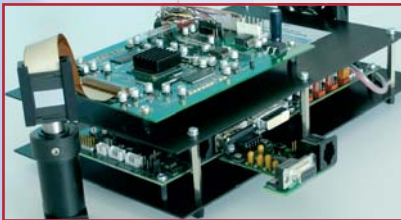


HEO 1080 P

>> Phase Only Modulator



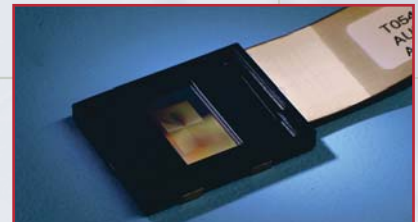
Phase Modulating LCOS Microdisplays

HOLOEYE developed a high resolution, pure phase modulating microdisplay with very small pixels and high light efficiency. Applications range from holographic applications (holographic projection), lithography, optical metrology, interferometry, optical networking applications, holographic security systems, wavefront correction up to optical tweezing, trapping and micro manipulation applications.

HEO 1080 P - Phase Modulator Developer Kit

HOLOEYE has developed the first pure phase modulating devices based on liquid crystal on silicon (LCOS) technology. These phase modulators (<1% depolarisation) provide a resolution of 1920 x 1080 pixels with 8 μm pixel pitch. Currently there are two panel versions available:

- Optimized for 2π phase shift in the visible range up to 800 nm with a broadband AR coating
- Optimized for the near IR region showing a 2π phase shift up to 1064 nm with an AR coating for 1064 nm.



The devices show a reflectivity of approx. 60% and diffraction efficiencies of more than 80%. Thereby a total light efficiency of more than 50% per addressable diffractive device is possible. The driving of the device is as easy as with all HOLOEYE Spatial Light Modulators. A HDTV graphics card is sending HDTV resolution images to the device with a frame rate of 60 Hz. The HEO 1080 P is easily addressed as an external monitor.



Pioneers in Photonic Technology



Applications

- + Phase Shift Applications
- + Holographic Applications
- + Lithography
- + Optical Metrology - Interferometry
- + Optical Networking Applications
- + Holographic Security Systems
- + Wave Front Correction
- + Optical Tweezers

The HEO 1080 P device is controlled by HOLOEYE driver software, which is delivered with the kit that runs on all Windows platforms. This software allows controlling all relevant image parameters and provides very easy gamma control to configure the modulator for different applications. The graphical user interface (GUI) is a comfortable tool to tailor the performance of the device to the desired result. Besides geometry and gamma corrections different sequences can also be addressed to the drive board. In addition, tailored SLM application software allows easy generation of diverse dynamic optical functions like gratings, lenses, axicons and apertures, as well as the calculation of diffractive optical elements (DOE) based on user defined images.

Main Features:

LCOS Microdisplay (Reflective)
 1920 x 1080 Pixel Resolution
 60 Hz Image Frame Rate
 Full Developers Kit (easy to run using a standard PC)
 Microsoft Windows Driver Software
 Application Software

Display Features:

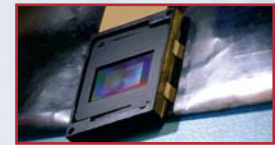
Pixels: 1920 x 1080
 Pixel Pitch: 8.0 μm
 Depolarisation: <1%
 Panel Size: 0,7"
 Addressing: 8 Bit
 Signal Format: DVI - HDTV Resolution

Special Optical Features:

Phase Only Modulation
 2π Phase Shift up to 1064 nm
 Extended Wavelength Range up to 1550 nm

Software Features:

Driver: Brightness / Contrast / Geometry / Gamma Control
 Application: Basic DOE computations; Generation of optical functions (Circular Aperture, Fresnel Zone Lens, Axicon, Single and Double Slit ...); Gratings (incl. Blazed and Sinusoidal)



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