

# SENSOR CLEANING 101

What is **Sensor Cleaning**?

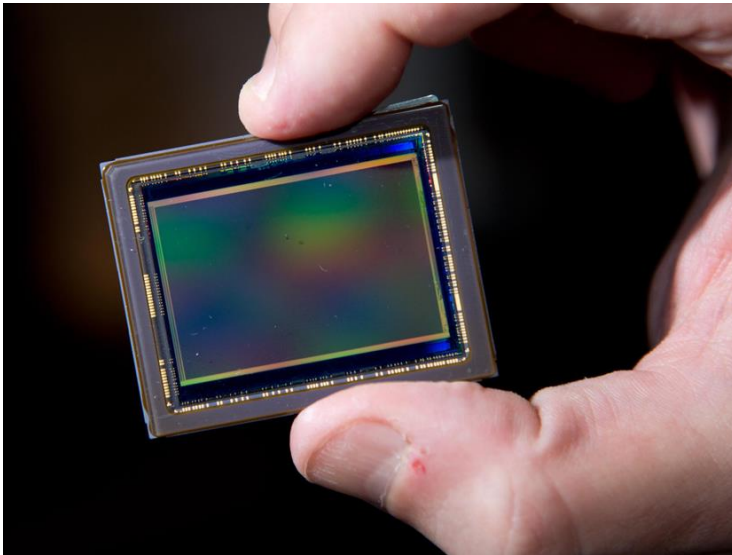
Do You **Need to Do It**?

And Which System is the **Best for You**?

# SENSOR CLEANING 101

## What is a Sensor?

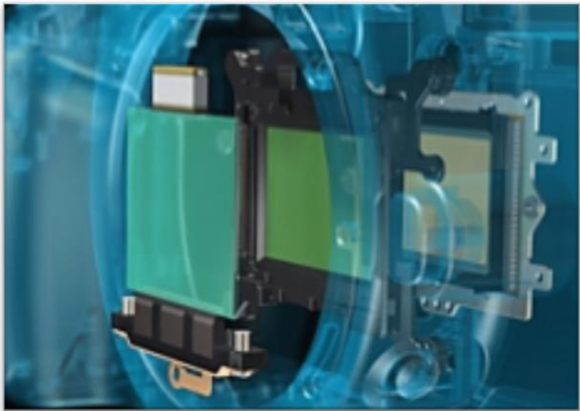
The **sensor** is the part of the digital **camera** that captures light to create an image. It is analogous to the film in non-digital **cameras**. More information: [https://en.wikipedia.org/wiki/Image\\_sensor](https://en.wikipedia.org/wiki/Image_sensor)



# Built in “Sensor Cleaners”

## The Supersonic Wave Filter & CCD Shifting

- Shakes or vibrates the low pass filter that sits in front of the sensor, with the intention of dislodging dust particles.
- An adhesive strip below or around the low pass filter picks up dislodged particles and holds them there.



Source: <http://pixinfo.com/en/articles/ccd-dust-removal/>

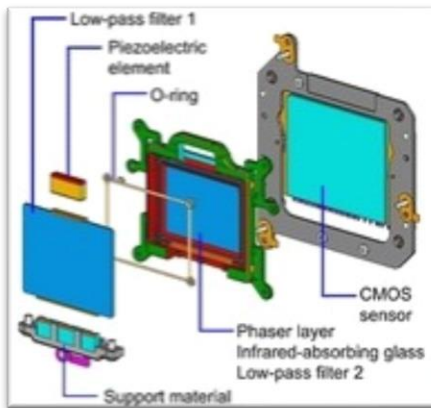
## Why Isn't this Enough?

- The sensor is statically charged, so debris is often times “stuck to the sensor surface. A small amount of vibration isn't enough to remove it.
- There are multiple types of debris, and vibration is only addressing loose particles like dust. Chamber lubricant, pollen, humidity, and many other types of debris cannot be removed using this method.
- The adhesive strip dries up and loses it's ability to hold particles in time. Unless the adhesive strip is regularly replaced, it loses it's effectiveness.

# Built in “Sensor Cleaners”

## Oxide Coatings

- An anti-static coating is applied to the sensor’s surface or low pass filter’s surface with the intent of reducing static charge.
- Like a dryer sheet, this is meant to repel loose debris particles from the sensors surface where they would normally get stuck.



Source: <http://pixinfo.com/en/articles/ccd-dust-removal/>

## Why Isn't this Enough?

- While the anti-static coating does help, it is not enough to fully eliminate the static charge and deter all particles from becoming stuck to the sensor’s surface.
- There are multiple types of debris, and the anti-static coating is only addressing loose particles like dust. Chamber lubricant, pollen, humidity, and many other types of debris are not deterred by this method.
- The anti-static coating makes the sensor surface more fragile and susceptible to damage and scratches.

# Built in “Sensor Cleaners”

## Real Use Testing Results.

- DPReview.com tested built in sensor cleaners by exposing 3 camera bodies by 3 different manufacturers to a dusty environment (top row of images).
- Each camera’s built in sensor cleaner was run 25 times and then a picture was taken (bottom row of images).



## What Did They Find?

- The amount of visible debris that showed up in images was usually not less than before the cleanings, and was sometimes even worse.

Source: <http://pixinfo.com/en/articles/ccd-dust-removal/>

# Sending Cameras Away for Cleaning

## Manufacturer Programs & Warranties

### Pros

Often times free with a loyalty program

Peace of mind

### Cons

Downtime without a camera

Can be costly

Low frequency due to the amount of time it takes

Debris that is lodged within the camera body can shake loose in shipping, then end up right back on a sensor's surface

Unable to clean at a moment's notice



# Sensor Cleaning at a Camera Store

## Know That Your Camera is in Good Hands

- Dropping your camera off to be cleaned at your local camera store gives you the opportunity to ask questions, address common issues that you might be having (why do I always seem to get lubricant in the corners?) and double check that the cleaning is to your satisfaction before you start shooting again.

## Quick Turnaround

- Many stores offer same-day cleaning for a slight upcharge, or 2-3 day turnaround for the standard rate. That means less downtime away from your camera, and no bumping around in a shipping box for your expensive piece of equipment!

## Emergency Cleanings

- Do you have a big paying shoot tomorrow and you just noticed a spec right in the middle of your frame?
- Your camera store can make sure your images are spotless at a moment's notice.





# Sensor Cleaning at Home

## Is it Safe?

- Absolutely. Every component of Delkin's SensorScope sensor cleaning system has been tested to be 100% safe and effective for use with cleaning image sensors (CCD & CMOS, coated and un-coated) on DSLR and Mirrorless Cameras. In testing, we actually tried to damage the sensor using repetitive motions & harsh conditions – without any success. What do we call that? A big success!

## What is Delkin's Warranty?

- We guarantee that our system is 100% safe and effective.

## Where Can I Get Training?

- Have a question? Give us a call, stop by our tradeshow booth, or email us! Delkin customer service is always happy to assist in your first cleaning, or point you towards our instructional video that you can watch and clean alongside while you're out in the field.



# Delkin's SensorScope Travel Kit

## Entire System Includes:

- 1 SensorScope Inspection Device
- 1 SensorBulb Air Blower
- 15 SensorSafe Wands
- 1 Bottle of SensorSolution
- 1 SensorPen
- 1 Cleaning Cloth
- 1 Step-by-step Cleaning Guide

