

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**

MOTORIZED SYSTEM
MICROSCOPE

BX51/BX61

BX2 SERIES

Leading the way in automated microscopy

UIS
UNIVERSAL
INFINITY SYSTEM



Top-quality optics and motorized control: BX51/61, the new platform for automated system solutions

Olympus has developed important new refinements in microscope design and operation. A full range of motorized modules can be combined as the user requires, giving a level of performance that is more functional, more versatile and more adaptable to the needs of advanced applications.

- Acquisition of multi-labeled fluorescence images
- Telemicroscopy
- GFP imaging
- Automatic capturing of time lapse images
- Confocal microscopy
- Routine screening

Motorized options for each system :

- Nosepiece
- Condenser
- Reflected light illuminator
- Filter wheels



BX51 plus motorized units

The BX51's research frame functionality is expandable through addition of motorized components. Selective addition of only the desired accessories allows maximum flexibility for automated imaging solutions.



BX61 including motorized Z-drive

The BX61 with its internal motorized Z-drive is the optimal platform for comprehensive automated microscopy systems. The 0.01 μ m resolution focus motor is complemented by 8 programmable frame buttons for flexible and ergonomic control of motorized functions.

BX51/61 motorized solutions: flexible, fast, reliable and precise

- *Completely modular*
- *Upgradable*
- *Easy system integration*
- *Improves productivity*

Reflected light illuminator/BX-RFAA

Up to 6 fluorescence mirror units can be attached simultaneously. Mirror units can be exchanged automatically with corresponding shutter adjustment.



Motorized revolving nosepiece/U-D6REM

Motorized sextuple revolving nosepiece with slider slot for Nomarski DIC.



Motorized universal condenser/U-UCD8A

8 position universal condenser. Different combinations of designated optical components allow correspondence with various kinds of transmitted light observation. Automatic control of optical component exchange, top lens swing out and aperture iris diaphragm.



Light adjustment buttons :
Right side : voltage up/down
Left side : lamp on/off and preset



• **Filter wheels /U-FWR, U-FWO and U-FWT**
Motorized exchange of 6 filters. 3 kinds of filters can be attached simultaneously: U-FWR (ø32,25) for excitation, U-FWO (ø32,25) for absorption and U-FWT(ø 32) for transmitted light.



• **Transmitted/reflected light changeover switch**



• **Stage adjustment buttons :**
Right side : stage up/down
Left side : fine/coarse and stage escape



(for BX61 only)

Control box/BX-UCB

Motorized modules attached to the microscope are controlled via this control box, which is linked to the computer via an RS232C connector. Two optional board slots are available for auto focus control and digital input/output.



Hand switch/U-HSTR2

Hand set used to control the microscope while conducting visual observations. The following functions can be controlled from the operator's hand:

- Revolving nosepiece operation
- Control of condenser top lens
- Shutter for reflected light fluorescence observation
- Direct choice of fluorescence mirror unit



- Rotation of condenser
- Control of aperture iris diaphragm

Motorized system for automatic capture of confocal images

Advanced digital imaging

Imaging Systems

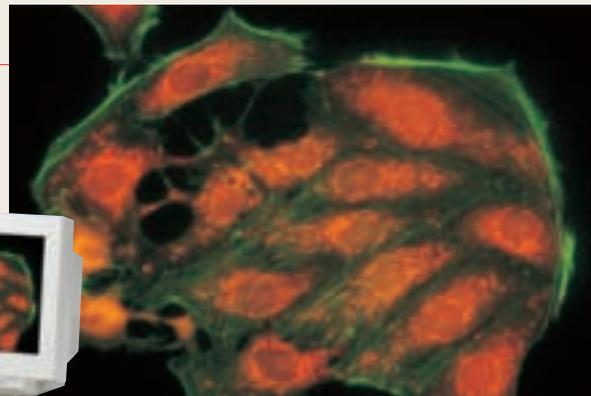
High performance systems to capture multi-labelled fluorescence images

Computer control of the microscope makes it possible to record time lapse image data of living cells.

Telemicroscopy can be performed by means of remote PC control.



