



Solving IR Reflection and Improving Night View

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Release Date: 11/09/2011

Applied to

Vandal Proof IP Dome

(GV-VD120D/121D/122D/123D, GV-VD220D/221D/222D/223D,
GV-VD320D/321D/322D/323D)

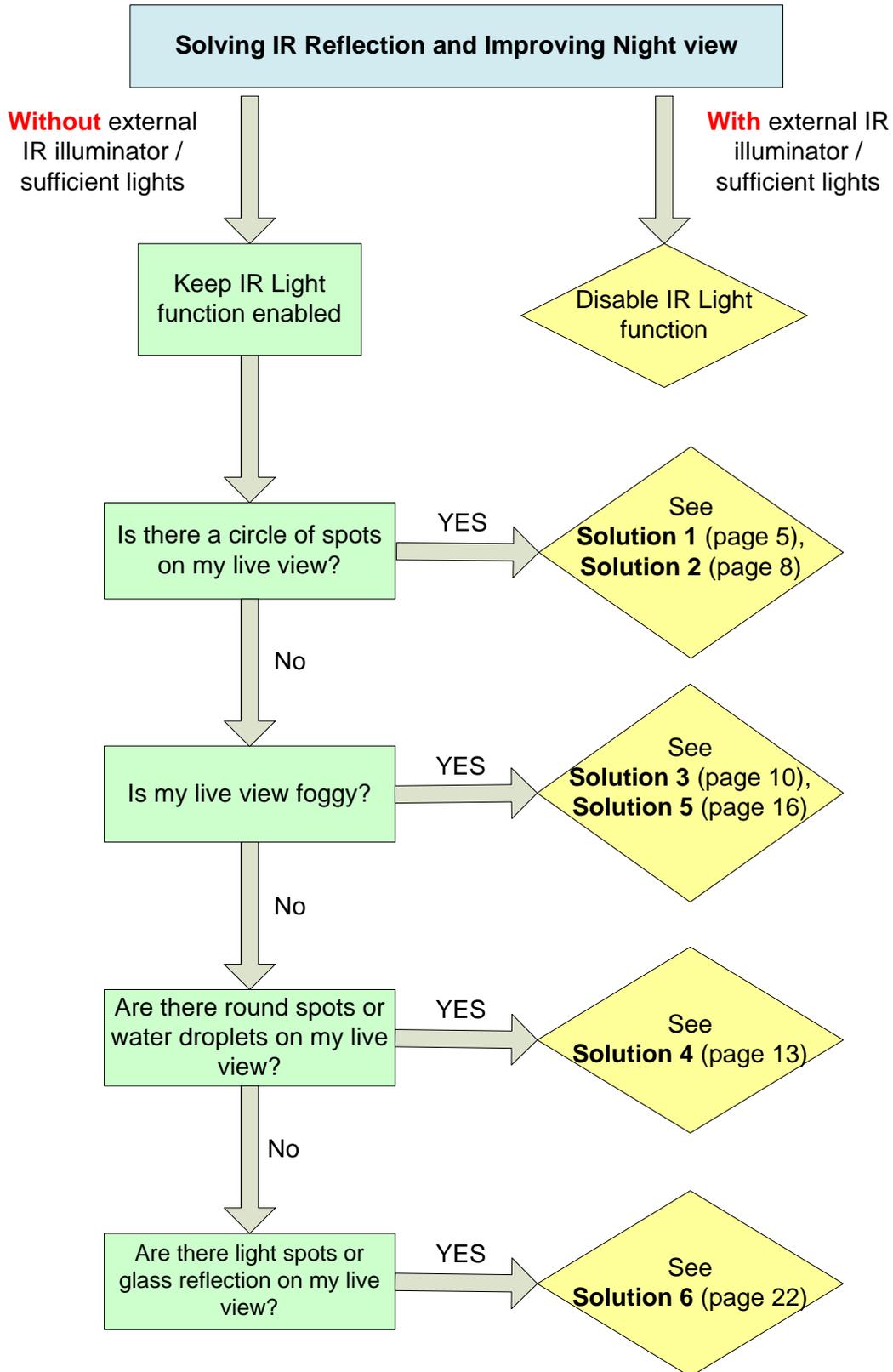
Fixed IP Dome (GV-FD120D/220D/320D)

