GEOCAL data sheet

Overview

Product name	GEOCAL
Principle	DOE-based geometric calibration of digital cameras

Features

Hardware

Diffractive Optical Element (DOE)	Generates a very evenly distributed point grid of 71x71 points (continued by higher diffraction orders), virtually originating from infinity
Output window	Usable aperture: Ø 77 mm (camera lens needs to have an equal or smaller diameter)
Usable FoV	Approx. 30 – 120° (larger and smaller values need to be tested)
Dimensions (l x w x h)	approx. 575 mm x 144 mm x 170 mm

Illumination (CAUTION: DO NOT LOOK DIRECTLY INTO THE LIGHT SOURCE!)

Light source	Frequency-stabilized diode laser
Wavelength	633 nm
Output power	5 mW
Laser Class (diode only)	3B
Laser Class (GEOCAL)	1M
Lifetime	> 10.000h
Warm-up time	Not required

Software

System requirements	PC with Windows 7 operating system (or higher) USB port
Functions	• Load multiple images • View selected image • Perform calibration • Overlay detected point grid • Distortion visualization (graph) • Export results (CSV and XML)
Output data	Camera intrinsic and extrinsic data, the orientation of DOE
API (C++)	Available as a separate option

General description hardware

Power supply / consumption	25W 5V/5A / Pmax = 2W
Ports	USB type B
Weight	Approx. 4.5 kg
Operating conditions	15 - 35°C

Requirements on the device under test (DUT)

Max. dimensions	Max. diameter of the camera lens: 77 mm
Usable FoV	Approx. 30 – 120° (deviating values will have to be tested)