In the Spotlight:
HDRC vs. CCD

Scene Dynamic Range: 120 dB
HDRC® Sensor Dynamic Range: 170 dB
RESPONSE CURVE OF THE HDRC® AND OTHER SENSORS

The perception and recording of images has intrigued mankind for ages. With our eyes, we can perceive scenes with rich details in shades and color over a high range of local intensities within each scene due to the logarithmic response of our photo receptors providing an instantaneous dynamic range of about 100 dB. Film provides this eye-like response over a range of less than 80 dB. While most CCD sensors are more sensitive than film, their response is not eye-like but linear with a dynamic range of about 50 dB.

Many scenes have a dynamic range wider than 100 dB blinding and hurting our eyes and certainly eliminating film or present CCD and similar sensors. This is the domain of HDRC® sensors and cameras as is evident from the sequence on the front page.

HDRC® logarithmic imaging has other important features beyond high dynamic range:

- High and constant contrast sensitivity independent of local brightness
- Constant colors independent of local brightness
  two unique and powerful features of the human visual system.

FLAT-FIELD SIGNAL/NOISE RATIO

The standard linear integrating sensor has a dynamic range of 50 dB, the extended-dynamic-range sensor achieves 70 dB. Both have S/N ratios strongly dependent on signal levels, which make image processing tasks like feature detection difficult.

The HDRC® sensor response covers 170 dB dynamic range and, for 10 bit output, it has a constant S/N ratio of 50 (30 dB) over more than 5 decades of luminance decreasing gracefully at low light levels.
HDRC® Applications: Safe in Any Scene

HIGHWAYS

HDRC® Camera-Guided Docking of Aircraft

AIRPORTS:
- Barcelona
- Billund
- Beijing
- Brussels
- Dresden
- Hannover
- Kanton
- Leipzig
- Madrid
- Seoul
- Tel Aviv

Courtesy: OMRON  www.omron.com

Courtesy: Honeywell Airport Systems  www.airportsystems.honeywell.com

AUTOMATION

HDRC® Camera-Guided Docking of Aircraft

SURVEILLANCE

HDRC® log imaging facilitates the compensation of the spotlight illuminant at the sensor level producing a “standard appearance” of objects and full scene information at video rates
HDRC® CAMERAS

Camcube

Gevilux 2

Hema Seelector

HDR Vision: Acquisition-Processing-Display

ACQUISITION | PROCESSING | DISPLAY
---|---|---
SENSOR | TONE MAPPING | VIDEO
FOCAL-PLANE PROCESSING | CODING | www.brightsidetech.com
www.ims-chips.de | VIDEO PLAYER |

General Infos: www.ims-chips.de
HDRC® CCTV Cameras: www.gevitec.de
HEMA Seelector: www.hema.de