Summary

If you are having difficulty getting clear live views under low light conditions with your Vandal Proof IP Dome or the Fixed IP Dome, this is likely due to IR reflections inside the camera. To solve the IR reflection problem, you can choose to **disable the IR Light function** if there is sufficient lighting on the installation site. If you do not have enough lighting on the installation site, proceed to identify the possible causes and adopt the solutions to reduce IR reflection and improve the quality of live view.



Troubleshooting flowchart





Disabling the IR

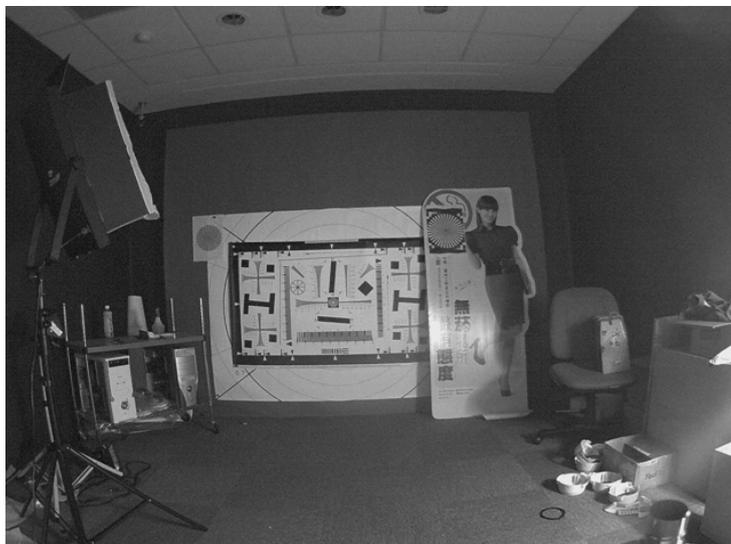
By default, the IR LEDs turn on when there are insufficient lights. To avoid IR reflection inside the camera, you can **disable the IR function** if there are sufficient lights or an IR illuminator installed on the installation site. The disabling the IR function is available on the camera with **firmware version 1.07 or later**.

Note: The minimum amount of light (in lux) required in night mode and the corresponding live image are detailed below.

- For GV-VD120D/121D/122D/123D, GV-FD120D: approximate 4 lux.



- For GV-FD220D/320D, GV-VD220D/221D/222D/223D, GV-VD320D/321D/322D/323D: approximate 8 lux.





To disable the IR:

On the Web interface, select Streaming 1 under Video Settings, select **Off** for **IR Light** and click **Apply**.

The screenshot shows the GeoVision web interface. On the left is a navigation menu with categories like 'Video and Motion', 'I/O Control', 'Events and Alerts', etc. The 'Video Settings' section is expanded to 'Streaming1'. The main content area is titled 'In this section you can set Watermark function.' and contains several sections: 'Audio Settings', 'TV-Out', 'LED Control', and 'Special View Setting'. Under 'Special View Setting', there is a section for 'Additional functions for Live View' which includes 'D/N' (Day/Night) settings with radio buttons for 'Auto', 'Black and White', and 'Color'. Below that are 'IR Check Function' (Off, On, Trigger IR by D/N), 'Auto Iris' (Enable, Disable), and 'IR Light' (Off, Auto). The 'IR Light' option is highlighted with a red rectangular box. At the bottom of this section is 'Light Scattering Reduction at Night' (Off, On).



Possible Cause and Solution

If there are no sufficient sources of light, proceed to identify the causes and adopt the suggested solution.

