

## **The benefits of the LEICA M9:**

- \_\_\_ **The smallest full frame digital camera in the world!**
- \_\_\_ **World-class lenses and custom designed CCD sensor for optimum performance.**
- \_\_\_ **Refined handling for full concentration on the subject.**
- \_\_\_ **Adobe Photoshop Lightroom for quality raw processing and image management.**

We are especially happy to be able to introduce you a milestone in the story of the Leica M: The LEICA M9 is the first Rangefinder Camera with a 24 x 36 mm Format Sensor. As the smallest full format system camera of the world, the M9 continues the legacy of the Leica M rangefinder and unites more than five decades of refinement with the most modern digital technology. The combination of an extremely high-resolution sensor, high performance M lenses and careful processing of the image data files provides best picture results under all conditions. The simple handling and menus of the LEICA M9 allow the photographer to concentrate on taking pictures, not on the controls.

The propriety CCD sensor in the LEICA M9 with 18 Million Pixels, allows the utilization of the full 35 mm format. The sensor of the M9 uses a newly developed cover glass to eliminate infrared light contamination and allows the utilization of existing Leica M lenses with out loss of image quality. The use of external UV/IR filters is not required.

In spite of the larger sensor size, the compact housing of the M8 and M8.2 was being retained. With exterior dimensions of 139 x 37 x 80 mm (5.5 x 1.5 x 3.1 in) it maintains the ideal shape of the M camera and becomes the smallest full frame system camera in the world. The camera is available in classic black paint or elegant steel grey paint. A silver chrome version is not planned. The black paint version is clad in "Vulkanit" and the steel grey in leatherette like the LEICA M8 and LEICA MP.

Included with the LEICA M9 is a license for Adobe Photoshop Lightroom, a professional digital workflow solution available for both Mac OS X and Microsoft Windows operating systems. The software is available as a free download for LEICA M9 customers, to guarantee that the most current version is always available.

### **Scope of delivery LEICA M9**

Camera, Body cap, Carrying strap, USB cable, Battery, Battery charger for 100–240V with 2 power cords, (Euro, USA, different in some markets) and car charger adapter, License code for download of Adobe Photoshop Lightroom, Instructions German/English, Warranty card (Warranty period 2 years).

### **Information regarding LEICA M8 and LEICA M8.2:**

Supply of all versions of the LEICA M8 and LEICA M8.2 has run out and are replaced by the LEICA M9. We would like to thank you for the extraordinary success of the first Leica digital rangefinder camera.

The specific accessory cases for the LEICA M8 and M8.2 are also compatible with the LEICA M9.

### **The sensor**

The CCD sensor specially developed by Kodak for the LEICA M9 has been optimized to fully exploit the particular qualities of the Leica M lens system. As a result, the LEICA M9 achieves highest resolution values that in turn guarantee outstanding image quality.

The image sensor of the M9 employs further advanced and meticulously designed micro lenses with a low refractive index. The micro lenses at the sensor edges are laterally displaced towards the image centre to precisely match the characteristics of M lenses.

This optimized micro lens design, based on many years of precision optical engineering experience, captures and concentrates even the most oblique rays on the sensor and reliably prevents image brightness fall-off at the edges and corners of the image. As a result, all existing Leica M lenses also maintain their full performance when used for digital photography.

The intentional decision not to include a moiré filter, which optically filters out the finest image details, was made to permit full exploitation of the superb resolution of Leica M lenses. Any moiré patterns occurring are instead eliminated in the camera's digital signalprocessing software. The optimised signal-noise ratio of the CCD image sensor reduces the need for digital post-processing and ensures that images possess an unrivalled, natural visual impact. This results in high-contrast, particularly high-resolution exposures with natural colour rendition from corner to corner.

### **The lenses**

All Leica M lenses mounted on the LEICA M9 offer the same angle of view as with film camera models. Therefore, for the first time, the immense performance potential of the lenses is now fully maintained and can be fully exploited for digital photography, too. In line with Leica's renowned commitment to extreme system compatibility, almost all lenses of the Leica M range built since 1954 can still be used on the new M9. As a result of the high mechanical and optical precision and extraordinarily good imaging performance, and particularly that of the current range, Leica M lenses are now ideal for use in digital photography. Performance criteria, such as the individual coating of each element, have long been a Leica standard, and there was no need to develop and implement any special measures for 'digital lenses'.

