

# Analog Cameras

## Cmos vs. CCD Cameras

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#### **Background:**

Cmos (Complementary Metal Oxide Semiconductor) and CCD (Charge Coupled Device) are ways to capture digital video signal. Both convert light into an electric charge and process it into electronic signals producing a digital picture. Dr. Savvas Chamberlain created both CMOS and CCD camera sensors.

Each option has it's advantages and disadvantages.

#### **Usage:**

- Cmos: Industrial Environments
- CCD: Photography cameras and higher resolution video cameras

#### **Electrical Interference:**

- Cmos: Medium amount of interference
- CCD: Little amount of interference

#### **Night Vision Capabilities:**

- Cmos: Usually paired with fewer IR bulbs, and so it tends to produce a lower quality nighttime image
- CCD: Usually paired with more IR bulbs, so it produces a better picture in a low light

#### **Overall Image Quality:**

- Cmos: Lower image quality compared to CCD
- CCD: Cleaner image, but it sometimes has halos around bright lights

#### **Price:**

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- Cmos: Less expensive because it has fewer components, requires less power, and is cheaper to produce.
- CCD: More expensive because it draws more power.

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