BX61+Cooled-CCD



LSM

Laser Scanning Microscope system

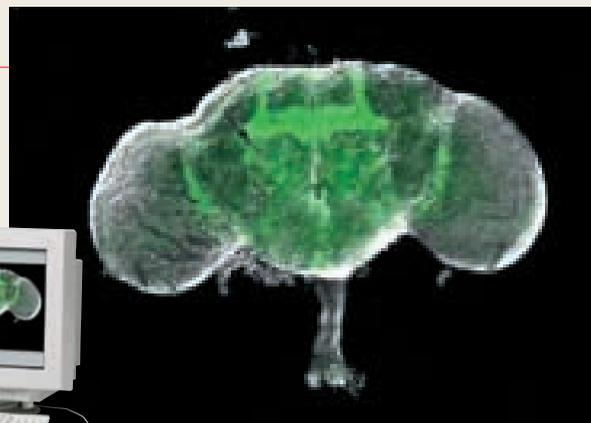
Motorized system for automatic capture of confocal images

Combining with the Olympus Fluoview makes it possible to upgrade the system to a confocal laser scanning microscope.

With the FV500, the system becomes fully automatic, with the capability to capture a maximum of 5 channel images simultaneously.



BX61+FV500



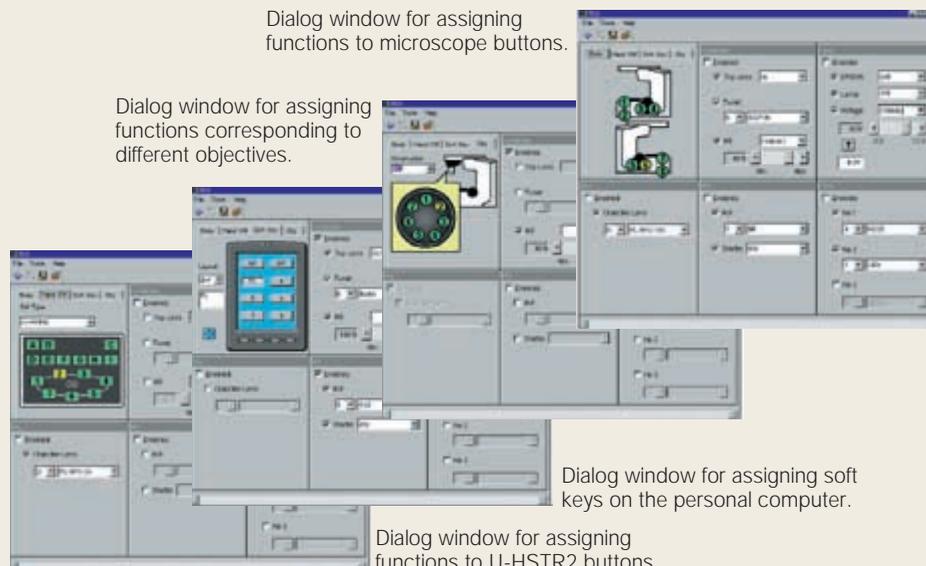
GFP-labeling of *Drosophila* adult brain with staining of mushroom bodies
Tokyo Metropolitan University, Science Dept.
Cytogenetics
Assistant Prof. Aigaki

Using control software to macro-program; a range of microscopy operations

This system makes it easy to set up specific optical adjustments associated with a particular observation method, including light levels corresponding to the objective magnification and attachment/detachment of optical components. Using special control software, it is also simple to macro-program a set of complex procedures such as recording a succession of multi-labelled specimen images. Program command is performed by one-touch operation of buttons (there are 8 buttons for focusing, light adjustments and presetting) on the microscope body or hand switch, or via designated computer keys.

Dialog window for assigning functions to microscope buttons.