The efficient image sensor on the M9 demands a particularly high spatial resolution that is, above all, offered by the latest M lenses. The excellent correction of optical aberrations and high resolution make them all the more suitable for digital use. The current M lenses are supplied with a 6-bit code on the bayonet mount that is scanned optically by the M9.

On the basis of the coded information, the M9 can compensate for any (almost negligible) system-inherent vignetting effects if required. In addition, the lens type is recorded in the EXIF data of the image files and, when using the latest flash units like the LEICA SF 58, automatically adjusts the reflector to match the focal length of the lens attached.

### **The viewfinder / rangefinder**

The Leica viewfinder / rangefinder system sets the LEICA M9 apart from the market dominating SLR and compact digital cameras and makes it particularly suitable for vibrant reportage photography, 'available light' exposures and discreet portraiture. Photographers become part of the action and frame whatever they wish to capture in the viewfinder – a scene, a mood, a moment. Simultaneously, the photographer still perceives what is going on outside the viewfinder frame. The decisive moment can be anticipated, and can therefore be captured at precisely the right instant. This results in particularly authentic images that are in no way impaired by the presence of the photographer.

The clear view of the subject remains even during exposure and, even in the most adverse lighting conditions, the bright, high-contrast viewfinder guarantees extremely fast and precise focusing. In combination with the minimal delay between releasing the shutter and capturing the shot – in digital photography too – the combined viewfinder / rangefinder system positions Leica M cameras amongst the fastest cameras in the world.

In contrast to SLR photography, where focusing must take place through the lens and focal length and aperture determine focusing accuracy, the rangefinder base of the Leica M remains precisely the same, independent of the actual lens being used. This is the reason why its focusing precision is immensely superior for shorter focal lengths. The highcontrast, rectangular RF spot in the centre of the viewfinder guarantees fast, precise, and pin-sharp focusing, even under adverse lighting conditions.

The frame selector lever allows photographers to simulate different compositions with alternative focal lengths and assess the most appropriate lens for the shot without changing lenses. Because their position is automatically adjusted by automatic parallax compensation depending on the focusing distance, the six different bright-line frames always show the precise image framing. The bright-line viewfinder shows all other information relevant to the capture of a perfect image and the peripheral area around the envisaged subject, thus providing ideal conditions for spontaneous and unobtrusive photography.

### **The shutter**

The LEICA M9 features a new, microprocessor-controlled, particularly silent, metal-leaf, focal-plane shutter that enables shutter speeds of up to 1/4000 seconds. This means that the photographer still has complete creative freedom by using selective focus at maximum apertures, even in bright situations. The short flash synchronisation speed of 1/180 seconds enables daylight flash exposures with selective focus.

Together with its compact form, the camera's almost silent shutter is another enormous advantage for discreet and unobtrusive photography. Photographers can also select the appropriate moment for re-cocking the shutter. When longer exposure times requiring an extremely steady camera stance are essential, a slight pressure on the shutter release button in 'soft release' mode is sufficient.

### **Intuitive handling**

The LEICA M9 concentrates the photographer's attention on photographic essentials, not on setting the camera. Particular diligence, many years of experience and vast knowledge of how professional photographers work have all influenced the handling concept for the digital functions of the LEICA M9. The result is a simple, clearly laid-out and intuitive user guidance system that concentrates purely on essentials. Multifunction buttons and complex menu hierarchies have been consistently avoided.

The key control element is an intuitive four-way switch and dial combination that enables fast menu navigation. Pressing the set button calls up the capture parameter menu on the 2.5" monitor screen. The most important image-capture parameters are quickly and easily set in this menu: sensor sensitivity, exposure correction, white balance, image-data compression, resolution. Free profile storage spaces are also available for fast access to frequently used or application-specific combinations.

The menu button is also used for changing more permanent basic values in the clearly laid out system menu. The photographer can also choose whether the captured image is displayed immediately for assessment on the large monitor, how long it should be displayed and whether an additional tonal value histogram is shown.

