



comTM
sur

the missing piece of CCTV

THE FOOTAGE WHISPERER

"SEE WHAT THE CAMERA SAW"

SYSTEM CONFIGURATION				
Number of cameras and 'Windows'	1 to 16 cameras in ONE 'Window' (in a 4 x 4 grid)	16 to 48 cameras in THREE 'Windows' (in a 4x4 grid for each 'Window')	48 to 64 cameras in FOUR 'Windows' (in a 4x4 grid for each 'Window')	64 to 128 cameras in EIGHT 'Windows' (in a 4x4 grid for each 'Window')
Processor	Intel Core i5 (latest gen.) with base frequency \geq 3.6 Ghz	Intel Core i9 (latest gen.) with base frequency \geq 3.6 Ghz	Intel Core i9 (latest gen.) with base frequency \geq 3.6 Ghz, OR Xeon Bronze 3204 (latest gen.) with base frequency 1.9 Ghz	Intel Xeon Silver 4210R (latest gen.) with base frequency 2.4 Ghz
Memory	8GB RAM	16GB RAM	32 GB RAM	32GB RAM
Graphic Card	On-board graphics card	On-board graphics card	Nvidia Quadro P2200	NVIDIA Quadro P5000 or AMD Radeon Pro WX 9100
Recommended Operating system	Win 10 Pro/ Win 11 Pro/ Windows Server (2016/2019)	Win 10 Pro/ Win 11 Pro/ Windows Server (2016/2019)	Win 10 Pro/ Win 11 Pro/ Windows Server (2016/2019)	Windows Server (2016/2019/ Datacenter)
Estimated range of network bandwidth (considering the total bandwidth needed for camera, VMS, and storage)	53-240 Mbps	240-740 Mbps	740-980 Mbps	980-2960 Mbps
	<p>Note:</p> <p>Please refer to point no. 2 below for more details on the network bandwidth estimation.</p>			
Hard Disk	Rotational speed	Space needed for COM-SUR installation	Space needed for storing the screenshots captured by COM-SUR	
	10000 RPM	Minimum 200MB (recommended 500MB)	Minimum of 750GB to store screenshots of ONE 'Window' for approximately 30 days. Minimum of 6TB to store screenshots of EIGHT 'Windows' for approximately 30 days.	
	Please refer to point no. 4 below for more details on the hard disk recommendation.			

Important notes:

1) The sizing for the processor, memory, and graphic card is approximate in nature and will also depend on the camera/VMS/NVR/DVR being used. Therefore, please confirm these with the VMS maker, your system integrator/IT team before proceeding.

2) The network bandwidth estimation is based on the consideration that the average bandwidth for each camera is 15 Mbps. In reality, the actual bandwidth usage of each camera can vary depending on factors such as camera resolution, frame rate, and compression settings. For example, for 16 cameras, the estimated bandwidth would be $16 \times 15 = 240$ Mbps. Therefore, please confirm the bandwidth requirements with the VMS maker, your system integrator/IT team.

3) The choice of the Operating System may depend on various factors and hence it is recommended to check with the VMS maker whether the VMS is compatible with the OS.

4) The above hard disk recommendation is based on the consideration that the average size of each screenshot is approximately 300kb on a full HD monitor. The screenshot size may vary depending on several criteria such as the number of cameras, image complexity, screen resolution, etc.

SOFTWARE

Software (for certain features)	Microsoft Office 2013 or above (preferred), Adobe Reader, Windows Media Player.
Miscellaneous	Supported Browsers - Google Chrome, Mozilla Firefox Minimum Screen Resolution - 1280 X 768

Notes:

1. Depending on the number and type of cameras, and the existing IT infrastructure, the system integrator/IT team/computer installer should be consulted to suggest other requirements like the network infrastructure and so on.
2. Where relevant, the VMS must be able to open multiple instances ('Windows') and display the video feeds on a single monitor preferably. A 'COM-SUR compliant' VMS will be able to do this.
3. In case of more than 32 cameras, it is recommended to use a COM-SUR compliant VMS instead of browsers for better performance.
4. While COM-SUR does not prevent the display of more than 16 cameras in one 'Window', for best results during the auditing process, 16 cameras or lesser are ideal.
5. The user must have administrator rights/privileges to install as well as to run COM-SUR for the first time.
6. COM-SUR may not perform optimally in case there are multiple programs/applications running concurrently. Also, the performance of COM-SUR will vary depending on the system configuration.
7. The system configuration and storage space requirements will increase in case of a 4K monitor.
8. COM-SUR must be added to the list of 'allowed programs/exceptions' in the respective anti-virus/application firewall programs.

9. The following selections in the Settings of the Windows Operating System will need to be set on the computer on which COM-SUR is installed:

Advanced power settings for all the power plans (High performance, Balanced, Power saver)

Turn off hard disk	Never
Sleep mode	Never
Hibernate mode	Never
Processor power management	100%
Turn off display	Never

Lock screen settings

Screen Saver	None
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