

EDucation Kit (EDK) – JD955B

The JD955B EDucation Kit (EDK) is an LCoS, SLM-based system that provides in-depth, hands-on optical training via a series of ten experiments. Optics students and engineering professionals will be able to learn optics fundamentals quickly and easily with the EDK. The EDK is built around the 0.55" JD5552 panel and has a 1920 x 1080 pixel resolution. The EDK includes a complete lab manual that covers phase, wavefront, and amplitude modulation, dispersion, holography, diffraction, interference, and additional topics. LabVIEW software with a rich GUI is included to guide the experiments and control the SLM hardware.

The EDK is a compact, flexible training solution designed to easily integrate into modern optical labs and cover a wide variety of key experiments.



Figure 1. EDK SLM hardware views

Main Features

- 8-bit monochrome HDMI 1.4 input for 1080p, 60 Hz
- Phase and amplitude (monochrome experiments)
- LabVIEW-based GUI controls
- Ten experiment lab manual
- Compact hardware package: 95 mm x 65 mm x 20 mm
- Phase retardation of 2π @ 532 nm
- Optional cage system for easy setup
- Optical mount holes aligned to optical center
- Flexible, PC-driven optics lab hardware
- Hands on, dynamic experiments to learn optics fundamentals
- Strong link between theory and lab results enhances student understanding

Specifications	
Display Type	Reflective LCoS
Resolution	1920 x 1080
Active Area Diagonal	0.55"
Active Area	12.5 mm x 7.1 mm
Pixel Pitch	6.4 μm
Readout Light Wavelength	532 nm
Bit Depth	8-bit (256 greyscale)
Input Frame Rate	60 Hz
Phase Retardation	2π @ 532 nm
Input Signal Interface	HDMI 1.4
Power Supply Input	120-240 V AC, 50-60 Hz
Power Supply Output	12 V DC, 2 A
Size* ¹	95 mm x 65 mm x 20 mm
Mounting Taps Options* ²	M6 or 1/4"-20

Table 1: EDK Specifications

*¹ Redesigned compact enclosure from JD9554 that provides better mechanical, electrical, and optical noise control.

*² Choose between Metric or Imperial mounting tap hole sizes when ordering

Software

The included EDK Application software is a LabVIEW-based pattern generator for the experiments in the EDK Manual. Experiment descriptions, system diagrams, and plots provide clear guidance and feedback to the user so that they can better understand their goals and manipulate the equipment. Users can generate diffraction patterns for phase modulation and amplitude gratings for amplitude modulation. Pattern parameters are easily adjustable via a slider bar.

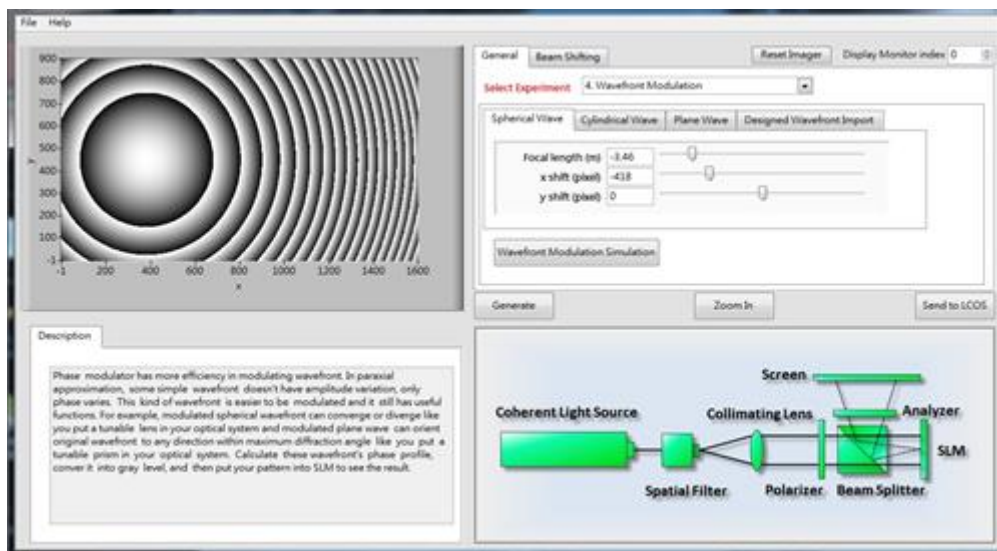


Figure 2. LabVIEW-based EDK Application Software

Optical Experiments

The EDK includes a manual that describes ten in-depth, step-by-step optical experiments targeted at advanced college-level learning and professional development.

The SLM hardware and provided software makes experiment set up and execution quick and easy.

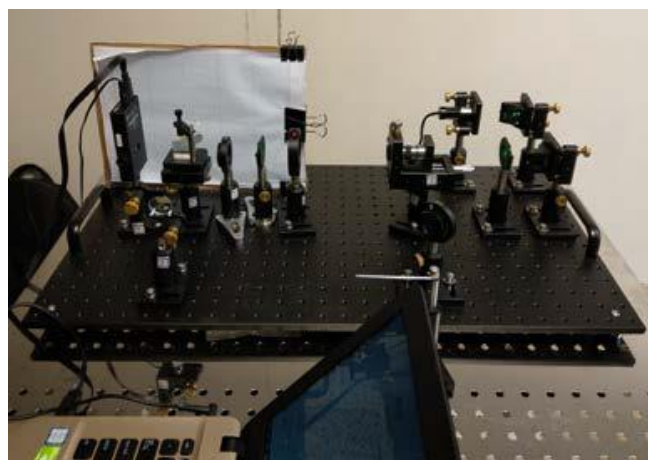
No.	Experiments
1	Pixelated Structure of SLM
2	Amplitude Modulator
3	Phase Modulator
4	Wavefront Modulator
5	Diffraction and Interference
6	Michelson Interferometer
7	Dispersion
8	Signal Processing
9	Talbot Image
10	Phase-shifting Digital Holography

Table 2. : Optical experiments list

Accessory



Optional Cage System



Optional Integrated System