

MINOLTA

The essentials of imaging

www.minolta.com

Professional Quality Multi-Format Film Scanner

DIMAGE Scan Multi PRO

4800dpi

www.dimage.minolta.com

digital ICE³
Applied Science Fiction

Take the Fast Track to Superior Quality Film Scans

- Max. 4,800dpi input resolution ■ 16-bit A/D conversion and wide 4.8 dynamic range
- Compatible formats: medium-format 120/220 film (6x4.5, 6x6, 6x7, 6x8, 6x9), 35mm film, 16mm film, Transmission Electron Microscope film, and microfilm in aperture cards
- Image enhancement via Digital ICE³™ technology ■ Rapid interfaces: Ultra SCSI and IEEE1394

DiMAGE Scan Multi PRO



It's the ultimate specialist for professional film scanning needs.

Minolta raises the standard for desktop film scanning with its sophisticated and compact multi-format scanner, the DiMAGE Scan Multi PRO. It comes with a comprehensive set of features geared towards professional-level use. First, there's the extended range of compatible film formats. There is also the high-performance CCD and innovative Minolta lens combination, which produces images with higher resolution and more faithful colours. A fast interface and user-friendly software boost productivity with virtually any scanning job, and Digital ICE³™ technology—Digital ICE™, Digital ROC™, and Digital GEM™—enhances both quality and productivity as well. When it comes to professional, multi-format scanning needs, the DiMAGE Scan Multi PRO is truly an imaging essential.

■ Extensive range of compatible formats

A wide range of standard accessories sets the DiMAGE Scan Multi PRO apart from the rest.

The **35mm Film Holder** accepts filmstrips with up to six frames, and has finger holes that make it easy to secure the film into place.



The **Slide Mount Holder** can be used with mounted slides of either 35mm or Advanced Photo System format.



And the **Universal Holder**, with its many attachments, facilitates scanning of diverse sources. The **Standard Attachment** (for 120/220



film) with glass, for example, protects medium-format film from dust and possible damage. An attachment without glass is also available, as are masks for all five sizes: 6 x 4.5, 6 x 6, 6 x 7, 6 x 8, and 6 x 9.

Furthermore, the **Multi Format Attachment*** can be used to scan sources of special sizes—16mm film, Transmission Electron Microscope film,



microfilm in aperture cards, microscope slides, and even smears and mineral specimens. An optional Multi Format Mask comes with scales printed to simplify cutting. *Optional

For all film formats, the DiMAGE Scan Multi PRO handles both negatives and positives, in monochrome or in colour.

DIGITISE FILM AT AN EXTRAORDINARY LEVEL OF IMAGE QUALITY



MAX. 4800 dpi



4800 dpi

■ Leading edge scan resolution

With a maximum resolution of 4,800dpi, the DiIMAGE Scan Multi PRO offers class-leading scanning performance with various film formats, from 35mm to 120/220 films. At this level of resolution, your image data is detailed enough to turn into sharp, quality printouts in large sizes. The scanner's core component, a 7,260 pixel 3-line colour CCD, is enhanced by the inclusion of a dual focus point lens system, the product of Minolta's expertise in high-precision optics. This combination makes it possible to produce superior quality scans from any of the compatible film types.

Note: With film formats larger than 35mm, 4,800dpi resolution is achieved through interpolation in the main scanning direction.

16-bit

■ Enhanced colour reproduction

The DiIMAGE Scan Multi PRO uses 16-bit A/D conversion to differentiate 65,536 gradations in each RGB channel—sixteen times the amount detectable by 12-bit scanners. This high degree of accuracy results in images with richer tonal variations, smoother gradations, and a greater amount of visible detail in shadow areas. Colour

fidelity is further supported by a wide 4.8 dynamic range, which comes from the CCD, high signal-to-noise ratio, and low-noise circuitry. Another feature, multi-sample scanning, reduces random noise by averaging the sampled images.

■ Accurate colour matching

Colour matching ensures that images produced by the scanner are reproduced with maximum fidelity across different monitors, operating systems, and image editing software. The upgraded DiIMAGE Scan Multi PRO colour matching system supports a large variety of colour spaces.

■ Improved negative-to-positive conversion

Negative film has varying characteristics depending on which manufacturer it's from, the scene it captures, or shooting conditions. By using an improved image correction process, however, the DiIMAGE Scan Multi PRO optimises colour reproduction of negative film sources.



12-bit



16-bit



Innovative image enhancement technology



Digital ICE³™ is a collection of three image-enhancement tools that dramatically improves the quality of images scanned from imperfect film sources. The inclusion of this technology in the DiMAGE Scan Multi PRO enables you to get clearer results directly from the scan procedure itself. As a further convenience, each of the three tools can be separately turned on or off with the driver software.

■ Dust and scratch removal



Digital ICE™ (Image Correction & Enhancement) removes flaws detected on the surface of the film—such as dust, scratches, mould, and fingerprints—without altering the image underneath. The DiMAGE Scan Multi PRO needs only a single scanning pass to put this process into effect.



