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http://panasonic.co.jp/pavc/global/lumix/



LUMIX L1 Digital SLR Camera

Introducing the first Leica lens designed especially for a digital SLR camera

L1



Digital Renaissance







Extending the Leica Evolution The LEICA D VARIO-ELMARIT 14-50mm/F2.8-3.5 ASPH. Lens

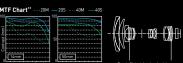
The Leica D Lens - The First Leica Lens with Optical Image Stabilizer (MEGE 0.1.5.) Designed Especially for a Digital SLR



Leica Camera AG, renowned as the maker of lenses that have captured some of the world's most memorable photographs, has now created its first interchangeable lens exclusively for the digital SLR. The new Leica D lens series ("D" for digital) derives from an entirely new design concept. Developed jointly by Leica Camera AG and Panasonic specifically for digital photography, this advanced lens fuses leading-edge optical and $% \left(1\right) =\left(1\right) \left(1$ digital technologies at an uncompromisingly high level. As it joins the digital SLR arena, Panasonic has also chosen to adopt the Four Thirds™* system in order to maximize the advantages of both image sensor and lens. The new D lens inherits the smooth tonal expression and rich shading that make Leica lenses the choice of both professional and amateur photographers the world over. Anxiously awaited by true photography aficionados, the new lens helps the LUMIX L1 reach a new stage in the evolution of digital SLR cameras.

The LEICA D VARIO-ELMARIT Lens: Dual-Sided Aspherical Lenses and a Maximum Aperture of F2.8

This wide-aperture zoom lens provides F2.8-3.5 brightness from 28mm wide-angle to 100mm telephoto (35mm film camera equivalent). With 16 lens elements in 12 groups, including two glassmolded dual-sided large diameter aspherical lenses, the LEICA D VARIO-ELMARIT lens delivers a superb optical performance. It minimizes distortion in wide-angle shots and suppresses the loss of peripheral resolution. An excellent multi-coating process helps reduce ghosts and flaring. The lens provides the sharpness, high resolution and superb color reproduction that convey even the ambience around a subject. The lens barrel is fitted with an aperture ring for a new level of easy, intuitive operation, With the new LEICA D VARIO-ELMARIT lens, the L1 has an entirely different feel from other digital SLR cameras, and lets you go as far as your creativity will take you.



Minimal Hand-Shake with MEGA 0.1.S.

The new D lens features Panasonic's MEGA O.I.S., an advanced optical image stabilizing system that makes it possible to take clear, sharp macro and low-light shots. With MEGA 0.I.S., the Venus Engine operates 4,000 times per second to detect the amount and direction of hand-shake, and then shifts a corrective lens accordingly. Light entering the camera is kept on a straight path as it passes through the lens to the image sensor. Because the shake is corrected entirely within the lens, the image is preserved with original quality intact. Built into the lens, the Venus Engine provides quick, precise image processing for superb image stabilizing control. With these advanced features, the L1 can shoot beautiful shots, without a tripod, in situations where you cannot use a flash or in evening light. You get easier shooting and a wider range of expressive possibilities to explore.















Program AE (shutter speed: 1/50 sec, aperture: F3.4)



$D\acute{e}j\grave{a}~Vu~for~the~Palm~~{}_{\text{A Familiar Feel}} ---- {}_{\text{That Familiar Touch}}$

Intuitive in Form and Function

The L1 is much more than a collection of sophisticated functions. It is designed to be a tool that photographers will find both comfortable in their hands and a joy to use – a camera that looks, feels and works the way a finely crafted camera should. It is designed to deliver total satisfaction – in operation, performance and results. The camera body is formed to fit the hands naturally. The controls are laid out to ensure intuitive operation from the moment you first pick up the camera. Operation is not forced upon the photographer. Rather, the camera becomes an extension of your own expression, a seamless interface between the images you see in your mind's eye and the advanced digital functions that bring

in your mind s eye and the advancet those images to life. Photographers will immediately recognize the feel of the L1, like a camera you've used many times before. You'll find that it comfortably, naturally extends what a digital camera can do. You'll find that with the L1, human sensitivity and digital technology are beautifully combined.



Photographers who appreciate the natural feeling of creating photo images place top priority on the camera's operation. The L1 takes operation a big step beyond conventional digital SLR lenses by adding an aperture ring to the lens barrel, alongside the zoom ring and wide focus ring. You can set the aperture from 2.8 to 22 in 1/3 EV steps. This combines with the shutter speed did to give you quick, precise, intuitive control over the exposure setting. You'll feel a distinct click as you turn the aperture ring. This not only enhances your sense of control, it gives you the kind of shooting joy you feel when photographer and camera become one.

