Deep Focus Module

Extension Software Module for QuickPHOTO Programs for Creating Completely In-focus Images

The Deep Focus is an extension software module for QuickPHOTO programs, that creates completely in-focus images, which due to a limited depth of field of optical microscopes cannot be acquired in a standard way. Completely in-focus images are composed from stacks of images with varying focal plane (partially focused images). Only the well-focused areas are used from each image and the resulting image is composed from them. This technique is called Extended Depth of Field imaging (EDF), z-stacking or focus stacking. The Deep Focus module can be used in conjunction with stereomicroscopes as well as with other types of optical microscopes for observation in transmitted or reflected light. The module is also suitable for macro-imaging. The whole process can be automated using motorized stands or additional focus drives.

Standard Image

Standard image with only the bottom level in focus

Image from Deep Focus module

Completely in-focus image composed by the Deep Focus module

Main Features Overview:

- Excellent image quality without artifacts suitable for publications
- Fast image processing
- Manual or automated use
- Suitable for all microscope types and for macro-imaging
- Automatic shift and scale changes compensation
- Option to combine with HDR module for creating completely in-focus HDR images

Automation of the Acquisition Process:

The process of creating completely in-focus images can be automated using an optional focus drive or a motorized stand. Deep Focus module supports following motorized devices:

- PROMICRA PRO-SZM1 focus drive for stereomicroscopes
- PROMICRA PRO-MLS motorized stand for stereomicroscopes
- PRIOR H122/PS3H122 focus drives
- Märzhäuser Wetzlar MFD/MFD-2 focus drives

Examples of Composed Images:

Minimal System Requirements:

- QuickPHOTO CAMERA, QuickPHOTO MICRO or QuickPHOTO INDUSTRIAL program in version 3.1 or higher
- Computer with the following minimal parameters:

Processor	Operating Memory	Operating System
Dual-core processor	2 GB	Microsoft® Windows® 7/8.1/10 (32 bit / 64bit)

Microsoft®, Windows® are registered trademarks of Microsoft Corp.