



## The Quiet Camera

**The Problem:** Shutter click noise isn't acceptable in noise-sensitive environments like court room settings.

**Background:** A camera muzzle is a muffler, also known as a 'blimp', designed to reduce noise generated by film advance and shutter click. They can be soft (sewn) or hard (plastic). Sound suppression is necessary where noise is considered an interruption, such as golf events, court room proceedings or symphonies.

A hard muffler/blimp was designed in the 1960s. These hard case designs use a plastic case cut to accommodate the camera, fit with foam and silicon to baffle the sound. Hard case blimps are very expensive and usually operate remotely. The camera muzzle, made as a sewn item, was designed to be more cost effective and to be used by the photographer (vs. remote operation).

**The Solution:** The customer had designed a prototype soft muzzle. He met with our engineering staff and explained what he wanted to achieve with his design. C.H. Ellis suggested some design improvements and also offered a highly refined build quality and major production capacity.

Through several iterations, additional refinements were introduced based on feedback from the field such as: increasing the window access, eliminating hook/loop openings, changing the interior muffling material, and adding an access port for tripod use. Finally, to make it easier for camera insertion, the zippered opening was increased.

This sewn muzzle now, is at home at the symphony or in the courtroom with internal and independent test results showing better than 50% noise reduction. It was even used to capture equestrian events at the 2016 Summer Olympics and will do so at the next Pan American games.

**Style:** Sewn

**Material:** Nylon and foam