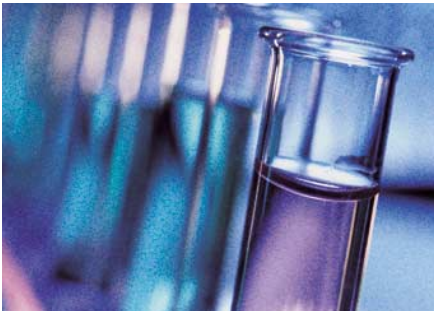
■ Colour reconstruction



Digital ROC™ (Reconstruction Of Colour) revives an image with diminished colours by using the information found on the film's dye signature to guide the restoration process. This feature is especially useful when working with old film that has noticeably diminished colour quality.



■ Sharper, less grainy images



Digital GEM™ (Grain Enhancement & Management) cleans up images that suffer from a rough, grainy look caused by the clumping of extremely fine grains found on the film. This technology analyses and then removes the unsightly patterns to bring images closer to their original state of colour and sharpness—a process that's virtually impossible to replicate through conventional post-scan image retouching.



■ Digital ICE, Digital ROC, and Digital GEM are technologies developed by Applied Science Fiction™, Inc. ■ Digital ICE³ is recommended primarily for use with colour film; Digital ICE, however, can also be used with chromagenic black and white film. ■ Digital ICE is not recommended for use with Kodachrome film. ■ Scanning time will increase when using any of the three functions.

PERFORM ALL SCANNING TASKS WITH OPTIMUM EFFICIENCY

■ Rapid data transfer

Data transfer time, one of the biggest factors affecting scanner productivity, is given a tremendous boost with the addition of two high-speed interfaces: Ultra SCSI and IEEE1394 (FireWire). These interfaces are essential to efficient task completion with data-intensive film scanning, and can save you a considerable amount of overall work time, especially when working with multiple images.

■ Minolta's exclusive focusing system

Thanks to its rapid autofocus calibration, the DiIMAGE Scan Multi PRO offers fast overall autofocus time. What's more, Minolta's proprietary focus adjustment technology—which uses a film grain detection method—makes sure that even low contrast images are accurately scanned. The DiIMAGE Scan Multi PRO provides other options, such as Point AF and manual control for precision focusing in ± 200 steps. This array of functions gives you flexible focus control over practically any type of image.

■ Fast, easy operation with the Custom Wizard

The Custom Wizard menu greatly simplifies the scan setting process, allowing you to quickly obtain the correct type of scan from a particular film source. AF, Digital ICE³, Auto Crop and other features can be preselected in various combinations, and then enacted on an entire series of frames loaded in the scanner. Customised settings can be saved with the Custom Wizard, for instant call up whenever you wish to scan a different group of images using the same settings.

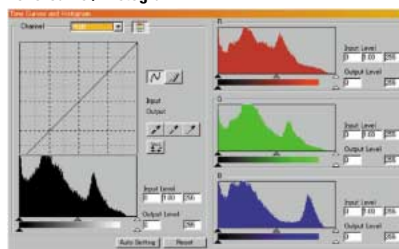
■ Ideal for intensive scanning jobs

Not only does the DiIMAGE Scan Multi PRO offer rapid scanning, but it also speeds work along through its fast auto loading and continuous scanning capabilities. With 35mm filmstrips, you can choose to scan either all six frames or just a few selected frames at once. Or, using the Slide Mount Holder, you can load up to four mounted slides into the scanner, and later keep replacing a single slide without extracting the holder from the scanner.

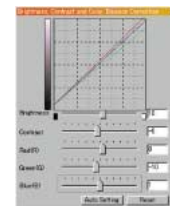
■ Advanced image correction functions

Naturally, the DiIMAGE Scan Multi PRO comes equipped with a full array of image correction functions. Adjustable parameters include tone-curve/histogram, colour balance, hue/saturation, unsharp mask, and more. When using the Variation Correction palette, the compensation window conveniently displays thumbnails of the different adjustments made to the current image. Other useful functions—such as preview image trimming, colour selection, and prescan size selection—are also provided.

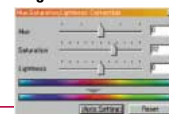
Tone-curve / Histogram



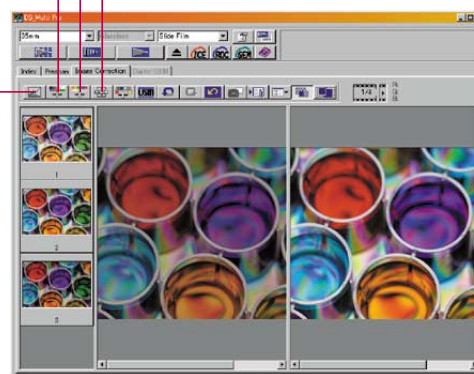
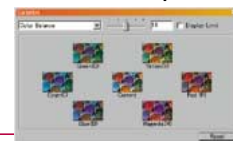
Brightness / Contrast / Color-balance



Hue / Saturation / Brightness



Variation correction palette



Snapshot display

Before compensation

After compensation

■ Other Features

- Compact desktop design (W168 x H128 x D377 mm)
- Auto power save function that extends lamp life
- Compliant with the Energy Star program for energy-efficient operation