The LEICA M9 has a delayed shutter release function with a choice of two countdown times of 2 and 12 seconds.

The technical features of the LEICA M9 allow it to adapt flexibly to its intended use. Its sensitivity ranges from ISO 80 (PULL 80) for wide-open apertures on bright days to ISO 2500. At the same time, very low-noise and finely detailed images are achieved throughout the sensitivity range, even at the highest settings. The very low noise characteristics, a bright viewfinder / rangefinder, low-vibration shutter and fast lenses make the M9 the perfect camera for 'available light' photography.

### **Innovative flash technology**

The M-TTL flash technology installed in the LEICA M9 enables both precise and creative control over flash and mixed lighting effects. Prior to the actual exposure, a measuring flash is emitted that is metered through the lens. The flash power is then precisely determined under consideration of the natural lighting situation. Thanks to the precise and delicate dosage of flash illumination, the natural lighting mood is maintained in the best possible way. In combination with the aperture priority exposure mode, the auto-slow sync function ensures a particularly subtle lighting of the subject, whereby the longest shutter speed may be set manually or, when using 6-bit coded lenses, automatically, according to the 1/focal length rule of thumb.

### **Image assessment with the tonal value histogram**

As a professional digital camera, the LEICA M9 naturally offers an RGB tonal value histogram. The histogram can be displayed at any time for the assessment of stored images. This feature is also available in conjunction with the automatic image review function. A useful additional aid is the indication of overexposed image areas by means of a so-called clipping warning. These two quality control tools are updated for enlarged views and thus allow the quality of even the finest image details to be assessed. Pressing the info function button displays all photographically relevant settings as well as additional metadata stored in the image files. These functions enable full control over captured results at the shooting location of the digital images.

### **Digital workflow**

The M9 is supplied complete with Adobe Photoshop Lightroom, a professional digital workflow solution for Apple Mac OS X and Microsoft Windows. The software is available as an online download for all LEICA M9 customers. This also ensures that the latest release is always readily available. Adobe Photoshop Lightroom offers a vast range of functions for the management, processing and presentation of digital images, quite independent of whether the images are in space-saving and fast jpeg format or in DNG format to preserve all image information. If the images from the M9 are saved as raw data in the standardized and future-proof Adobe Digital Negative Format (DNG), Adobe Photoshop Lightroom, with its sophisticated and precise processing options, guarantees direct and extremely highquality image processing with maximised image quality. The 14-bit-per-channel colour information captured by the image sensor is maintained throughout the processing workflow right up until the final presentation, and ensures that the most delicate tonal differentiations are preserved in maximum quality after completion of the post-processing sequence.

### **Materials, finish and dimensions**

The tough and resilient top deck and base plate of the M9 are machined from solid brass blanks using the latest tools. The full-metal body is manufactured from a high-strength magnesium alloy that ensures a long and reliable professional working life. The rechargeable battery and the SD card slot are protected from dust and moisture under the base plate. The locking mechanism of the base plate effectively prevents unintentional opening and the subsequent loss of the battery and SD card even under the hardest reportage conditions. In addition, this long-established construction concept, already employed for decades in the Leica M System, significantly increases the structural stability of the camera body.

The experienced hands of Leica technicians at the factory in Solms are responsible for the assembly and calibration of M9 bodies and the precise testing of all mechanical and electrical components. The experience gathered over decades of maintenance and repairs by Leica Customer Service creates a solid foundation for long life and enduring value. Even today, the service department maintains and repairs all M cameras built since 1954.

### **Sensor cleaning**

The LEICA M9 offers a special function for manual sensor cleaning: selecting the appropriate item from the menu and pressing the shutter release locks the shutter open to allow access to the sensor for cleaning purposes. Thanks to the short register of Leica M cameras, the sensor is easier to access than is the case with DSLR cameras in which the sensors are located behind the mirror box and shutter assembly.

## Question and Answers LEICA M9

### **Who developed the digital components of the M9?**

The digital electronics as well as the image processing was developed in cooperation with our proved partner, Jenoptik AG, Jena, Germany, that also the developed these components in the LEICA M8 and M8.2.