An Aperture Ring that Responds Intuitively to Your Intent

A Shutter Speed Dial with a Familiar Feel

The shutter speed dial and shutter button are positioned along the same axis on the camera top. They feel instantly familiar to your fingers and provide comfortable, intuitive operation. In manual mode, you can use the shutter speed dial and cursor button to set the speed from 1/4,000 to 60 seconds, or you can select bulb shooting. The 1/160-sec X-sync speed provides a wide response to flash shots. Because the dial is right there for your tops operation is quick and each.

Full-Time Live View on the Large, High-Resolution LCD

The full-time Live View system is well suited to the coming generation of digital still cameras that pursue the true "joy of shooting." The L1's full-time Live View makes it easy to focus and frame precisely on the 2.5-inch LCD monitor, which has superb 207,000-pixel image quality and a virtually 100% field of view. In this system, a mirror flips up, directing the same light to both the Live MOS sensor and the LCD monitor. Full-time Live View operates for auto focusing. When you're focusing manually, full-time Live View lets

you magnify a part of the image by 10x for greater focusing precision. The LT's large, high-image-quality LCD gives you a precise preview of the depth of field without darkening*, as the display is bright and easy to see. Checking the results of the 2-axis white balance adjustment on the full-time Live View screen also assures more precise adjustment before shooting. These versatile functions bring forth completely new shooting styles for SLR cameras, and expand the possibilities for photo expression.



I. in Live View

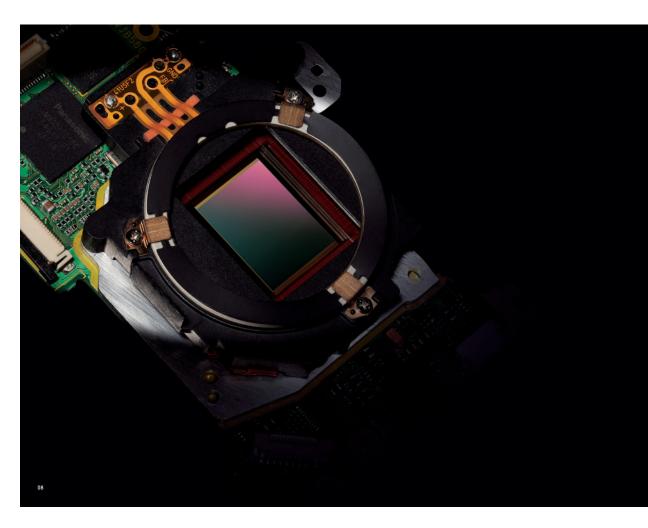












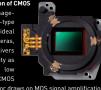
The Birth of Beauty

Beautiful High-Resolution Images: 7.5-Megapixel 4/3-type Live MOS Sensor for the Best of Both CMOS and CCD Sensors

The Rich Tonal Quality of the CCD,

the Low Power Consumption of CMOS

The L1 uses a high-imagequality 7.5-megapixel 4/3-type Live MOS sensor. The ideal sensor for digital SLR cameras the Live MOS sensor delivers the same high image quality as a CCD sensor with the low power consumption of a CMOS



sensor. This advanced sensor draws on MOS signal amplification technology but uses a simpler structure. It's molded as a single unit onto a flexible circuit board, reducing both the number of signal exchanges and the contact resistance from wiring. A process technology with 5-V activation reduces heat and noise while improving the image quality of the Live View function.

A Wide Dynamic Range for Richer Image Gradation

The Live MOS sensor featured in the L1 uses a new readout circuit that reduces the three control wirings required with a CMOS sensor to the two wirings required with a CCD sensor. This provides a greater photoreceptive area per pixel than a conventional CMOS sensor can provide. The result is the type of wide dynamic range that makes it possible to capture detailed,



Low-Noise Processing and Pinned Photodiode Array Reduce Image Graininess

The Live MOS sensor not only slashes noise, it embeds the photodiodes deeply into the silicon layer, where they are resistant to noise generated on the photodiode surface. This suppresses the rough image texture that is sometimes noticeable (like viewing an image through an unwashed window) when shooting in dim lighting, giving you clear, smooth shots even in difficult conditions

The Four Thirds Standard: Designed to Maximize Image Quality in Digital Cameras



area enters at an angle, resulting in inaccurate color reproduction or dark areas. The L1 uses a lens