SPECIFICATIONS

Film type*	35mm film, Medium format film (120/220). With the optional Multi Format Set: 16mm film, Transmission Electron Microscope film, Microfilm in aperture card * Film: colour / monochrome, negative / positive available Microscope slides																			
Optical resolution	35mm film: Max. 4800 x 4800 dpi Medium format film (120/220): Max. 3200 x 4800* dpi * Max. 4800 x 4800 dpi by interpolation																			
Scan size & input pixels	35mm: 25.02 x 37.08 mm, Max. 4728 x 7008 pixels 6x9: 56.58 x 83.82 mm, Max. 10692 x 15840 pixels																			
Scan method	Fixed film, moving sensor, 1-pass scan																			
Sensor	3-line CCD with RGB primary colour filter, 7260 pixels / line																			
Multi-sample scanning	2X, 4X, 8X, 16X, Off																			
Continuous scan	35mm Film Holder: Max. 6 frames Slide Mount Holder: Max. 4 frames																			
Scan time	(Digital ICE ³ off, 4800dpi, 8bit, positive)																			
	<table border="1"> <thead> <tr> <th rowspan="2">(approx.)</th> <th colspan="2">Windows (IEEE1394)</th> <th colspan="2">Macintosh (FireWire)</th> </tr> <tr> <th>Preview</th> <th>Final scan</th> <th>Preview</th> <th>Final scan</th> </tr> </thead> <tbody> <tr> <td>35mm film</td> <td>9s</td> <td>45s</td> <td>10s</td> <td>50s</td> </tr> <tr> <td>6 X 9 film</td> <td>13s</td> <td>230s</td> <td>15s</td> <td>250s</td> </tr> </tbody> </table>	(approx.)	Windows (IEEE1394)		Macintosh (FireWire)		Preview	Final scan	Preview	Final scan	35mm film	9s	45s	10s	50s	6 X 9 film	13s	230s	15s	250s
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6 X 9 film	13s	230s	15s	250s																
A/D conversion	16-bit																			
Output data	8-bit, 16-bit (per colour channel)																			
Optical density	4.8 dynamic range																			

Light source	3-wave fluorescent lamp
Focus	Autofocus (Point AF available), Manual focus
Interface	Ultra SCSI: D-sub half-pitch 50p x 2 IEEE1394: IEEE1394 6p x 2
Power Requirements	AC 100–240V, 50 / 60Hz, Max. power consumption: 40 W
Dimensions (WxHxD)	168 x 128 x 377 mm
Weight	Approx. 4 kg
Standard accessories	35mm Film Holder FH-P1 Slide Mount Holder SH-P1 Universal Holder UH-P1 Standard Attachment HA-P1 Glassless Attachment HA-P2 Film Mask Set FM-P1 (6x4.5, 6x6, 6x7, 6x8, 6x9) SCSI Cable SC-P1 IEEE1394 Cable FC-P1 CD-ROM for DiIMAGE Scan Multi PRO
Optional accessories	Multi Format Set (Multi Format Attachment HA-P3, Multi Format Mask FM-P2, Pins PI-1)

- Specifications and accessories are based on the latest information available at the time of printing and are subject to change without notice.
- Specification figures are based on Minolta's standard test method.

PC SYSTEM REQUIREMENTS

Computer	Windows: IBM PC/AT compatible models*1*2		Macintosh: Apple Macintosh models*2	
Interface	SCSI	IEEE1394	SCSI	FireWire FireWire port as standard
CPU	Pentium 166 MHz or later		PowerPC 604 or later	
OS	Windows 98, Windows 98 Second Edition, Windows Me, Windows NT 4.0, Windows 2000 Professional		Mac OS 8.6 – 9.1	
RAM	96MB or larger		Free memory of 64MB or larger	
Monitor	640 x 480 pixels, 1024 x 768 pixels or larger recommended		640 x 480 pixels, 1024 x 768 pixels or larger recommended	
No. of colours	16-bit high colours or more		32,000 colours or more	
HD free space	20MB for installation 4 times or more the size of the image is required for scanning		20MB for installation 4 times or more the size of the image is required for scanning	
Recommended boards	Adaptec SCSI Card: 19160, 29160, 29160N	Adaptec: AFW-4300 OHCI-compliant IEEE1394 port as standard*3	Adaptec PowerDomain: 2940UW, 2940U2W, 2930U, 29160N	-----
Others	Adobe Photoshop ver. 4.0.1 / 5.0.2 / 5.5 / 6.0 / 5.0LE have been fully tested for use with the TWAIN driver software.		Adobe Photoshop ver. 5.0.2 / 5.5 / 6.0 / 5.0LE have been fully tested for use with the Photoshop plug-in driver software.	

*1 Only for PCs with pre-installed operating systems. *2 Excludes notebook PCs. *3 Non-DV-dedicated IEEE1394 port guaranteed by PC manufactures.

CD-ROM drive is required for software installation.

Additional system capabilities are required to use Digital ICE³ with 16-bit output.

Please note that error-free operation is not guaranteed for any of the systems recommended.

Please refer to the Minolta website for the latest information on PC system requirements.

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