

UNLEASH YOUR
POWER TO PERFORM

Husky IVO™ Viewing Stations

Table of Contents

Husky IVO™ Viewing Stations	3
Purpose of the document	3
How the tests were performed	3
Husky IVO™ 150D Viewing Station – with Nvidia T400 graphics card.	5
Husky IVO™ 350T Viewing Station – with Nvidia T1000 graphics card	6



Husky IVO™ Viewing Stations

The Milestone Husky IVO™ 150 Desktop and Husky IVO™ 350 Tower with GPUs are both swift solutions as viewing stations, offering seamless access to live and recorded video footage via the Milestone XProtect® Smart Client.

Both products are configured with speed, simplicity, and comfort in mind, and thus these viewing stations redefine convenience for small to medium installations.

The Milestone Husky IVO™ series of video surveillance appliances are built by Milestone Systems utilizing Dell Technologies' hardware expertise and Intel's processing power to achieve quality, reliability, and performance.

Deployment flexibility is at the core of the Husky IVO™ series which makes the series the optimal video surveillance hardware platforms for Milestone XProtect®.

Milestone has tested the Milestone Husky IVO™ 150 Desktop and the Milestone Husky IVO™ 350 Tower configurations extensively and presents the test results in this document to assist you in selecting the best suited viewing station configuration for your operational requirements.

The test results clearly show that the number of camera streams that can be viewed without performance or quality loss decreases as more monitors are added. The number of monitors that can be employed is therefore a tradeoff between how many camera streams are viewed and the size of the viewing areas on the monitors.

Purpose of the document

The purpose of this whitepaper is to serve as a guide when customers require a standalone viewing station with multiple cameras.

For this purpose, the Milestone Husky IVO™ 150 Desktop and Husky IVO™ 350 Tower with GPUs, when set up as viewing stations, provide a complete solution, utilizing known, tested, and proven technology.

How the tests were performed

The tests were performed using current Husky IVO™ 150D and 350T platforms in combination with selected Nvidia cards and the XProtect Smart Client. The Smart Client displayed live video and was maximized to fill the entire monitor screen.

During the test, the performance of the CPU/GPU was measured. The duration of the test was approximately two minutes.

As a default 30 frames per camera in a view was displayed but if 25 frames per camera was displayed, the result was considered positive. All tests were performed with monitors connected directly to the display port of the Nvidia card.

Husky IVO™ 150D Viewing Station – with Nvidia T400 graphics card.

The Husky IVO™ 150D is the smallest form factor we have in our Husky IVO™ portfolio, also known as a SFF (Small Form Factor), and the viewing station based on this model can only use Nvidia low-profile graphic cards, such as the Nvidia T400 graphics card.



The performance results show that the Husky IVO™ 150D can easily be used in an installation with one monitor and can view up to four camera streams.

When adding another monitor, video was not displayed smoothly if there were more camera streams in the view.

Recommendation

The overall recommendation is to use one monitor up to 4x4 streams with some exceptions.

The chart below shows situations where the test results were positive (Green). The yellow test results show situations where some users may experience frames dropping below the number of acceptable frames or the monitor displaying minor video stuttering.

Husky IVO™ 150D with NVIDIA T400							
4K monitor/cameras		1x1	2x2	3x3	4x4	5x5	
1 monitor	H264	1080P 1 Mbit/s	Green	Green	Green	Green	White
		1080P 4 Mbit/s	Green	Green	Green	Green	White
		1080P 8 Mbit/s	Green	Green	Green	Green	White
	H265	4K 10 Mbit/s	Green	Green	Green	White	White
		4K 20 Mbit/s	Green	Green	White	White	White
		1080P 1 Mbit/s	Green	Green	Green	Green	Yellow
2 monitors	H264	1080P 1 Mbit/s	Green	Green	White	White	White
		1080P 4 Mbit/s	Green	Yellow	White	White	White
		1080P 8 Mbit/s	Green	Yellow	White	White	White
		4K 10 Mbit/s	Green	White	White	White	White
	H265	4K 20 Mbit/s	Yellow	White	White	White	White
		1080P 1 Mbit/s	Green	Green	White	White	White
		1080P 3 Mbit/s	Green	Green	White	White	White
		4K 15 Mbit/s	Green	White	White	White	White

Husky IVO™ 350T Viewing Station – with Nvidia T1000 graphics card

The performance results show that with 1 x 4K monitor and 2 x 4K monitors, the unit performed acceptably. The unit can display views with many camera streams, with both low and high bitrates in different resolutions.

Using 3 x 4K monitors it is possible to display several camera streams simultaneously. However, when utilizing higher bitrates, some video stuttering was observed.



Recommendation

The overall recommendation is viewing up to 5x5 streams on one 4K monitor with some exceptions, and 2 x 4K monitors with up to 3x3 streams on each monitor.

As illustrated below, we have green areas where the test displayed a positive result, and a few configurations in yellow where the result potentially could be usable but must be tested and confirmed by the end user to sign-off on the quality.

Husky IVO™ 350T with NVIDIA T1000								
4K monitor/cameras		1x1	2x2	3x3	4x4	5x5	6x6	
1 monitor	H264	1080P 1 Mbit/s	Green	Green	Green	Green	Green	White
		1080P 4 Mbit/s	Green	Green	Green	Green	Green	White
		1080P 8 Mbit/s	Green	Green	Green	Green	Green	White
		4K 10 Mbit/s	Green	Green	Green	White	White	White
	4K 20 Mbit/s	Green	Green	White	White	White	White	
	H265	1080P 1 Mbit/s	Green	Green	Green	Green	Green	Yellow
		1080P 3 Mbit/s	Green	Green	Green	Green	Green	Yellow
4K 15 Mbit/s		Green	Green	Green	Green	White	White	
2 monitors	H264	1080P 1 Mbit/s	Green	Green	Green	White	White	
		1080P 4 Mbit/s	Green	Green	Green	White	White	
		1080P 8 Mbit/s	Green	Green	Green	White	White	
		4K 10 Mbit/s	Green	Green	White	White	White	
		4K 20 Mbit/s	Green	Green	White	White	White	
	H265	1080P 1 Mbit/s	Green	Green	Green	Yellow	White	
		1080P 3 Mbit/s	Green	Green	Green	Yellow	White	
4K 15 Mbit/s	Green	Green	Yellow	White	White			
3 monitors	H264	1080P 1 Mbit/s	Green	Green	White	White		
		1080P 4 Mbit/s	Green	Green	White	White		
		1080P 8 Mbit/s	Green	Green	White	White		
		4K 10 Mbit/s	Green	White	White	White		
		4K 20 Mbit/s	Green	White	White	White		
	H265	1080P 1 Mbit/s	Green	Green	White	White		
		1080P 3 Mbit/s	Green	Green	White	White		
4K 15 Mbit/s	Green	Green	White	White				
4 monitors	H264	1080P 1 Mbit/s	Green	Green	White	White		
		1080P 4 Mbit/s	Green	Yellow	White	White		
		1080P 8 Mbit/s	Green	Yellow	White	White		
		4K 10 Mbit/s	Green	White	White	White		
		4K 20 Mbit/s	Green	White	White	White		
	H265	1080P 1 Mbit/s	Green	Green	White	White		
		1080P 3 Mbit/s	Green	Yellow	White	White		
4K 15 Mbit/s	Green	White	White	White				



Milestone Systems is a leading provider of data-driven video technology software in and beyond security that helps the world see how to ensure safety, protect assets, and increase business efficiency. Milestone 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 500,000 customer sites worldwide. Founded in 1998, Milestone is a stand-alone company in the Canon Group.