Husky owners support and information page (https://www.milestonesys.com/HuskyX8-support/).

You can upgrade your entire system configuration from one product version to another, for example from XProtect 2018 R2 to XProtect 2019 R1 fairly fast and easy. Install the new product on top of the old version without removing the previous version.

For detailed feature descriptions and procedures for configuration and maintenance, download the XProtect VMS Administrator manual from the Milestone website. (https://www.milestonesys.com/support/help-yourself/manuals-and-guides/).

> Remember to apply available VMS optimizations after the upgrade. For more information, see Apply optimizations on page 9.

helpfeedback@milestone.dk

About Milestone

Milestone Systems is a leading provider of open platform video management software; technology that helps the world see how to ensure safety, protect assets and increase business efficiency. Milestone Systems enables an open platform community that drives collaboration and innovation in the development and use of network video technology, with reliable and scalable solutions that are proven in more than 150,000 sites worldwide. Founded in 1998, Milestone Systems is a stand-alone company in the Canon Group. For more information, visit https://www.milestonesys.com/.