1. Are the screws properly tightened?

Spots in a curve



Live view with loosen screws showing **spots in a curve**

Vandal Proof IP Dome

(GV-VD120D/121D/122D/123D, GV-VD220D/221D/222D/223D,
GV-VD320D/321D/322D/323D)

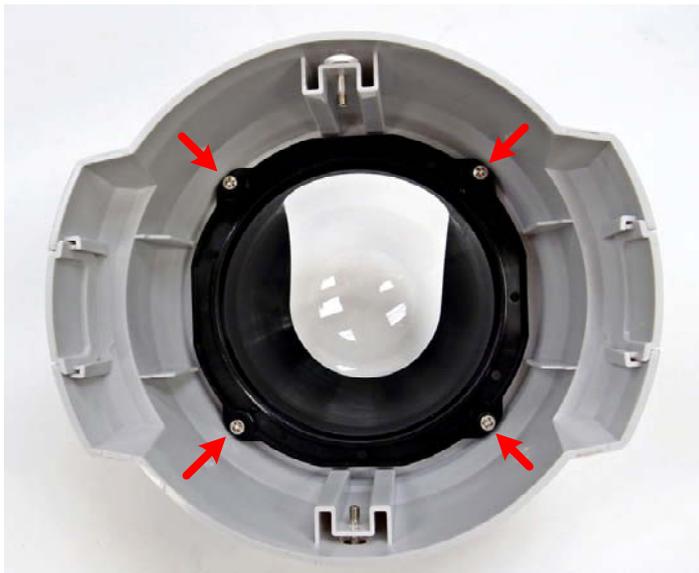


Tightly secure the 4 screws inside the housing cover



Tightly secure the 4 screws on the housing cover

Fixed IP Dome (GV-FD120D/220D/320D)



Tightly secure the 4 screws inside the housing cover



Tightly secure the 2 screws on the housing cover

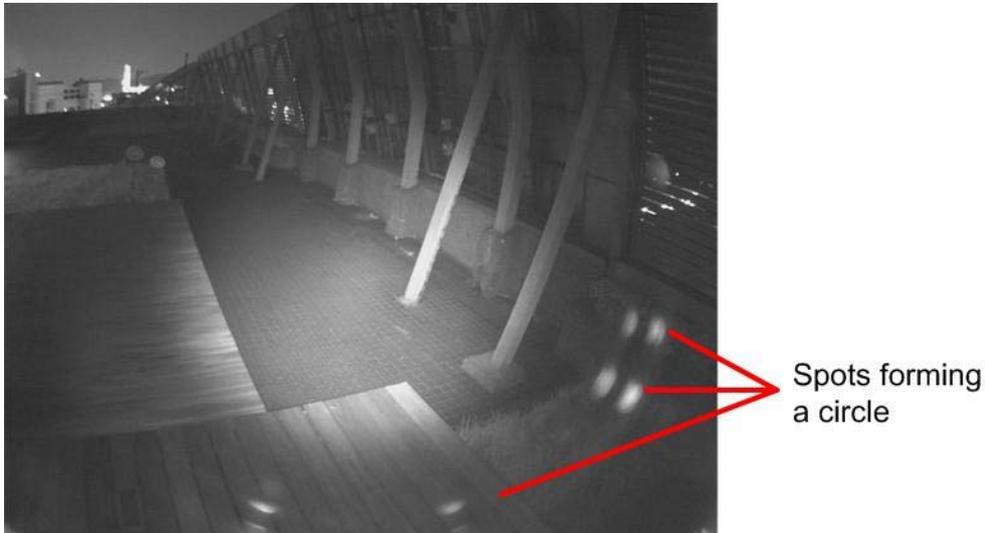
Solution:

Check the inside and outside of the housing cover and be sure the screws are properly tightened.



