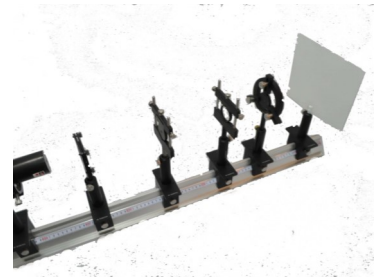


## UO-19 Image Differentiation Experiment

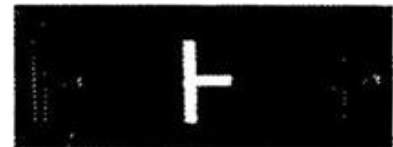
- ✓ Understand principle of optical image differentiation
- ✓ Understand Fourier spatial light filtering
- ✓ Acknowledge structure and principle of 4f optical system
- ✓ Detailed instruction manual



This experiment kit employs an optical correlation method for the spatial differentiation of an optical image, so that the image contour can be outlined with an enhanced contrast. Through this kit, students can get a better understanding of the principles of optical image differentiation, Fourier spatial light filtering, and 4f optical systems

### UO-24 Experiment Kit of Optical Image Differentiation Consists of:

Items	Description	Qty
1	He-Ne Laser 1-2mw	1
2	Beam Expander (f=4.5 mm)	1
3	Rail 100cm	1
4	Carrier	7
5	Lens Holder	3
6	Composite Grating 100 and 102 l/mm	1
7	Plate Holder	1
8	Lens (f=150 mm)	3
9	White Screen	1
10	Laser Holder	1
11	Two-Axis Adjustable Holder	1
12	Small Aperture Screen	1



Differentiation in X-direction



Differentiation of a phase image

Two results of image differentiation