

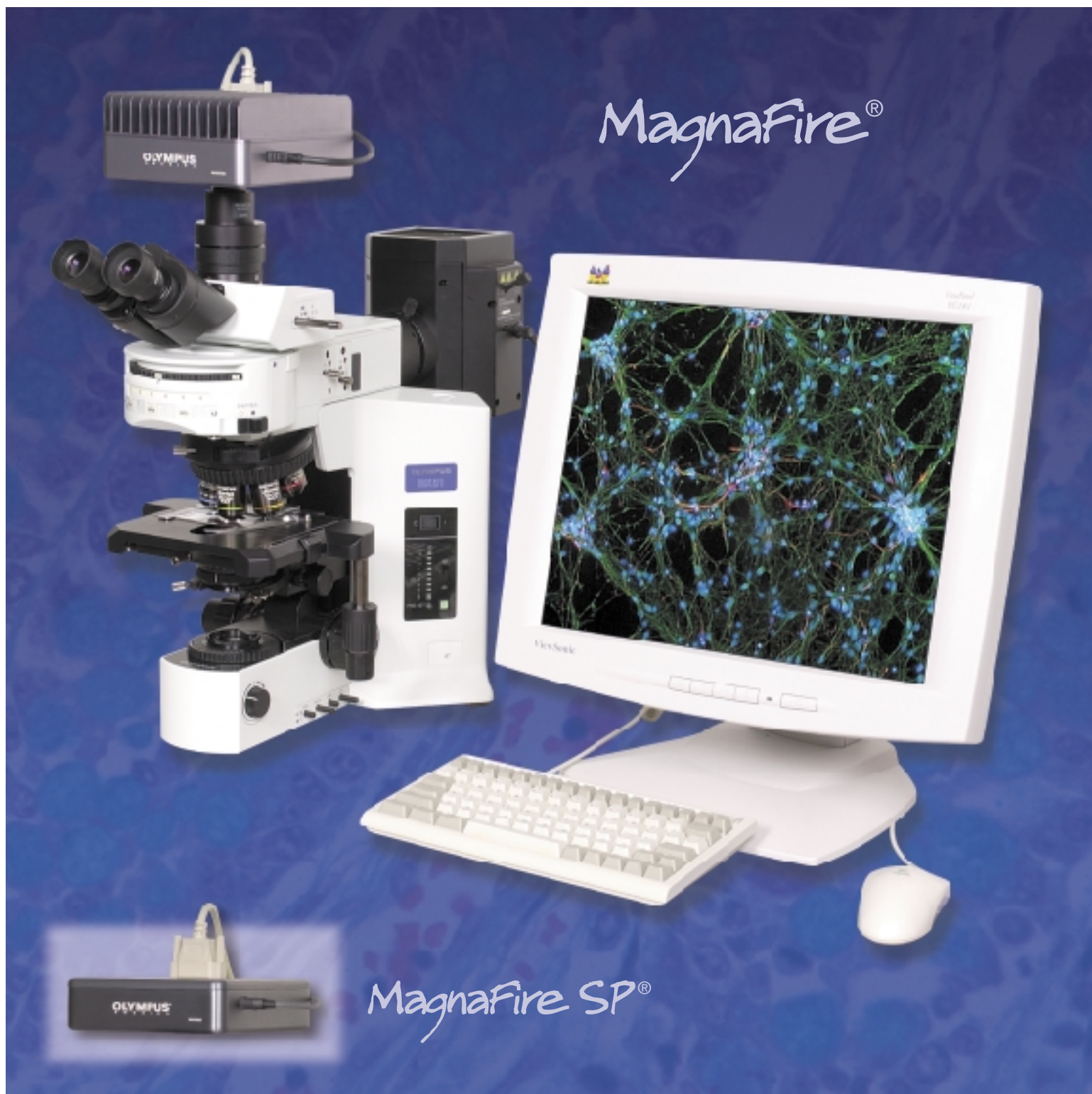
OLYMPUS®

Olympus is about life. About photographic innovations that capture precious moments of life. About advanced medical technology that saves lives. About information and industry-related products that make possible a better living. About adding to the richness and quality of life for everyone. Olympus. Quality products with a **FOCUS ON LIFE**

