

Security Management System Using 360 Degree Cameras

(Document Version 13.06.27.01)

Security Management System supports 360 degree cameras. This document describes the additional user interface available for 360 degree cameras.

Adding 360 Degree Cameras in the Server Software:

The 360 degree cameras can be added to the server software similar to any other cameras. Please select appropriate 'video source' while adding the camera.

Some of the 360 degree cameras support multiple streams from the cameras eg – fisheye streams (original 360 degree view streams), panorama streams, de-warped streams etc. Separate 'Video source' type is available for each such stream. Please list the streams which are required to be exposed to the operators for a camera, and add them to the server software.

To add multiple streams from a 360 degree camera, please use the 'Add linked channels...' button available in the server software; on the 'Video devices -> Channels' page.

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Video devices	<u> </u>	7 🗶	I 🖉 🗡	Vo 💷 🗸			
Channels	Sr No.	Channel Name	Channel ID	Description	Video Stream Type	Parameter	
Sequences	1	Cam360	VC_Cam360	Cam360 d	Video Clip		
Audio devices							
Device groups							
Status							
Reports and Export							
Communication							
Security devices							
Keyboards and Joysticks							
Users and Privileges							
Alarm management							
Data management							
Tasks							
Linked servers							<u> </u>
Server settings							4
Video panorama						. ك	
User interface settings							

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These streams work like independent video sources and hence can be recorded independently. Full optimizations including dual-resolution streams are available for these video sources (if supported by the camera). These streams can be viewed in the video screens independently. If these streams support PTZ, PTZ control is available for these cameras similar to any other PTZ cameras.

(NOTE – the 360 degree cameras may have restrictions on number of streams, their resolutions, and combinations which can be accessed simultaneously. Every camera has different restrictions / limitations. Please refer to the camera documentation from the camera vendor, for details about the restrictions for a specific camera. If the restrictions are not met, some of the streams can not be accessed and hence the server software will not be able to connect to them and will not be able to add them for monitoring. Also the video display may show 'Video Loss' for such streams. It is important to analyze the restrictions from the camera side and accordingly decide which streams are used in the Security Management System.)

Security Management System automatically links all the streams added from a single 360 degree cameras. User interface is available for quickly switching the video display from one stream to any other linked stream. Details about the user interface are available in the 'Accessing 360 Degree Camera Display Settings' section in this document.



Accessing 360 Degree Camera Display Settings:

Security Management System provides video screens in server software as well as in client software. The video screen in server software and the client software are exactly the same, hence this document is valid for both server software and client software.

(NOTE – during deployment, it is recommended to disable video viewing in the server software. Hence video viewing is expected only in client software, in deployment environments.)

The video screens include a tree control which lists all the available cameras. Multiple streams from a 360 degree camera and automatically grouped together and are displayed under a single node, which makes it easier to identify and use them.



1. Please open any video screen.

- 2. Access the 'Digital PTZ' (or 'Digital Operations') tab, from the tabs available at the left-bottom on the video screen.
- 3. Drag-drop cameras from the tree control on the video containers to view the video for those cameras.
- 4. Click on any 360 degree camera fisheye stream currently being displayed.
- 5. Select '360 degree camera display' option for the 'Mode'. (This option will not be available for normal cameras)

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- 6. Various display settings available for the selected 360 degree camera will be displayed in the 'Digital PTZ' (or 'Digital Operations') tab. (The options will be different for different makes of 360 degree cameras)
- 7. Changes done to the settings will be immediately reflected on the selected 360 degree camera video display.
- 8. The settings are remembered across the session.
- 9. Various mouse operations are available on the 360 degree camera fisheye stream video display. The mouse operations will be different for different makes of the 360 degree cameras. Typically left mouse button drag on the video display provides pan-tilt control and mouse wheel scroll provides zoom control.
- 10. Right clicking on the 360 camera fisheye stream video will display a menu. 360 degree camera fisheye stream display settings can also be changed from the right click menu.



- 11. Security Management System displays 'High resolution video window' when any video window is double-clicked. The 'High resolution video window' too supports the right click menus and includes 360 degree camera fisheye stream display settings.
- 12. The right click menu on the video window, includes 'Linked cameras' menu which had sub-menus – one each for every linked stream. The text on the submenus is different for different camera makes. The operator can select any linked stream from this menu to quickly switch the video display to the selected linked stream. The 'Linked cameras' menu is available only for those cameras which at least have one linked stream associated with it.

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