2. Is the rubber band around the lens loosened?

The rubber band around the lens prevents IR LED light from reflecting inside the camera cover. If your rubber band is loosened or not properly fitted, some light may reflect inside the cover and affect the quality of the live view.



Live view with displaced rubber band showing **a circle of spots**



Top View: The rubber band is out of position



Side View: The rubber band is out of position.



Top view: The rubber band is at its normal position.



Side View: The rubber band is at its normal position.

Solution:

Check if the rubber band is properly fitted and completely attached to the camera cover when the cover is attached. [If your rubber band is still loose after your adjustment, contact the vendor or local distributor for replacement.](#)



3. Is my cover dirty?

For a foggy live view, your cover may be dirty from dusts, finger prints or debris.

Note: If your camera is installed in a dusty or moist environment, your camera may need regular maintenance.



Live view through a dirty cover appears **foggy**



Cover with dusts



Solution:

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 can 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

For example, Giottos CL3612 (<http://www.giottosusa.com/cleaning-kits.shtml>)





- Non-abrasive Wipes

For example, PEC-PAD Non Abrasive Wipes

<http://mpex.com/pec-pad-non-abrasive-wipes-4x4-quot-100-pk.html>



- Chamois Skin Cleaning Cloth

http://en.wikipedia.org/wiki/Chamois_leather





4. Is there condensation on the camera cover?

Water or fog may adhere on the outside of the camera cover due to rain or condensation, especially for the outdoor camera such as Vandal Proof IP Dome. Water may also condense inside the camera if the silica gel bag in the camera loses its effectiveness.

Note: If your camera is installed in a dusty or moist environment, your camera may need a regular maintenance.



Live view through a wet cover showing **round spots**



An example of condensation on the outside of cover



An example of condensation inside the cover

Solution:

Check your cover and see if the water or fog is on the inside and/or outside and follow the steps below to dry the cover.

1. **Use an air blower** or **the suggested compressed air** (see the solution for 3. *Is my cover dirty?*) to remove any dust or debris on the cover.



2. Use some tissue to absorb the water.

Note: Do not rub the cover with tissue since it may result in scratches.

3. Clean the cover with **the suggested lens cleaning cloth** (see the solution for 3. *Is my cover dirty?*). Be sure to swipe in one direction to avoid any possible damage to the cover.
4. If the live view is still unclear, **spray small amount of clean water** on the cover and clean the cover again with the suggested **lens cleaning cloth**.



5. For **Vandal Proof IP Dome**, if the condensation is on the inside, the desiccant might have lost its effectiveness. Replace **a new silica gel bag**.

IMPORTANT:

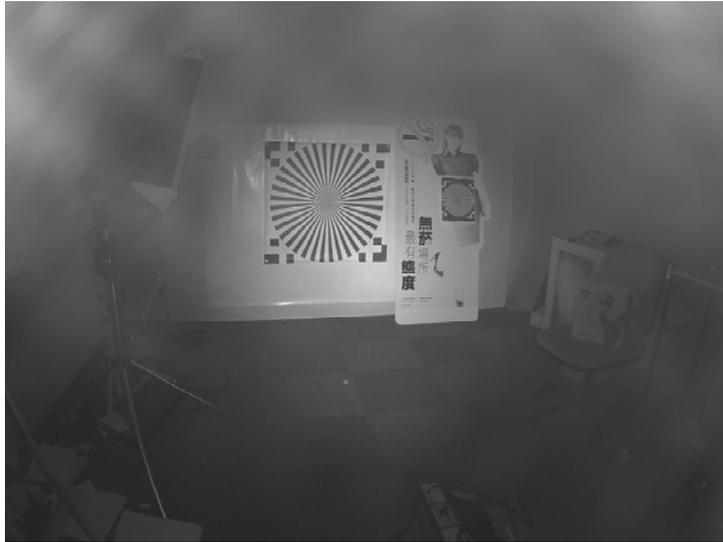
1. Be sure the silica gel bag is concealed in the camera after **2 minutes** of exposing to open air.
 2. Be sure to replace the silica gel bag every time you open the camera.
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Note: For a video demonstration of replacing a silica gel bag, visit the following YouTube link:

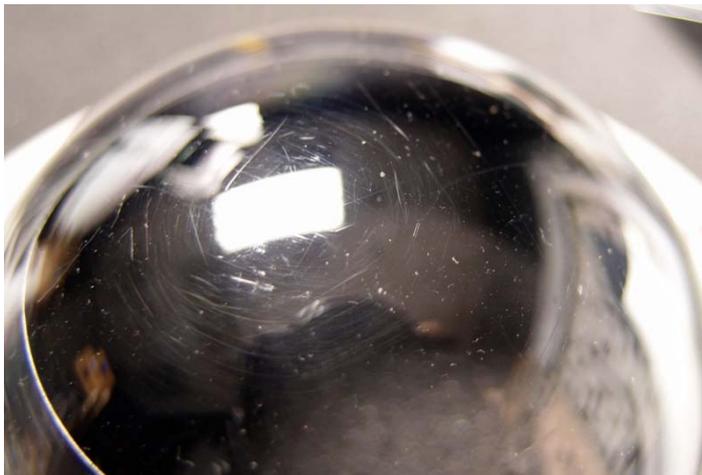
http://www.youtube.com/watch?feature=player_embedded&v=w0JYkT57y7w&noredirect=1



5. Is my camera scratched?



Live view through a scratched cover appears **foggy**



A scratched cover

Solution:

Some scratches may not be easily visible. If your live view is foggy, and you cannot tell whether the cover is dirty or scratched, first clean the cover by following the cleaning instructions mentioned in 3. *Is my cover dirty?* If the live view is still blurry after cover cleaning, your cover may be scratched and you will need to contact the vendor or local distributor for cover replacement.

Note: The cover for GV-IP Camera series is a consumable item and is thus not included in the Limited Warranties.



Vandal Proof IP Dome

(GV-VD120D/121D/122D/123D, GV-VD220D/221D/222D/223D, GV-VD320D/321D/322D/323D)

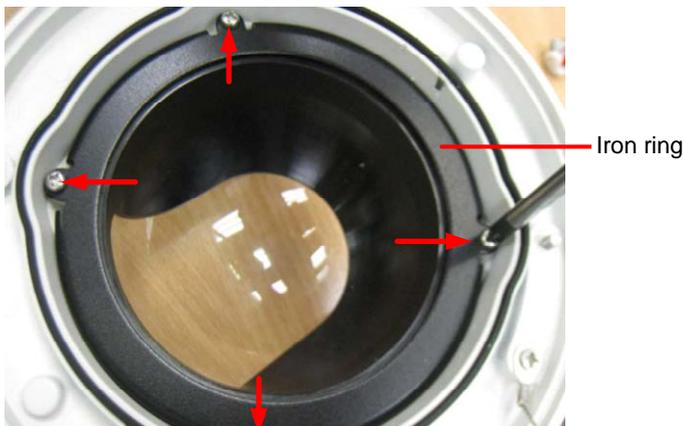
1. Follow the steps in the previous solution to clean your cover.
2. Check if the live view is clear. If your live view is still blurry, your cover is likely scratched. In such case, contact the vendor or local distributor for cover replacement and then proceed to fit the new cover.
3. Unscrew to open the housing cover.