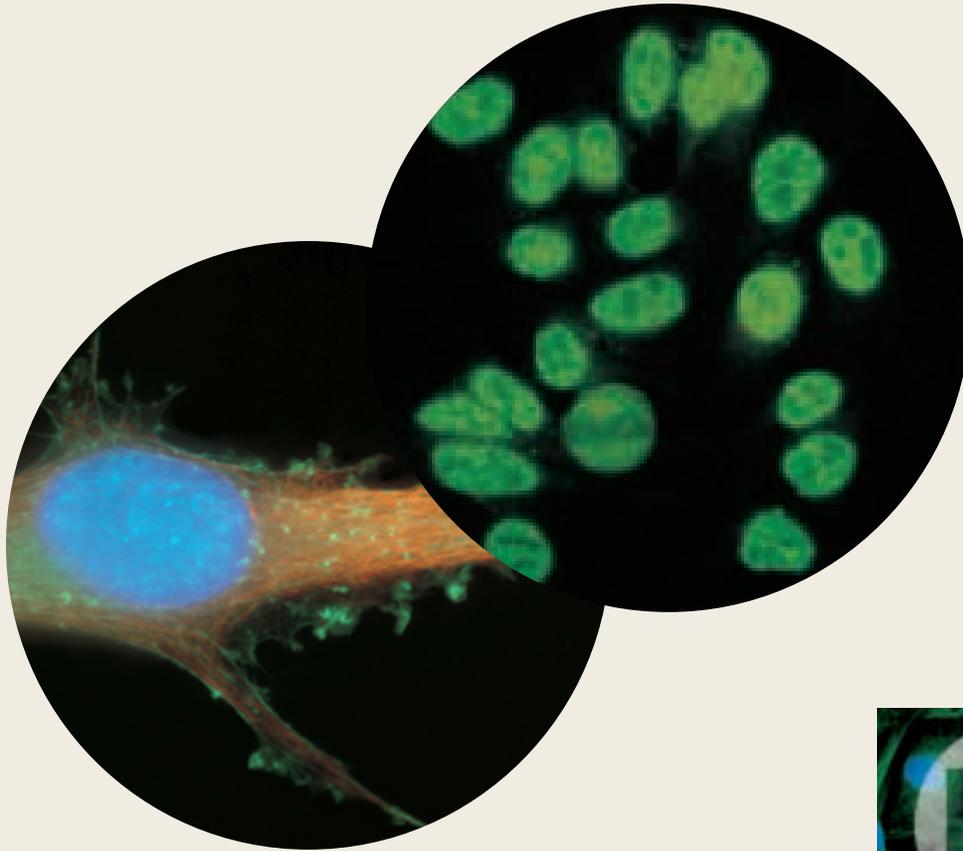
Dialog window for assigning functions corresponding to different objectives.



Dialog window for assigning soft keys on the personal computer.

Dialog window for assigning functions to U-HSTR2 buttons.

Further improvements to Olympus' renowned fluorescence and Nomarski DIC observation capability

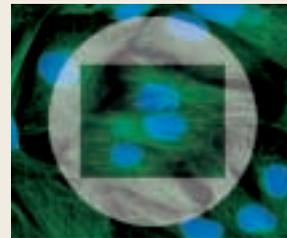


New steps forward in fluorescence performance

Already renowned in the field, Olympus has now taken fluorescence performance even further ahead, using an aspheric collector lens in the lamp housing to improve light collection and achromatic performance up to near infrared conditions. The lens covers a wide wavelength range and results in fluorescence images almost twice as bright as conventional ones even under very low magnifications.