MagnaFire® and MagnaFire SP®

Biomedical Research Cameras

High Resolution Digital Microscopy Made Easy



MagnaFire®

Features:

- ▶ **Full resolution**, real time focusing and framing via a Firewire™ interface.
- ▶ **Live mode** features 10-24 images per second for rapid refresh rate and ease of focus.
- ▶ Focusing window includes **Auto White Balance, Auto Exposure and Camera Controls**.
- ▶ Live window features precise frame timing ensuring a **flicker free image** even at short exposures.
- ▶ **6-position filter wheel** with red, green, blue, IR-cut and open positions permit a wide spectrum of imaging from UV to IR.
- ▶ **Dichromatic, non-polarizing color filters** allows MagnaFire's sensitivity to be at least 12 times greater than cameras using liquid crystal color filter technology.
- ▶ **Firewire™ interface permits use with laptops** (PCMCIA IEEE 1394 OHCI compliant card required).
- ▶ **Turbo™ Gain Control** reduces exposure duration; eliminates the requirement for binning while maintaining full image resolution at a wide range of exposures.
- ▶ **Real time image processing** within the live window includes: brightness, intensity detect, contrast, histogram equalize, stretch intensity, manual exposure and Turbo™ gain control.
- ▶ **Color Merge** permits individual, user-selectable, image file overlays for imaging with external cubes, filters, and custom mono-, bi-, and tri-chromatic imaging.
- ▶ **Peltier cooling system** combined with a passive radiator maintains the CCD at -40°C ambient, reducing dark current noise and increasing sensitivity for low light level imaging.

Included Software:

- **Lucis™ DHP**; unique contrast enhancement software.
- **Image Pro Express™**; provides full camera control, image acquisition and processing with database archiving.
- **MagnaFire®**; provides camera control and image acquisition.



MagnaFire SP[®]

Features:

- ▶ **Full resolution**, real time focusing and framing via a Firewire[™] interface.
- ▶ Full color, high resolution images with a **single exposure**.
- ▶ **Automatic “Live” mode**, via Firewire[™], with Auto White Balance, Auto Exposure. (Speed depending on processor used)
- ▶ Live window features precise frame timing ensuring a **flicker free image** even at short exposures.
- ▶ **Single CCD** matrix color sensor produces full color live preview.
- ▶ **Firewire[™] interface permits use with laptops** (PCMCIA IEEE 1394 OHCI compliant card required).
- ▶ **Turbo[™] Gain Control** reduces exposure duration; eliminates the requirement for binning while maintaining full image resolution at a wide range of exposures.
- ▶ **Real time image processing** includes: brightness, intensity detect, contrast, histogram equalize, stretch intensity, manual exposure, Turbo[™] gain control.
- ▶ **Color Merge** permits individual, user-selectable, image file overlays for imaging with external cubes, filters, and custom mono-, bi-, or tri-chromatic imaging.
- ▶ **Exposure times** from 0.00017 sec to over 10 minutes

Included Software:

- **Lucis[™] DHP**; unique contrast enhancement software.
- **Image Pro Express[™]**; provides full camera control, image acquisition and processing with database archiving.
- **MagnaFire[®]**; provides camera control and image acquisition.