Protecting the Digital SLR Image Sensor: **Dust Reduction System**

One of the risks with a digital SLR camera is that, during a lens change, dust or dirt could make its way into the camera and adhere to the foreign matter could damage the image sensor. The only remedy would be to have the image sensor replaced - a costly undertaking. The L1 solves this problem with a supersonic wave Dust Reduction System. Each time the camera is

section located under the filter





and filter is completely airtight, no dust adheres to the low pass filter or image sensor. This advanced supersonic wave filter requires no maintenance. If you use a digital SLR camera with interchangeable lenses, this kind of advanced protection









Imaging Expression

Venus Engine III: Extraordinary Processing Power to Reproduce Even Nuances in Texture and Atmosphere

Rich, Life-like Colors

The L1 features the Venus Engine III LSI. This new image-processing LSI precisely reproduces the magnificent images that are captured by the Leica D lens and sent to the Live MOS sensor. beauty of the original image to produce

highly natural picture quality. This superb level of performance

makes the Venus Engine III an ideal match for the digital SLR camera.

Smooth, Expressive Photos with Less Noise

The L1 noise-reduction system distinguishes luminance noise from the chromatic noise that diminishes image quality, and selectively targets the chromatic noise. Even when shooting at a high ISO setting*, you can capture abundant detail and get smooth, clear shots with minimal noise. *The ISO setting ranges from the standard ISO 100 level to the ultra high-sensitive ISO 1600.

The Quick Response You Need to Catch Every Moment

The L1 is built for spectacular high-speed shooting, with a startup of only 0.8 second and burst shooting at 3 frames per second. The shutter works as fast as you do. The L1 has unlimited consecutive shooting. You can keep shooting until the memory card is full, and choose the best shots later.

Low Power Consumption for More Shots and Longer Shooting Sessions



Film Mode: Choose the Imaging Mode that **Best Suits Your Creative Intent**

The L1 introduces a new Film mode function that lets you select from several different image looks according to the subject you're shooting and your creative intent. When shooting in color, you can choose from Standard, Dynamic, Nature, and Smooth. With black and white, you can choose from Standard,

Dynamic, and Smooth. You can also adjust the contrast, sharpness, saturation and noise reduction levels, to reproduce exactly the mood and atmosphere you want. With these functions, the L1 is a digital camera that gives you the same kind of flexibility and satisfaction you enjoy when choosing film for a film camera.

Built-In Flash for Lighting Versatility

Choose from five flash settings, or use Bounce Lighting or 1st Curtain/2nd Curtain Sync. Exposure can be adjusted ±2 EV in 1/3 EV steps. A hot shoe is provided. L1 compatible flashes (sold separately) allow TTL auto adjustment. The new FP Lighting function also synchronizes the flash at the lightning shutter speed of 1/4000 sec. This greatly expands shooting possibilities by allowing mor versatile and precise lighting control.





A Variety of Light Metering Methods and Focusing Areas to Match Your Shooting Needs

Three light metering methods let you read delicate lighting differences and accurately match shooting conditions. Use Intelligent Multiple light metering to divide the image frame into 49 blocks for multiple-zone light measurement. Or choose either Center Weighted or Spot light metering. As for the focusing area, the auto focus system employs a TTL phase difference detection system with three measuring points across a wide image area. You can also specify a particular point as the focal point. This can be useful in certain shooting









































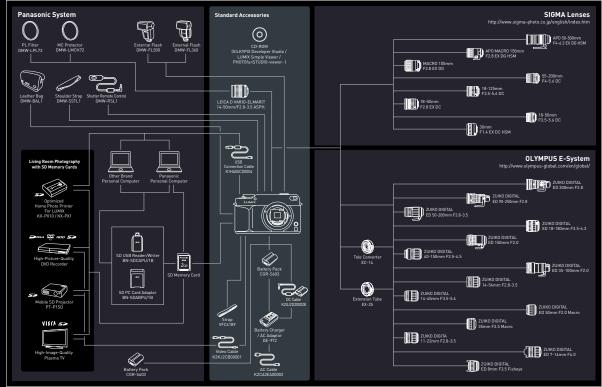


Software





System Chart



Main Parts And Controls



- ① Strap eyelet ② IR sensor ③ Lens fitting mark ④ AF assist lamp / Self-timer indicator
- 6) Lens release button
- (1) Camera ON/OFF switch (1) Command dial 19 Eye cup 19 [LIVE VIEW] button ® Command diat