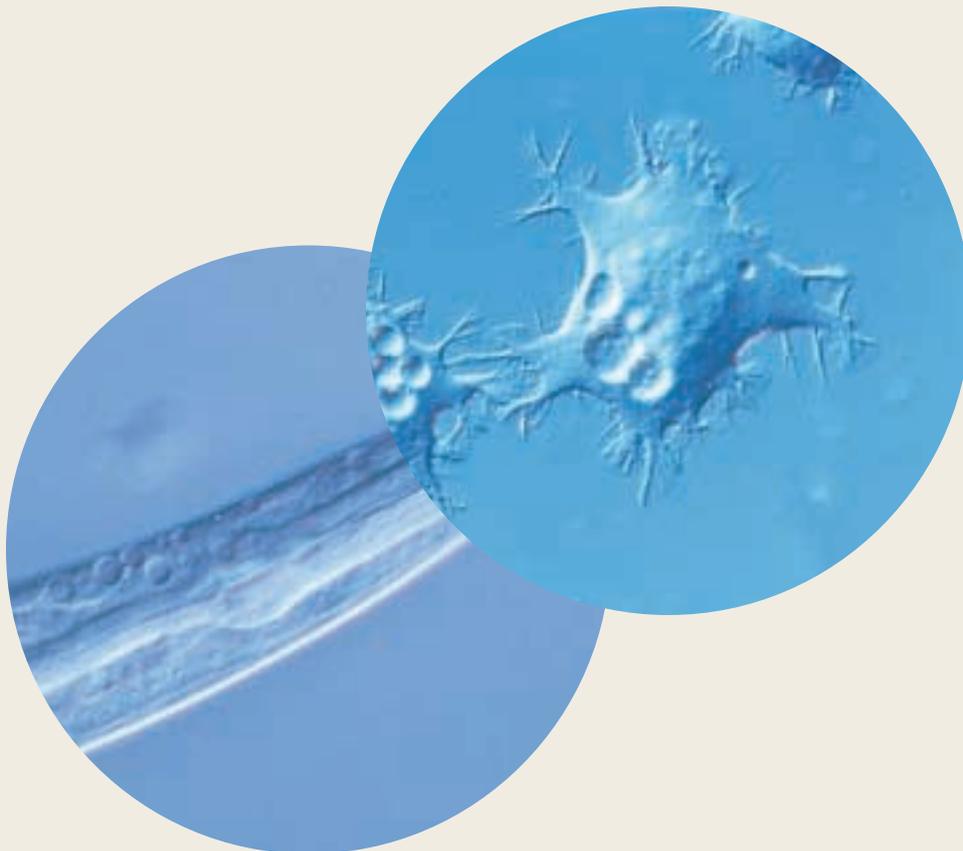
Rectangular field stop for digital imaging

The BX-RFA/BX-RFAA's standard field stop can be removed and replaced by a rectangular field stop (BX-RFSS), allowing excitation light to illuminate a rectangular space, i.e. the same shape used for capturing CCD images. This makes it



possible to observe and record electronic images with no fading at the outside of the visual field.

Unnecessary exposure area caused by a round field stop



Optimum visibility for all specimens from DIC prism combinations

The Olympus Nomarski DIC system includes a choice of prism combinations to choose for each imaging task. The general-purpose prism sets are supplemented with special purpose sets, addressing the demands for the highest resolution or highest contrast under specific magnification and specimen conditions.

