A new era of microscopy: “Shuttle style.”

Digital Microscope ShuttlePix P-400R
ShuttlePix, a revolutionary portable digital microscope

**ShuttlePix HEAD**

- Cordless setup enabling image capture in the lab or in the field (Battery-powered with built-in illumination and SD card slot)
- Digital camera-like ease of use
- 20x optical zoom spans low to high magnification (Magnification range of 20x to 400x*)
- 0.2 NA (Optical Lens Numerical Aperture) achieves high-resolution image capture

* on dedicated 17” Touch Panel Monitor

**Suitable for capturing images of large and heavy samples**

- Automotive, Aerospace, Steelmaking, Shipbuilding, etc.

**For wide-range use in the field**

- Plant and Equipment Maintenance, Art Museum, History Museum, Forensic Science, etc.

**Ideal for testing, analysis and research**

- Electronic Components, Devices, Assembled Parts, etc.

**Aerospace**

**Energy industry**
ShuttlePix
P-400R

ShuttlePix Head
Highly image capture in any location

ShuttlePix Stand
High-resolution
and high-magnification,
EDF image,
and simple measurement

ShuttlePix Stand with PC
Image processing,
measurement,
and report creation

ShuttlePix 3-Way System

ShuttlePix STAND
- Extended Depth-of-Focus (EDF) image capture
- Intuitive stylus and icon-driven operation
- Uses dedicated Touch Panel Monitor
  (advanced image capture, simple measurement, etc.)
- Dedicated PC software expands operation
  and possibilities
  (image processing, 3D/color height-maps, etc.)

Forensic science
Archaeology
Art objects
Automotive
Production line
Plant maintenance

ShuttlePix Grab It and Go
ShuttlePix HEAD
Capture digital microscopy images at any location

Image capture with the ease of a digital camera
Zoom Camera Head
Image capture with ShuttlePix is simple, with just three steps:
1. Hold the Zoom Camera Head in one hand and place against the sample.
2. Adjust focus by turning the Contact Observation Adapter while checking the Focus Indicator.
3. Press the capture switch (Trigger). No special knowledge or complicated operations required!

Maximum optical performance
High NA / High definition / Wide field of view
One-Push
When capturing images, up to 10 continuous frames are recorded and only the optimal shot is kept. This guarantees capturing sharp images even at high magnifications.

Focus Indicator
Automatically displays luminance value (Focus Index) during image capture

Compact body with no lens changing
20x optical zoom
ShuttlePix’s observation magnification of 20x to 400x* spans low to high magnification without the trouble of changing lenses. Magnification information is linked to scale functions and simple measurement functions.

Achieving optimal image capture
Best Shot Selection mode
When capturing images, up to 10 continuous frames are recorded and only the optimal shot is kept. This guarantees capturing sharp images even at high magnifications.

Newly developed design for bright, even illumination
4-segment LED Ring Light
ShuttlePix’s new illumination technology achieves consistent brightness at all levels of magnification. Capture shaded images as well, through split-half illumination switchable among top, bottom, left, and right.

High NA / High definition / Wide field of view
Maximum optical performance
Nikon’s proprietary optics achieve precise observation and imaging with NA up to 0.2 (at 40x magnification) and 20mm-diagonal wide field of view (at 20x magnification).
Changing of Resolution Preferred Mode and Depth-of-Focus Preferred Mode is also possible.

Full illumination yields bright, evenly-lit images, while half illumination enables images with shadows.

Resolution Preferred
Depth-of-focus Preferred

Full illumination yields bright, evenly-lit images, while half illumination enables images with shadows.
ShuttlePix STAND

High-magnification image measurement (no PC required), Extended Depth-of-Focus image capture

Image capture and measurement with intuitive stylus and icon operation

Motorized Focusing Stand plus Touch Panel Monitor

ShuttlePix is equipped with a vertical-movement Motorized Focusing Stand and 17", 1280x1024 color LCD Touch Panel Monitor. Through the intuitive operation of touching icons or using the screen stylus, precise image capture and simple measurement are effortless and convenient.

Easy, icon-driven GUI

User interface

The Zoom Camera Head’s GUI uses the same icons as Nikon’s COOLPIX compact digital cameras. The Motorized Focusing Stand and Touch Panel Monitor also employ visual design that makes features clear instantly.

Automatic sample-optimized camera settings

Scene Mode

Ensure optimal settings for image capture through four types of Scene Mode: wafer/IC chip, metal, printed circuit board, and flat panel display.

PC-less, EDF image capture

One-Touch EDF

EDF image is easily available by pressing the button at any lower and upper position of the sample on the screen. All operations are performed from the Stand. The addition of a PC and dedicated software further enable 3D display and height display based on EDF data and height data.

Stage options for every application

Stage Lineup

Image capture for large samples (up to 75mm x 50mm x 148mm) is possible with the Zoom Camera Head and with the Motorized Focusing Stand. Select from three dedicated Stages matched to the observation subject.

Stage Lineup

1. P-SSL Sliding Stage
2. P-STR Tilting Stage
3. P-S32 3x2 Stage

EDF image

Vertical image

Stained image

Printed circuit board
Metal
ShuttlePix STAND with PC

Unlock a Wide Range of Features Using the Dedicated Software

**Free download and registration of software**

**ShuttlePix Editor**

Conveniently output simple measurements and EDF-image 3D or cross-section displays directly into Excel via dedicated ShuttlePix Editor software. Download of ShuttlePix Editor is free.