 ® Card door

 ® [MENU/SET] button

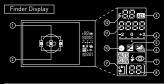
 ② ◀/▼/▶/▲/Cursor buttons Flash open button
 Focus mode lever
- (B [AFL/AEL] button (A) Status indicator DC cable cover
 Battery door
 - ② Open/Close lever ③ Delete button Aperture preview bu
 [DISPLAY] button
 Playback button

① Card access ② Quality ③ Picture size ④ Single / Burst / Auto bracket / Self-time

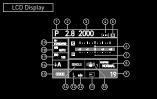
(B) Battery indication (B) Flash setting (D) ISO sensitivity

- Flash output adjus
 [USB] socket Terminal door
 Flash button
- ③ [FUNC.2] button
 ④ Drive mode lever Single:
 Burst:
 Auto bracket:
 Self-timer:

Display

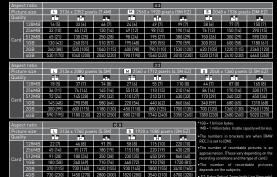


① AF frame ② AF-LED display ® Focus ® Shutter speed ® Aperture value 3 AE lock Number of recordable pictures



② Aperture value ③ Shutter speed AF frame setting
 Metering mode 🤊 Flash output adjustment

SD/SDHC Memory Card Still Image Recording Capacity



DMC-L	I Specificatioi	ns			
TYPE	Туре	Interchangeable Lens Digital SLR Camera		Туре	Focal-plane shutter
	Recording media	SD Memory Card, SDHC Memory Card, Multimedia Card	SHUTTER	Shutter speed	1/4000 - 60 sec and Bulb (up to approx. 8 minutes)
	Image sensor size	17.3 x 13.0 mm	SYSTEM	Self timer	10 sec / 2 sec
	Mount	Four Thirds mount		Remote control	Remote control with bulb function by DMW-RSL1 (optional)
IMAGE SENSOR	Туре	Live MOS sensor		Burst speed	3 frames/sec or 2 frames/sec
	Total pixels	7.9 megapixels	BURST SHOOTING	Number of	6 pictures (when there are RAW file), Unlimited consecutive shooting (when there are no RAW file)
	Camera effective pixels	7.5 megapixels	SHOUTING	recordable pictures	(depending on memory card size, battery power, picture size, and compression)
	Aspect ratio	3:4 (vertical : horizontal)		Туре	TTL Built-in-flash, GN10 (ISO100, m), Built-in pop-up, Bounce flash
	Color filter	Primary color filter			Auto, Auto/Red-eye reduction, Forced on/Red-eye reduction,
	Dust reduction system	Supersonic Wave Filter			Slow sync., Slow sync./Red-eye reduction, Forced on/off
RECORDING SYSTEM	Recording file format	JPEG (Design rule for Camera File system, based on Exif 2.21 standard), DPOF corresponding, RAW	BUILT-IN -FLASH	X-Sync speed	Less than 1/160 second
	Aspect ratio	4:3, 3:2, 16:9 (3:2,16:9 with Live View only)	-FLASH	Flash output adjustment	1/3 EV step ±2 EV
	File size	4:3 Aspect Ratio: 3136 x 2352 pixels, 2560 x 1920 pixels, 2048 x 1536 pixels		Flash synchronization	1st. curtain sync. and 2nd curtain sync. (selectable)
		3:2 Aspect Ratio: 3136 x 2080 pixels, 2560 x 1712 pixels, 2048 x 1360 pixels		Hot shoe	TTL auto with FL360 / FL500 (optional)
		16:9 Aspect Ratio: 3136 x 1760 pixels, 1920 x 1080 pixels		Туре	Low temperature polycrystalline TFT LCD
	Color space	sRGB, Adobe RGB	LCD	Monitor size	2.5 inch
	Туре	Eye level porro mirror type optical viewfinder	MONITOR	Pixels	207 K pixels
	Field of view	Approx. 95 %		Field of view	Approx. 100 % (with Live View mode only)
	Magnification	Approx. 0.93x	LIVE VIEW	Туре	YES (LCD monitor can be used as viewfinder, with Live MOS sensor set to monitor mode.)
	Eye point	Approx. 18 mm (-1[m-1])		Digital zoom	2x, 4x (with Live View only)
VIEWFINDER	Diopter adjustment	-3.0 - +1 [m-1]		Extra optical zoom	Max. 1.5x (with Live View only. Not effective with full pixel recording.
	Focusing screen	Fixed type		Extra optical 200m	Magnification ratio depends on the recording pixels.)