MagnaFire SP



MagnaFire™ Specifications

MagnaFire Camera Description	Megapixel imaging camera system designed for scientific imaging applications Compatible with Olympus MicroSuite Software
Camera Physical Dimensions	166mm high, 166mm wide, 76mm deep; weight: 1.6kg
Camera Operating Environment	Operating temperature +5°C to +35°C Storage temperature -10°C to +60°C Humidity 0 to 80% relative non-condensing Shock and vibration: as per ISTA guidelines
Camera Power Supply	Power supply dimensions: 213mm long, 155mm wide, 64mm tall; weight: 1.7kg Line voltage: 100 - 240V~, 50/60Hz, 33VA; 250mA max current Fuse type: 5 x 20mm, 400mA, SB, IEC 127
Regulatory Compliance	UL/CSA, CE Laboratory Rated
Image Sensor	Sony ICX085AL Interline Transfer CCD, 2/3", 1300 x 1030 x 6.7µ square pixels
Image Size	1280 x 1024 pixels
Dynamic Range	60dB
Signal to Noise Ratio	60dB
Color Image Formation	Multi-exposure via 6-position filter wheel with multiple dichroic optical glass color filters. Filters include red, green, blue, IR cut, clear, black
Filter Optical Performance	Transmission: <i>greater than</i> 80% at peak wavelength
File Bit Depth	24, 32, 48 bit color: 8 or 16 bit monochrome
Live Image Display Rate	10 images/sec monochrome; 1280 x 1024 resolution
Computer Interface	IEEE 1394 FireWire™, 400 megabits/sec (Apple™ Computer)
Bright Field Image Capture Time	Full field, full resolution color: <i>less than</i> 4.0 sec. Full field, full resolution monochrome: <i>less than</i> 5.0 sec.
CCD Cooling	Sealed gas, Peltier cooled to 40°C below ambient; no desiccant
Chassis Cooling	Passive fin radiator
Dark Current	4 electrons/pixel/second @ 0°C nominal
Read Noise	16 electrons/pixel
Well Depth	16,000 electrons
Exposure Control	Full automatic, manual override 0.00017 sec to 1560.0 sec/color in normal mode 0.00017 sec to 120.0 sec/color in Turbo™ mode Manual settings at 1/16 stop intervals
Camera Shutter	Electronic, software controlled
Optical Interface	Industry standard C-mount (17.5mm backfocus). No relay lens optics required
Camera Control and Display Software	Windows™ 98 (Second Edition), Windows™ 2000. Macintosh™ OS 8.6 or later Microsoft™ Corporation, Apple™ Computer
Included Software	<ul style="list-style-type: none">• Lucis™ DHP; unique contrast enhancement software• Image Pro Express™; provides full camera control, image acquisition and processing with database archiving• MagnaFire®; provides camera control and image acquisition

MagnaFire SP™ Specifications

MagnaFire Camera Description	Megapixel color imaging camera system designed for scientific microscope imaging applications Compatible with Olympus MicroSuite Software
Camera Physical Dimensions	47mm high, 166mm wide, 166mm deep; weight: 1.5kg
Camera Operating Environment	Operating temperature +5°C to +35°C Storage temperature -10°C to +60°C Humidity 0 to 80% relative non-condensing Shock and vibration: as per ISTA guidelines
Camera Power Supply	Power supply dimensions: 213mm long, 155mm wide, 64mm tall; weight: 1.7kg Line voltage: 100 - 240V~, 50/60Hz, 33VA; 250mA max current Fuse type: 5 x 20mm, 400mA, SB, IEC 127
Regulatory Compliance	UL/CSA, CE Laboratory Rated
Image Sensor	Sony ICX085AK Color Interline Transfer CCD, 2/3", 1300 x 1030 x 6.7µ square pixels
Image Size	1280 x 1024 pixels
Dynamic Range	60dB
Signal to Noise Ratio	60dB
Color Image Formation	Single pass matrix color filter
File Bit Depth	24, 32, 48 bit color: 8 or 16 bit monochrome
Live Image Display Rate	10 images/sec color; 1280 x 1024 resolution, full color
Computer Interface	IEEE 1394 FireWire™, 400 megabits/sec (Apple™ Computer)
Bright Field Image Capture Time	Full field, full resolution color: <i>less than</i> 2.0 sec.
Read Noise	16 electrons/pixel
Well Depth	16,000 electrons
Exposure Control	Full automatic, manual override 0.00017 sec to 10+ min./color in normal mode 0.00017 sec to 1 min./color in Turbo™ mode Manual settings at 1/16 stop intervals
Camera Shutter	Electronic, software controlled
Optical Interface	Industry standard C-mount (17.5mm backfocus). No relay lens optics required
Camera Control and Display Software	Windows™ 98 (Second Edition), Windows™ 2000
Included Software	<ul style="list-style-type: none">• Lucis™ DHP; unique contrast enhancement software• Image Pro Express™; provides full camera control, image acquisition and processing with database archiving• MagnaFire®; provides camera control and image acquisition



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Specifications subject to change without notice.