4. Unscrew the thread lock.



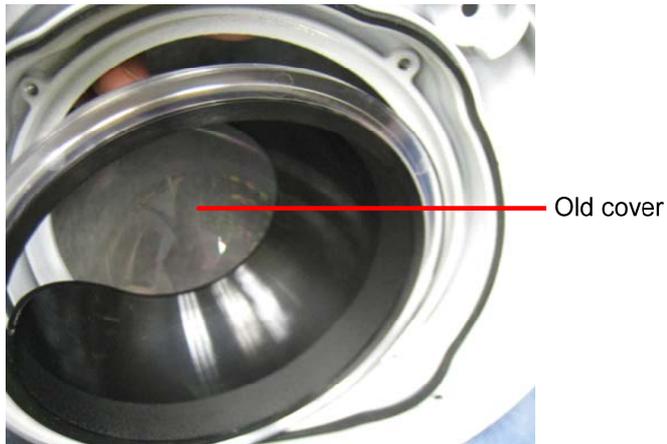
5. Unscrew the indicated parts and remove the iron ring.



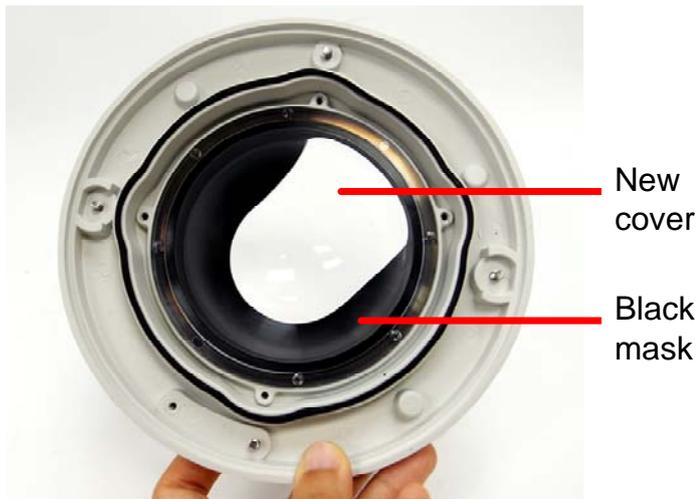
An iron ring



6. Push the old cover out.



7. Put on the new cover and insert the black mask.

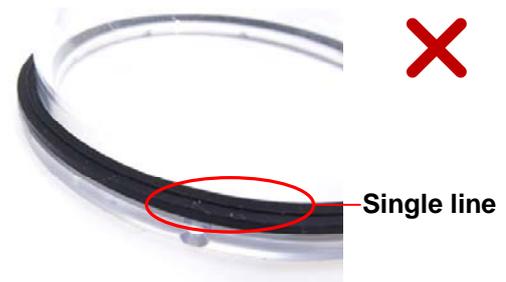
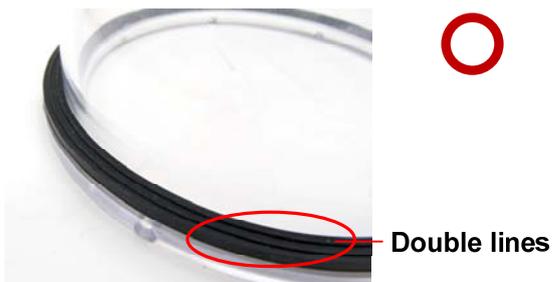


A black mask



A cover

Make sure the rubber ring is correctly fitted with two lines facing up.





Note: Be sure to hold the new cover along the edge to avoid making fingerprints on the cover.

8. Follow steps 3 to 5 to secure the iron ring, thread lock and the housing cover.

Note: Be sure the rubber ring and the housing cover fits properly or water may enter the camera body.

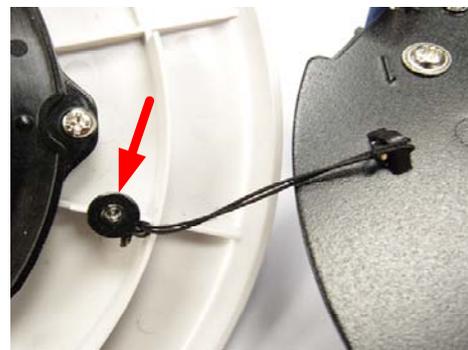
Fixed IP Dome (GV-FD120D/220D/320D)

1. Follow the steps in the previous solution to clean your cover.
2. Check if the live view is clear. If your live view is still blurry, your cover is likely scratched. In such case, contact the vendor or local distributor for cover replacement and then proceed to fit the new cover.
3. Remove the housing cover.

