



Solutions to the IR Reflection Problem of GV-IP Camera

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Applied to

GV-IP Cameras with IR LED

Contents

Summary	1
Possible Causes and Solutions.....	1
1. IR reflections from nearby objects	2
2. The obstruction on the camera cover	3
Recommended Cameras for a Dusty Environment	6

Summary

IR reflection is a common issue among manufacturers of surveillance cameras, which can be caused by multiple factors. The document is dedicated to addressing two situational factors: nearby light sources and objects reflect IR light, and a variety of environmental conditions result in obstructions on the camera cover.

Possible Causes and Solutions

For the IR reflection problem, please proceed to identify the causes and adopt the suggested solutions.



1. IR reflections from nearby objects

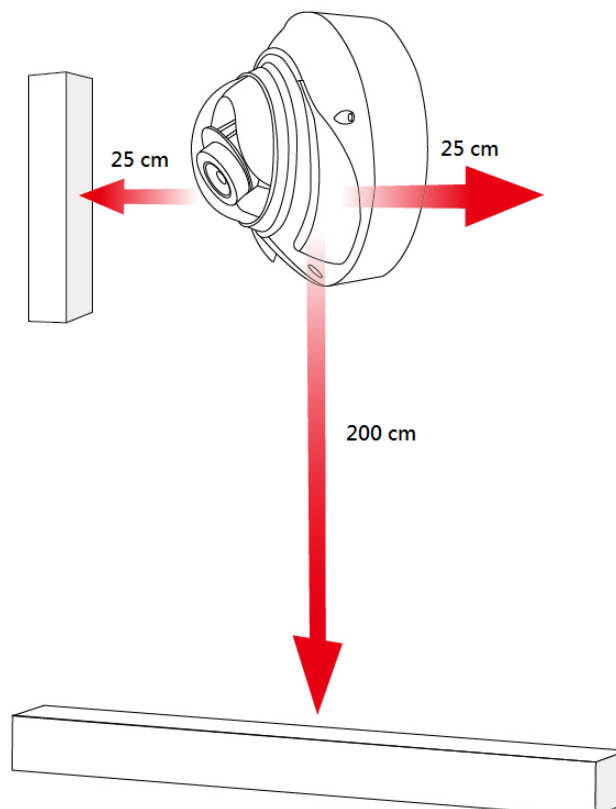
Any nearby light sources and objects, such as walls, ceilings, cables and branches, may reflect IR light back into the camera.

In the example below, IR light was reflected from the top-right walls into the camera, causing dust and dirt on the camera cover visible in nighttime images.



Solution: This is a common issue of **Vandal Proof Dome** (see page 6 for the camera models). To avoid direct reflections from nearby light sources and objects, take precaution of the following minimum distances when installing the camera:

- **25 cm (0.82 ft) to the sides;**
- **200 cm (6.56 ft) right below the IR LED** (when installing on walls), or **the rear of the IR LED** (when installing on ceilings).





2. The obstruction on the camera cover

Ranging from fingerprints, grease, stains, water spots to dust, dirt and cobwebs, any debris on the camera cover will deteriorate the image quality significantly by reflecting IR light. Even the protective film attached to the camera cover will have a cloudy effect in the image and should be removed after the installation is complete.



Cover with dust



Foggy view through a dirty cover



Cover with rain and condensation



Foggy view through a wet cover showing round spots



Cover with the plastic protective film



Foggy view through the protective film



Solution: Users are urged to be extra careful not to leave any fingerprints on the camera cover during installation and keep the plastic protective film on the camera until the very end.

If possible, the camera should not be directly exposed to weather conditions.

If the camera is installed in a dusty and moist environment, your camera may need a regular maintenance. You may find the following tips helpful for your periodic cleaning of the camera cover.

1. Use **compressed air** or an **air blower** to remove any dust or debris on the cover.



IMPORTANT: When using compressed air, be sure

1. not to use any type that will emit any chemical substance since they may damage the cover coating.
 2. to read the precautions labeled on the bottle before use. With some compressed air brands, shaking the compressed air bottle before spraying, holding the bottle too close to the target, or spraying for a long period of time can damage the cover coating.
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2. Clean the cover with **lens cleaning cloth** in one direction to avoid any possible scratch.
3. If the cover is still dirty, **spray small amount of clean water** on the cover and use **lens cleaning cloth** to clean the cover again.



IMPORTANT:

1. Do not use clothes or any ordinary material to clean the camera cover since they may result in scratches.
2. Do not use alcohol-based cleaner to clean the camera cover since it may damage cover coating.

It is advisable to use one of the following to clean the cover:

- Micro fiber Cloth, e.g. [Giottos CL3612](#)



- Non-abrasive Wipes, e.g. [PEC-PAD Non Abrasive Wipes](#)



- [Chamois Skin Cleaning Cloth](#)





Recommended Cameras for a Dusty Environment

For environments containing thick dust, GeoVision Bullet, Vandal Proof Dome and Eyeball Dome cameras are highly recommended because the flat camera cover of the first one and the external IR LEDs of the last two contribute to the solution of IR reflection.

Below is a list of recommended GeoVision cameras suitable for a dusty environment.

Bullet Camera			Vandal Proof Dome	Eyeball Dome Camera
GV-BL1210	GV-BL3400	GV-EBL1100 Series	GV-VD1530	GV-EBD2702
GV-BL1500	GV-BL3401	GV-EBL2100 Series	GV-VD1540	GV-EBD4700
GV-BL1501	GV-BL3410	GV-EBL2101	GV-VD2430	GV-EBD4711
GV-BL1511	GV-BL3411	GV-UBL1211	GV-VD2440	GV-EBD8700
GV-BL2400	GV-BL3700	GV-UBL1301 Series	GV-VD2530	GV-EBD8711
GV-BL2500	GV-BL5310	GV-UBL2401 Series	GV-VD2540	
GV-BL2501	GV-BL5311	GV-UBL2411	GV-VD2540-E	
GV-BL2511	GV-BL5311-E	GV-UBL3401 Series	GV-VD3430	
GV-BL2511-E	GV-BL5700	GV-UBL3411	GV-VD3440	
		GV-ABL2701	GV-VD4711	
		GV-ABL2702	GV-VD5340	
		GV-ABL4701	GV-VD5340-E	
		GV-ABL4712	GV-VD5711	
		GV-ABL8712		
		GV-TBL4710		
		GV-TBL8710		

