Leica Application Suite

System Requirements V3.1.0

Abstract

This document describes the microscopes, cameras and accessories that are supported by this version of LAS and defines the computer system requirements. You should read this document before installing your copy of this software. This document also acts as a supplement to the User Guide that is on the LAS CD.

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1 Supported Microscopes, Cameras and Accessories

The following Leica microscopes and digital cameras are supported.

For **LAS Power Mosaic**, please see Section 3 for supported equipment.

DM Microscopes

DM1000, 2000, 2500, 3000, 4000 B/M, 4500 B, 4500 P, 5000 B, 5500 B, 6000 B/M

DMI4000 B, 5000 M and 6000 B

FSC

CTR 4000-6500

Accessories for DM

Scanning stages

External light source EL6000

External filter wheels

TIRF module

Motorized duo documentation tube

Stereo- and Macroscopes

New M205FA, fully motorized fluorescence stereomicroscope with 20.5:1 zoom range

New M165FC, manual fluorescence stereomicroscope with coded filter wheel, zoom and iris and 16.5:1 zoom range

New M125, manual stereomicroscope with 12.5:1 zoom range

New MST 51 motor focus

New FluoCombi™ attachment for fluorescence stereomicroscope with coded objective positions

New Fluorescence objective revolver with coded objective positions

Coded Stereo Zooms M165C and M205C

LED illumination LED5000 MCI and LED5000 RL-80/48

USB interface at new manual focus drive coarse/fine

MST 31 (Motor focus)

MZ 16A and MZ 16FA

Z 6 APOA and Z 16 APOA

IsoPro™ motorized XY stage

Configuration of new footswitch

Configuration of UMC

MZ 16F

MZ 16

MZ 12.5

MZ10 F

MZ 9.5

MZ 7.5

MZ 6

MS 5

S6D

S8 APO

Z6 APO

Z16 APO

EZ4 D (NOT Windows Vista)

MacrofluoTM

Fluocombi / Revolving nosepiece

New firmware for TL RCI base and UMC

Support by USB for TL RCI and IsoPro™ motorized XY stage

Support for USB / RS 232 serial adapter (Art. No. 11532295)

Transmitted light base for Stereo Microscopes TL RCITM

External light sources (Photonic CLS 150XD, CLS 150LS, Schott KL 2005 LCD, EL6000)

Acquisition and control devices

Support for Windows XP and Windows Vista

Leica DFC Cameras from Leica DFC280-DFC500, but excluding Leica DFC300, DFC300F, DFC350F. Leica IC D and IC 3D are also supported.

NOT Supported

LAS does not support the following:

Leica DC Cameras including (NOT Windows Vista) Leica DC180, DC300-480, DC500.

Matrox Meteor 2 frame grabber (NOT Windows Vista).

Leica EC3, DFC300, DFC300F, DFC350F, DC100, 200, 250 or DC150 cameras

2 Computer System Requirements

The recommended PC specification is described below. Lower specifications may limit the performance and some features of LAS.

If using LAS with Windows Vista, a suitable Windows experience index is 3.5 or higher.

Processor

Intel Core-duo with nominal CPU clock > 2GHz or Intel Pentium 4 32-bit (x86) Processor with nominal CPU clock of > 3.0GHz and including:

2MbL2 cache
800 Mhz FSB

1 GB (2GB for Vista) or higher of system RAM installed – type DDR2-SDRAM.

Hard Drive: 80GB or higher, SATA 7200 rpm, 8MB cache, NTFS

Display and Graphics - 19″ or greater size monitor set to screen resolution of 1920 x 1200 or 1600 x 1200 or 1280 × 1024

Graphics card minimum values:

128Mb Ram minimum
128-bit memory bus width
32 bits operation
Support Direct X Version 9c or Direct X Version 10 for Windows Vista.
PCI Express

The recommended minimum graphics adaptors are the Radeon X600 or X800 series graphics adaptors using the PCI Express bus or later models.

‘Integrated’ graphics cards may have reduced performance and are not recommended.

Please ensure that the manufacturer’s latest drivers are installed, particularly for use with the LAS Montage and LAS MultiTime – Movie modules.

Interfaces

A powered 1394a 6-pin FireWire OHCI port is required for use with Leica DFC cameras (for non-powered 4-pin (iLink) or 6-pin FireWire ports the Laptop power kit 1270039 or 12700180 is needed).

Please note that FireWire interfaces must be 1394a (not 1394) to work with DFC cameras without impairing performance. 1394b interfaces have some non-Leica driver issues and should be tested before use.

One or two serial interface ports and USB2 interface ports are needed for the microscope and other external device control.

Operating System

Windows Vista Business or Windows XP Professional Edition with service pack 2 is required. Installation is to be as an Administrator. Normal operation of LAS is determined by the User Account – see below. Must be 32-bit versions.

LAS requires multi-lingual support for Chinese, Japanese etc.

Note that a back-up device and a back-up strategy for images and database is essential. The user must ensure that regular and reliable back up of important files is performed.

LAS does NOT support Win2000.

Other

Keyboard and Mouse with wheel.

CD-ROM compatible drive is required to install the LAS software.

400W PSU if all options are installed.

Full-height card slots for optional interface boards e.g. Oasis. The slot next to the Oasis board needs to be free or at least the next board must have low profile components.

This product requires approximately 450 Mbytes of disk space for a full installation and an additional free space of 10Gbytes for efficient operation. Further space is required for data and image storage, which depends on the application and frequency of use. The free space must be checked regularly.

Notebook Recommendations

Notebooks and Laptops are normally designed for power saving rather than performance and so it is necessary to be careful in identifying suitable configurations. The true ‘desktop replacements’ that use desktop components in a movable but very heavy box, should be compared with the Desktop specification above.