For Hard-Ceiling Mount, Wall-Surface Mount and L-Shaped Wall Mount, use the supplied torx wrench to remove the housing cover.

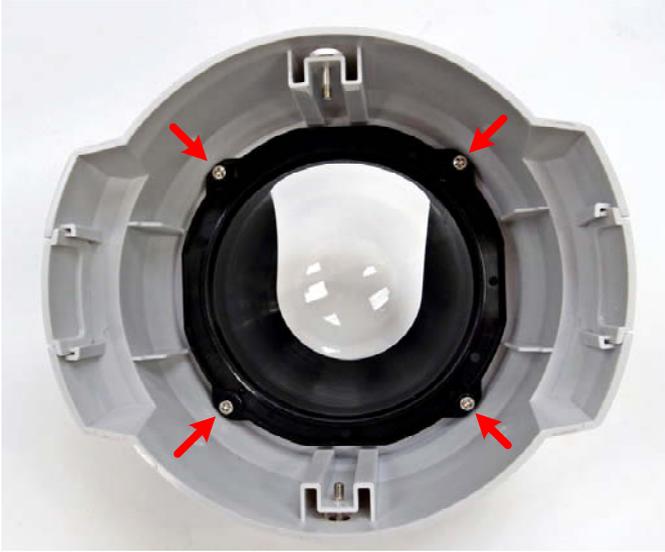


For In-Ceiling Mount, simply pull the housing cover off and unscrew the thread lock.





4. Unscrew the indicated parts inside the housing cover and remove the plastic ring.



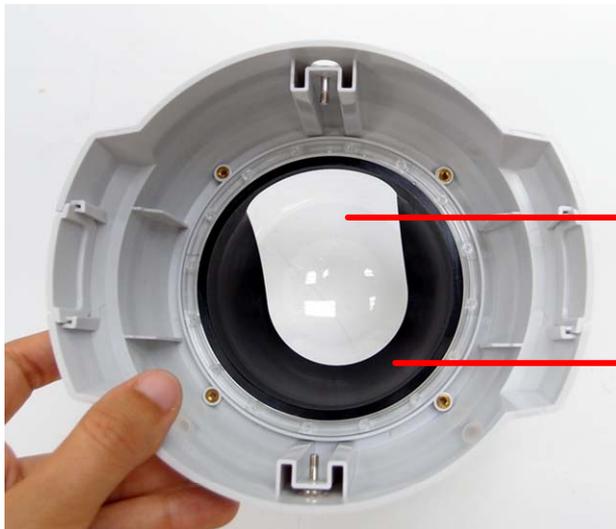
A plastic ring

5. Push the old cover out.





6. Put the new cover and the black mask in.



New cover

Black mask



A new cover



A black mask

Note: Be sure to hold the new cover along the edge to avoid making fingerprints on the cover.

7. Follow steps 3 and 4 to secure the plastic ring, thread lock (for In-Ceiling Mount) and the housing cover.

Note: For a video demonstration of how to replace a cover, visit the following YouTube links:
Vandal Proof IP Dome: <http://www.youtube.com/watch?v=qhWHQBo4LPQ>
Fixed IP Dome: <http://www.youtube.com/watch?v=CKto9JL-1tE>



6. Is my camera installed near any reflective surface?

Inspect the installation site and see if your camera is near any reflective surface, such as a white ceiling or glass. In these cases, lights may reflect in the camera when the IR LEDs are on.



Light spots

Live view through a glass showing **light spots**

Solution:

Try to adjust the angle of the camera and

- for reflective ceiling: cover the ceiling with non-reflective material.
- for glass reflection: it is advisable to relocate the camera.