LC-R 1080 is an easy-to-use Spatial Light Modulator system based on a reflective LCoS™ microdisplay designed for prototyping in industrial development and research. It can be used to modulate light spatially in amplitude and phase, where the electro optical modulation function can be modified by a computer using a MS Windows software. The LC-R 1080 supports DVI-signals with a WUXGA/HDTV resolution of 1920 x 1200 pixel. High light efficiency due to the reflective LCoS display and the Brillian high contrast mode guarantee excellent optical performance. Very long flex extensions and the very small display size make integration into optical systems easy.

Due to the high resolution (1920 x 1200 - HDTV-resolution) and the small pixel pitch of 8.1 µm the LC-R 1080 is an allround spatial light modulator. Besides display applications particular laser applications, such as diffractive optics, Bio-photonics and medical laser applications to material processing, where strong laser pulses can be shaped by applied phase modulation are the main applications and challenges for this SLMs.
The LC-R 1080 can be plugged directly to a computer graphics card by the DVI interface. Live addressing with the frame rate of the graphic card and the function as a MS Windows desktop is one reason why this spatial light modulator is so comfortable to use. The device is controlled by a HOLOEYE driver software, which is delivered with the kit, that runs on all Windows platforms. This software gives the opportunity of controlling all relevant image parameters and provides a very easy gamma control to configure the modulator for different applications. Furthermore a tailored SLM application software allows the simple generation of diverse dynamic optical functions like gratings, lenses, axicons and apertures as well as the calculation of diffractive optical elements (DOE) from user defined images. To guarantee the best performance, optical characterization measurements (e.g. phase modulation) for each device are performed by HOLOEYE for each individual device.

### Main Features:
- LCoS Microdisplay (Reflective)
- WUXGA Resolution (1920 x 1200 Pixel)
- 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 1200
- Pixel Pitch: 8.1 µm
- Fill Factor: 90%
- Diagonal Image Array Size: 18.34 mm (WUXGA)
- Addressing: 8 Bit
- Signal Format: DVI - WUXGA Resolution

### Special Optical Features:
- Amplitude or Phase Modulation
- Above $1.2 \pi$ Phase Shift in the Visible
- Intensity Ratio of 2000:1 (@ 633 nm Coherent Light Source)
- High Contrast

### 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 Slt ...); Gratings (incl. Blazed and Sinusoidal)