
Press Release

30. June 2010

Ultra-High Resolution CCD-Image Sensors from 4k x 4k to 10k x 10k pixels and considerably reduced noise behaviour

Compared to high quality CMOS-image sensors, these CCD devices do have a substantially higher resolution up to 10.560 x 10.560 pixels (= 111 Mpixels!) at a fill factor of 100%. The devices, originally developed for astronomical applications, now show an even further reduced noise behaviour, accomplished by refining the manufacturing technology. For the 10k x 10k-sensor the noise now amounts to only 5 electrons at 1 MHz and even < 3 electrons at 100 kHz datarate. Despite, if higher noise values are tolerable and with 16 outputs at 20 MHz datarate, the sensor reaches a fast read out rate of 2 Hz !

Now also available is a CCD with 8k x 8k pixel resolution and 8 outputs at 20 MHz datarate. Considerably faster and cost-effective is the 4k x 4k-CCD, coming with 4 outputs at 40 MHz datarate each.

Due to the very low noise level and the high dynamic range of the sensors, highest quality cameras with 16-bit digitization can be realized. Additionally, an Antiblooming-function (horizontal or vertical) can be implemented.

The standard sensors are available with a wavelength-adapted spectral behaviour, as front-(FI) or back-illuminated (BI) designs, achieving quantum efficiencies of close to 90% for the back-illuminated (BI) version.

Reasonable industrial applications include high-performance, highest-resolution and fast inspection of very large 2- and 3-dimensional objects as large documents, posters and paintings, but also embrace container-inspection, surveillance of larger areas and squares, remote sensing from planes, from space...etc.

To meet the imaginations and competences of the camera manufacturer, the sensors are offered in various grade classes and scales of vertical integration, starting from chip-level.

For further information please consult the ANDANTA website under www.andanta.de .

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