	Mirror	Quick return mirror	FILM MODE	Color	Standard / Dynamic / Nature / Smooth
	Depth-of-field preview	Enabled with aperture preview button (with Live View only)	FILM MODE	Black and white	Standard / Dynamic / Smooth
	Eyepiece shutter	Detachable			Single display, 9 or 25-thumbnail display, Calendar display, Zoomed playback (16x max.),
	Туре	TTL Phase Difference Detection system	PLAYBACK	Playback mode	Image rotation (except for RAW), Slide show (duration is adjustable, also manual controllable),
	Focusing mode	AFS / AFC / MF	FLATBACK		Playback of favorite pictures, Resizing (selectable number of pixels),
	Focusing area	3 points			Trimming, Protection, Aspect conversion, DPOF print setting
AUTO FOCUS	Focusing area selection	Auto, 1-fixed point/left, 1-fixed point/center, 1-fixed point/right	PROTECTION	Protection	Single / Multi or cancel
	AF detective range	EV 0-19 (ISO100)	/ ERASE	Erase	Single / Multi / All
	AF assist lamp	YES	DIRECT PRINT	Print	PictBridge (Print size, Layout, Date setting is selectable)
l	AF lock	AFL / AEL button or shutter button halfway pressed in AFS mode	INTERFACE	Digital	USB 2.0 (high speed)
	Light metering system	TTL full aperture light metering by 49-zone multi-pattern sensing system (with optical viewfinder),	INTERPACE	Analog Video	NTSC / PAL composite (switched by menu)
		256-zone multi-pattern sensing system (with Live View mode)		Battery	Li-ion battery pack (7.2 V, 1500 mAh) (included)
EXPOSURE	Light metering mode	Intelligent multiple / Center weighted / Spot	POWER	Battery life	Battery charger/AC Adaptor (Input: 110-240 V AC) (included)
	Metering range	0 - 20 EV (with optical viewfinder), 0 - 16 EV (with Live View mode with F2.0 lens, ISO 100)			Approx. 450 images (CIPA standard* with Leica D VARIO-ELMARIT 14-50mm / F2.8-3.5 ASPH. lens)
CONTROL	Exposure mode	Program AE / Aperture priority AE / Shutter priority AE / Manual	DIMENSIONS	Dimensions (W x H x D)	145.8 x 86.9 x 80 mm
CONTINUE	ISO sensitivity	Auto / 100 / 200 / 400 / 800 / 1600	/ WEIGHT	Weight	Approx. 530 g (body only)
	Exposure compensation	1/3 EV step ±2 EV	OPERATING	Operating temperature	0°C to 40°C
	AE lock	AFL / AEL button or shutter button halfway pressed	CONDITION	Operating humidity	10 % to 80 %
	AE bracket	3 frames, 5 frames, 1/3 -1 EV step ±2 EV		Software	LUMIX Simple Viewer, PH0T0funSTUDI0-viewer-,
	White balance	Auto / Daylight / Cloudy / Shade / Halogen / Flash / White set 1,2 / Color temperature setting	STANDARD ACCESSORIES	Sutware	SILKYPIX Developer Studio, Quick Time, USB Driver
WHITE		Blue/Amber bias, Magenta/Green bias		Standard accessries	Battery charger/AC adaptor, Battery pack, Eyepiece cap, Body cap,
DALANCE	Color temperature setting	2500 K to 10000 K in 31 steps			Video cable, USB connection cable, AC cable, DC cable, Strap, CD-ROM

Leica D VARIO-ELMARIT 14-50mm/F2.8-3.5 ASPH. Specification

Ecica & FARTO ELFIARTY 14 COMMITTEE CO ACT IN Specifications									
Lens construction	16 elements in 12 groups (2 aspherical lenses)	Aperture type	7 diaghragm blades / Iris diaphragm	Diagonal angle of view	75° (W) - 24° (T)				
Mount	Four Thirds mount	Minimum aperture	F22	Filter size	72 mm				
Optical Image Stabilizer	On/Off (selectable mode1/2 with only DMC-L1)	Closest focusing distance	0.29 m at all focal lengths	Overall length	102.8 mm				
Focal length	f=14 mm to 50 mm (35 mm film camera equivalent 28 mm to 100 mm)	Maximum magnification	Approx. 0.32x (35 mm film camera equivalent)	Weight	Approx. 490 g				