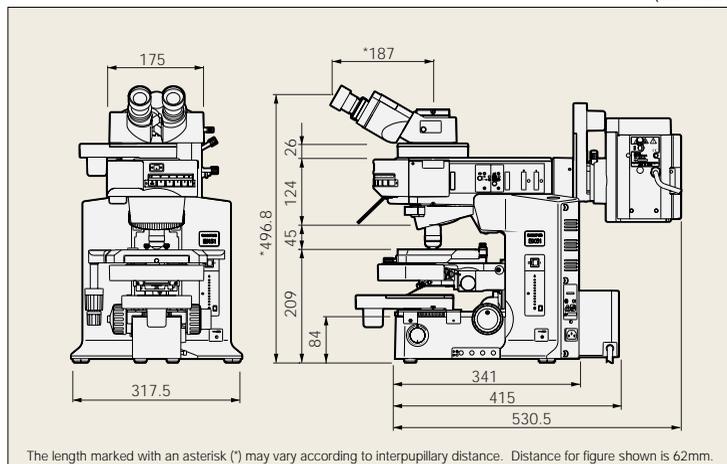
BX51/61 specifications

		BX51	BX61
Microscope frame	Optical system	UIS optical system	
	Focus	Vertical stage movement: 25mm Stage stroke with coarse adjustment limit stopper Torque adjustment for coarse adjustment knobs Stage mounting position variable High sensitivity fine focusing knob (minimum adjustment gradations: 1µm)	Motorized focus/vertical stage movement: 14mm, 0.01µm increments, maximum speed: 3mm/s, coarse/fine changeover button, stage shunting button and stage up/down button
	Illuminator	Built-in Koehler illumination for transmitted light 12V100W halogen bulb Light intensity LED indicator Built-in filters (LBD-IF, ND6, ND25, option)	Light preset switch
Revolving nosepiece		Interchangeable reversed quintuple/sextuple/septuple nosepiece Motorized sextuple revolving nosepiece with slider slot for DIC Septuple revolving nosepiece for DIC/simple POL	
Observation tube	Widefield (F.N. 22)	<ul style="list-style-type: none"> Widefield binocular, inclined 30° Widefield tilting binocular, inclined 5°-35° Widefield trinocular, inclined 30° Widefield tilting/telescoping binocular, inclined 0°-25°, telescoping 0-45mm 	
	Super widefield (F.N. 26.5)	Super widefield trinocular, inclined 24°	
Stage		Ceramic-coated coaxial stage with left or right hand low drive control: with rotating mechanism and torque adjustment mechanism, optional rubber grips available (Non stick grooved coaxial, plain, rotatable stages are also available)	
Condenser		<ul style="list-style-type: none"> Abbe (N.A. 1.1), for 4x—100x Swing out Achromatic (N.A. 0.9), for 1.25x—100x (swing-out: 1.25x—4x) Achromatic Aplanatic (N.A. 1.4), for 10x—100x Universal (N.A. 1.4/0.9), for 2x—100x (swing-out: 2x—4x, with oil top lens: 20x—100x) 	
Motorized fluorescence illuminator *3		Motorized reflected fluorescence, 6-position mirror turret unit, motorized shutter changeover speed: shutter speed: 0.1 s	
Motorized universal condenser *3		8-position with motorized AS, turret and top lens swing out mechanism (N.A. 1.4—0.9), for 1.25x*12—100x	
Motorized transmitted filter wheel *3		To be mounted on light exit, 6 positions, ø32, filter thickness: up to 6mm	
Motorized reflected filter wheel *3		To be mounted between the lamphouse and the frame, 6 positions, ø25/ø32, filter thickness: up to 6mm	
Motorized observation filter wheel *3		To be mounted between the frame and the observation tube, 6 positions, ø25/ø32, filter thickness: up to 6mm	
Hand switch *3		Control of septuple revolving nosepiece, 6-position mirror turret illumination unit and 8-position condenser	
Control box *3		Serial interface RS232C, built-in transmitted/reflected halogen power supply	

*1 Slight vignetting may occur in the periphery of the field due to the top lens. This occurs in observation only. *2 U-FWCO 1.25x should be mounted on U-FWT *3 Optional

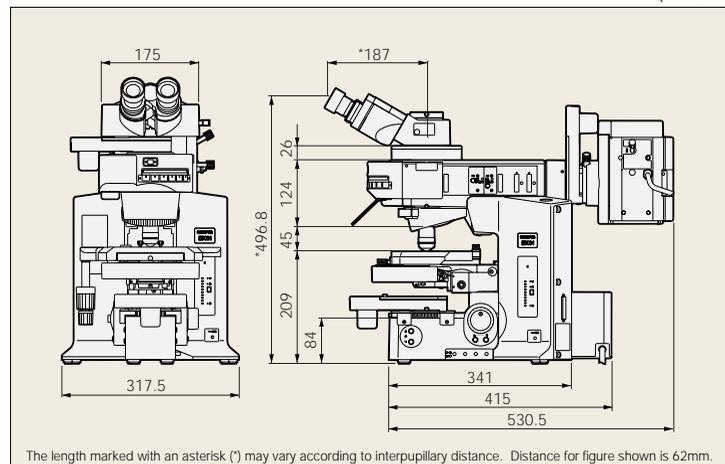
BX51+motorized unit dimensions

(unit: mm)



BX61+motorized unit dimensions

(unit: mm)

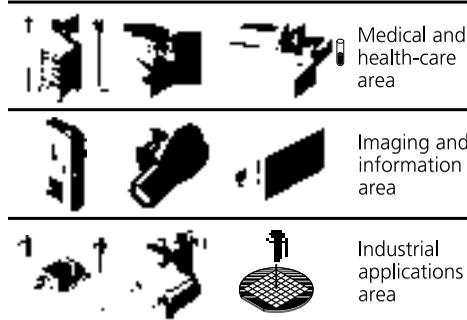


Web site address: <http://www.olympus.com>



Specifications are subject to change without any obligation on the part of the manufacturer.

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