Cannot be used with LAS Power Mosaic due to need for Oasis board.

Otherwise the recommended processor is the Pentium M with speed greater than 1.6GHz. Because Notebook configured processors use a slower memory bus and slower hard-drives, the overall performance is not as good as the Desktop equivalents.

The smaller screen size of Laptops may not be comfortable for use with high-resolution images. Make sure that the vertical resolution is at least 1k because many Notebooks have lower vertical resolution that limits the image size and panel display.

Most important of all for Notebooks is to ensure that the display does not use in ‘integrated’ graphics controller. This will severely restrict live image performance. A Radeon x300, also known as FireGL V3100, is a suitable option – not quite up to Desktop performance but acceptable.

LAS Power Mosaic Supported Components

Summary

12 730 181	LAS Power Mosaic
12 730 182	LAS Power Mosaic Plus
12 730 193	Oasis-blue XYZ kit for Power Mosaic
12 730 194	Upgrade kit for Oasis-4i XYZ for Power Mosaic
12 730 195	Oasis-blue Encoder kit for Power Mosaic
12 730 196	Märzhäuser Scanning Stage, 130x85mm, 2mm with Encoders
12 730 197	Märzhäuser Scanning Stage, 130x85mm, 2mm
12 730 198	Stage insert for one slide for SCAN 130 x 85
12 730 199	Stage insert for four slides for SCAN 130 x 85
10 450 219	Oasis-blue XY kit for Power Mosaic and IsoPro stage
10 450 218	IsoPro 6x4" motorized XY-stage V2

Note – LAS Power Mosaic does not support motorised focus with Stereomicroscopes.

PC Requirements

Due to the large image data handled by Power Mosaic, a very fast PC is required with 2Gb RAM. The hard-drive must be very fast and large.

Microscopes supported

DM 5500 B, 6000 B/M

DM 4000 M - With addition of external focus motor

Generic microscopes with motor stage and motor focus

In combination with IsoPro™ stage - Macroscope (Z16APOA, Z6APOA, Z16APO, Z16APO) or any Leica current stereomicroscope with an AX carrier.

DFC Cameras Supported by Power Mosaic

Turboscan and standard scan mode

DFC400, DFC300FX, DFC340FX, DFC350FX - Require trigger cable included with Oasis-blue kit

Standard scan only

DFC290, DFC420 - Do not use trigger cable.

Oasis-Blue Power Mosaic Kit

10 450 219 Oasis-blue XY kit for Power Mosaic and IsoPro stage is required for use with the Leica IsoPro V2 stage.

12 730 193 Oasis-blue Controller board and Cable Kit includes:

XY Cable with Märzhäuser Round Connectors

Z axis and DFC Trigger Cable split cable

Smart Move or Joystick I/F Cable

MIC Box Pass-Thru (cable / ribbon cable / plate)

Focus adapter for Märzhäuser /DM6000/ Prior focus drive

Motorized Stage with Stepper Motors

Märzhäuser scan series for DM4-6K not for DMI

12 730 196 Märzhäuser Scanning Stage, 100x80mm, 2mm with Encoders

Requires 12 730 195 Oasis-blue Encoder kit for Power Mosaic

12 730 197 Märzhäuser Scanning Stage, 100x80mm, 2mm

At least one stage insert is also required:

12 730 198 Stage insert for one slide for SCAN 130 x 85

12 730 199 Stage insert for four slides for SCAN 130 x 85

The Smart Move controls the stage and focus - the focus knob on the stand is disabled.

11 505 180 Smart Move for DM/DMI Series

10 450 218 IsoPro 6x4" motorized xy-stage V2 – note this stage is the new V2 stage that includes encoders.

Motorized Focus

DM5500-6000 use internal focus motor

Driven by Oasis using CTRMIC control cable with Z breakout.

DM4000 use external Märzhäuser focus drive

Included with 11 101 938 DM4000 M stand

Encoder Option

12 730 195 Oasis-blue Encoder kit for Power Mosaic

Used where best accuracy is required with high-mag objectives

Daughter board that fits on the Oasis-Blue board

Modified XY Cable for Encoder Inputs

Requires 12 730 196 Märzhäuser Scanning Stage, 100x80mm, 2mm with Encoders

OASIS-4i Upgrade Kit

Enables customers with previous generation Oasis boards to upgrade

Assumes that the microscopes and stage control is already functioning

12 730 194 Kit includes

OASIS-DC1 daughter board

DFC Camera Trigger Cable

Does not include Smart Move kit.

Note – Oasis-4i will require a license code to be supplied

4 Factors that may reduce performance

The following is a non-exclusive list of PC components that may degrade performance of LAS. It is strongly recommended that the performance of LAS with a specific PC is tested to be acceptable before committing to its use.

LAS is for Windows-PC based computers only and is not available for Apple Mac computers.

Integrated graphics, AGP graphics, graphics that share CPU memory, using a mobile graphic device

Display on dual monitors

Use of displays with less than 1024 vertical resolution

Less than 400 Mbytes free RAM before LAS starts. (700Mbyte is required for LAS MultiFocus and LAS MultiStep, 1Gb for LAS Power Mosaic)

Other programs running at the same time as LAS

Using a Celeron processor or any processor other than the recommended Pentium or Core-duo range

Using Althlon processors

Using any power saving on the system

Using ‘sleep’ mode ‘hibernation’, auto power down modes

Windows versions other than those recommended

Personally constructed PCs or operating systems

An environment that is an upgrade of the original manufacture-installed operating system

Multi-boot environments

Shadow or Animated cursors and UI graphics.

There is no expectation that the use of hyper threading, dual-core processors etc will give a performance gain.

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