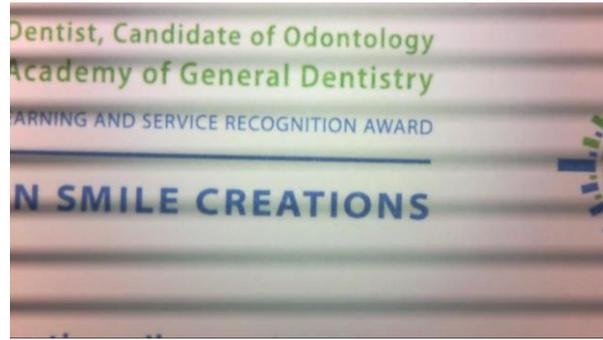


## When your LED lights interfere with the LoupeCam®



From time to time, LoupeCam® users might experience horizontal lines of light crossing the screen during recording. Here is some technical information that will help explain this phenomenon as well as some ways to troubleshoot the issue and find a solution:

If your operatory uses adjustable LED overhead lights, you may experience this issue of dark/light lines across the screen during your videos. This is caused by the pulse width modulation of your LED light. Your LED light actually turns on and off about 250 times a second which is the mechanism which allows the adjustment from low intensity to high intensity.

What you are seeing when you record a video, using a LED light with pulse width modulation, is a stereoscopic effect. The LoupeCam® records in high definition at 30 frames per second. When the camera and light are synched, the camera will pick up the 250 'blinks' per second of the LED light, showing these 'blinks' as lines across the image.

Unfortunately lighting is a variable that we, at LoupeCam®, cannot control. Some ways to troubleshoot this issue are as follows:

1. Assess the lighting in your operatory to see if this pulse modulation is the source of the issue. For example, while operating the LoupeCam®, try to use different lighting options until you isolate the cause of the interference. Could it be the lights in your ceiling, or perhaps your overhead light, or maybe even your loupe mounted LED?
2. Does your LED overhead light have a 'cure safe;' mode? If so, can you use this mode to get a clearer image?
3. It may seem strange, but you may actually be able to 'un-sync' the LED and LoupeCam®. Try changing the setting from low to medium to high while operating the LoupeCam® until you don't see these horizontal lines anymore.

If none of these suggestions eliminate the issue, we would recommend replacing the LED light, that is causing the issue, with a light that does not use pulse modulation. If you find that the cause of the interference is your loupe mounted LED, please let us know. LoupeCam® sells a loupe mounted LED which is optimized to work with our camera system.

To see video showing pulse width modulation [click here](#).