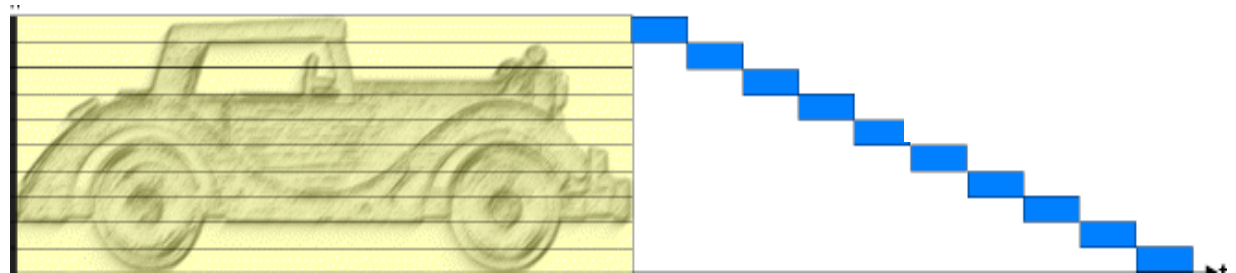
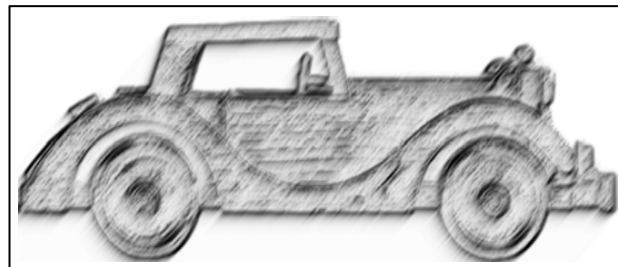


- Global Shutter
  - All sensor lines are exposed simultaneously
  - No image distortion
  - Complex sensor technology – expensive
  - Provided by all CCD sensors / few CMOS sensors

- Exposure / Readout:



- Result:



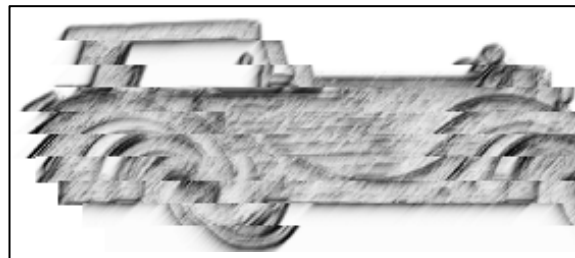
## ■ Rolling Shutter

- Sensor lines exposed consecutively top to bottom
- Image distortion only for fast moving objects
- Suited for still objects
- Simple sensor technology – high sensor fill factor
- Provided by high resolution CMOS sensors

- Exposure / Readout



- Result



# uEye Flash Output

- Output modes
  - Software controlled: set high/low
  - Exposure controlled
- Electric specifications
  - Optically decoupled
  - No voltage supplied
  - Can switch up to 500mA (24V)
- Default: Exposure controlled
  - Flash duration equals exposure



Time →

# uEye Flash Parameters

- Flash duration
  - Can be set via software
  - Flash shorter than exposure time
- Flash delay
  - Can be set via software
  - Flash start delayed



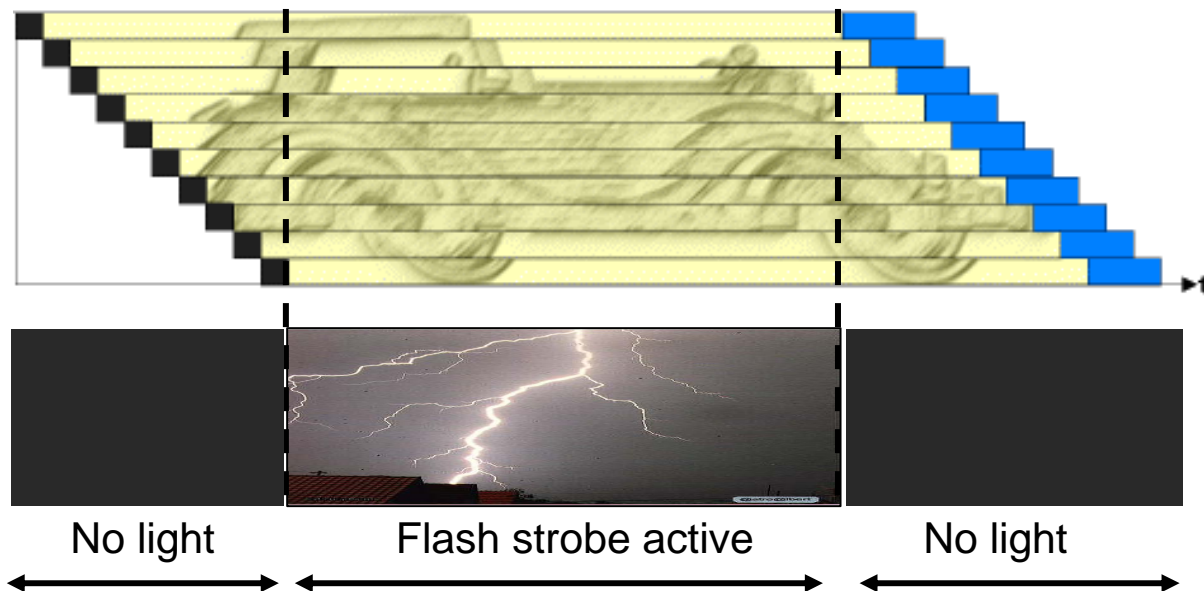
Time



Time

# uEye Global Flash Feature

- Use Rolling Shutter Sensor like a Global Shutter
  - Simulates global shutter by using flash strobe
  - Driver calculates flash delay and duration
  - Long exposure required, No ambient light allowed
  - Can be used with IR flash strobe and daylight cut filter



- UI-1480 - Global Start Shutter CMOS
  - Simultaneous exposure start of all sensor lines
  - Consecutive end of exposure
  - Simulate global shutter with flash
  - Much faster than rolling shutter w/ global flash feature
  - 1480 only, flash strobe required