*Compatible with Windows XP and Windows 7

**Various measuring performance**

**Simple measurement**

Add comments and markers to key measurements such as distance, angle, and area. Measurement results can be output in tabular form.

**3D display**

Use a 3D bird’s-eye view to display EDF images and height data taken with ShuttlePix. Rotation, zoom in/out, scale display, color-based heightmaps, and other image display operations are available.

**Cross-section display and simple measurement**

Display cross sections at specified positions based on height data embedded in EDF images. Perform simple measurements of the cross section including height, angle, and width, with measurement data displayable and recordable in tabular form.


*Download of ShuttlePix Editor is limited to registered users of the product.
System Diagram

Dimensions

Motorized Focusing Stand + Touch Panel Monitor

Zoom Camera Head

*One Stage required when using Motorized Focusing Stand

**Note:** Dimensions are approximate and subject to change.
Specifications

Zoom Camera Head (P-400R)

Effective pixels: 1,984 megapixels

CCD: 1/1.8" color CCD, total pixels: approx. 2,110 megapixels

Frame rate: 25fps (selectable 25fps, 15fps, 30fps) or 15fps (1600x1200) when connected to Motorized Focusing Stand

Optics: MagiMax™ Ma-65 (magnification on built-in 2.7" monitor), 20x to 40x (magnification on dedicated 17" monitor), optical zoom ratio = 20:1

Working distance: 2mm

FOV: Maximum diagonal field of view 20mm (4mm x 12mm)

Illumination: Light source: white LED

Illumination method: Episcopic illumination from around the objective lens

Illumination area: ø20mm, 4-segment ring LED (top/bottom/left/right)

Recording: Standard: 3D memory card, SDHC memory card (max. 4GB, selectable USB memory or FTP when connected to Motorized Focusing Stand)

File format: TIFF (non-compressed), JPEG (3 compression levels)

Recording pixels: 2048x1536, 1600x1200, 1280x960, 640x480

Shooting mode: Scene mode (Standard, White-out, Metal, Circuit, Circuit, Circuit), Best Shot Select (BSS, 20 best shots), interval, 2 to 99 seconds, 9999 frames

Exposure: Photometry method: Average photometry/peak hold photometry

Exposure control: Program AE/shutter preferred/manual exposure

Exposure compensation: -2EV to +2EV in 1/3EV steps

Aperture: f/2.8 (manual exposure)

AF lock function: Still image display, 3D image display (with ShuttlePix Editor)

AE lock function: Scene mode (Standard, Wafer/IC chip, Metal Ceramic, Circuit Board, FPD), BSS (Best Shot Select), timer (2 seconds fixed), interval, 4 custom setting, with focus indicator

Image Edit: 3x2 Stage/Sliding Stage/Tilting Stage

Upper and lower limit can be adjusted

Resolution: SXGA (1280x1024)

Display size: 17.0" (display area 333.9mm x 270.3mm)

Display: Full-frame view, thumbnail view (9 frames), zoom view (scrollable)

Image deletion: Quick delete, select image delete, folder delete, card format

Video output: NTSC/PAL

Output: Video output, capture input, (all 3mm stereo mini jack), dedicated connector for stand

Language: Japanese/English

Power supply: Li-ion Rechargeable Battery/AC adapter/Motorized Focusing Stand (when connected to Motorized Focusing Stand)

Battery: FV-I1 Li-ion Rechargeable Battery

AC adapter: AC adapter EA1050E-120 (optional)

Auto power save: 30sec./1min./5min./10min./20min.

Power consumption: 24VA

Battery operating time: Approx. 90 minutes (battery life at maximum power consumption by maximum LED brightness)

Charging time: Approx. 4 hours (when no charge remains)

Tripod hole socket: 1/4-20 UNC (ISO 1222)

Dimensions: Approx. 96(W)x142(H)x228(D)mm

Weight: Approx. 950g (excluding Battery and AC/DC)

Usage environment: Temperature: 0ºC to +40ºC

Humidity: 80% RH max.

Motorized Focusing Stand (P-MFSC)

Stroke: 2 axes strokes: 150mm (upward 148mm, downward 2mm), upper and lower limit can be adjusted

Stage: 3D Stage/Sliding Stage/Lifting Stage

Image Edit:

EEP: Still image display, 3D image display (with ShuttlePix Editor)

Exposure control:

-2EV to +2EV in 1/3EV steps

Aperture: f/2.8 (manual exposure)

Auto power save:

30sec./1min./5min./10min./20min.

Power supply:

AC 100-240V 50/60Hz

Auto power save: OFF/T 1 to 99min.

Power consumption: 140VA

Dimensions: Approx. 390(W)x371(H)x180(D)mm

Weight:

Approx. 9kg

Usage environment:

Temperature: 0ºC to +40ºC

Humidity: 80% RH max.

P-Li-ion Rechargeable Battery

Some specifications and equipment are subject to change without any notice or obligation on the part of the manufacturer. October 2010 ©2010 NIKON CORPORATION

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* Products: Hardware and its technical information (including software)


See the URL above for product details and download information regarding ShuttlePix Editor dedicated software.

*Download of ShuttlePix Editor is limited to registered users of the product.

TO ENSURE CORRECT USAGE, READ THE CORRESPONDING MANUALS CAREFULLY BEFORE USING THE EQUIPMENT.