### **Why does the LEICA M9 not use the Maestro processor?**

The use of conventional DSP components allows a very flexible treatment on JPG processing, a great advantage with the very unique sensor design of the M9 sensor. In addition, the LEICA M9 was developed parallel to the LEICA S2. Due to the development schedule, we awarded the contract for the digital components to Jenoptik.

### **How was the need for the UV/IR Filter eliminated?**

The LEICA M9 uses a cover glass in front of the sensor which functions as an absorption filter for infrared light. Through increased thickness and glass selection, different than the M8, it is possible to eliminate the need for additional filters on the lens. The effect of the incorporated filter is on the same level as other current professional cameras. In extreme situations (black synthetic fabric under low tungsten illumination), a slight IR effect (Magenta color shift) can be seen.

### **I use both the M8 and M9. Can I leave the UV/IR filters on the lenses?**

For focal lengths of 35mm and longer, yes. For focal lengths wider than 35mm this is not recommended, because through the UV/IR filter a color shift will appear in the corners.

### **Is a Silver chrome version planned?**

No, this is not planned. Silver lenses match the control elements on the steel gray version.

### **Who produces the sensor?**

The CCD picture sensor is supplied by Eastman Kodak, Rochester USA, who also supplies the sensors for the M8 and S2.

### **Why does the M9 not have an image preview function?**

The sensor is a so-called "full frame sensor" (this has nothing with the size of the sensor, but describes the mode of operation). In this sensor type, all pixel lines simultaneously are submitted for image analysis, the amount of data would be too large and the refresh rate too slow for a preview. Full frame sensors offer the highest image quality, therefore Leica selected this technology for the M9.

### **Why doesn't the M9 have sapphire monitor cover glass? Can it be retrofitted?**

Sapphire glass the size the 2.5" monitor is very expensive. A goal in the development of the M9 was to be able to offer the camera for an attractive price as possible. Therefore we decided not to offer the sapphire glass. A retrofit is not planned. Depending upon demand, we may offer this as a retrofit or an additional model in the future.

### **Why is Adobe Photoshop Lightroom offered instead of Capture One 4?**

With Adobe we could partner with the leading provider of image processing software. Adobe Photoshop Lightroom offers a substantially larger feature range than Capture One. With Lightroom, DNG files can be converted, but additionally functions include image processing, archiving, printing preparation and web gallery functions.

**Can my LEICA M8 or M8.2 be upgraded with the Sensor of the M9?**

No. In addition to the sensor, many additional and components have been changed (e.g. the shutter) an upgrade of the M8 or M8.2 is economically non-sense and therefore not offered.

**Why was the display for battery and pictures remaining on the top plate omitted?**

The monitor offers substantially more room for a clear and exact display of the data and permits additional information such as card size, shutter speed and lens type. In contrast to the display on the M8, the information can be easily seen in low light situations. For this reason we decided to remove the display in the top plate.

**Why are the framelines calibrated at 1m, instead of 2m as in the M8.2?**

As a result of the larger sensor size compared to the M8 and M8.2, a much smaller enlargement factor of the lens arises. Therefore the proven setting of the LEICA M7/MP was selected for the M9.

**Can I use my 135mm lenses on the LEICA M9?**

The LEICA M9 possesses a 135mm bright line frame. 135mm lenses can be used on the M9. Because of the narrow depth of field of this focal length and resulting ultra precise focusing required, we recommend stopping the lens down at least 2 aperture steps. The current LEICA POTELYT-M 135mm/f3.4 will not be available in a 6-bit coded version.

## The benefits of the LEICA X1

- \_\_\_ A huge size sensor (APS C) in combination with the Leica Elmarit 1:2,8/24 ASPH lens provides an outstanding best in class picture quality. A unique concept for a digital compact camera.
- \_\_\_ Easy handling and full control for the ambitious photographer as well as for the unpracticed user
- \_\_\_ A real Leica “Made in Germany”
- \_\_\_ Adobe Photoshop Lightroom – the professional software for management, processing and presentation of digital images

We are pleased to announce our new LEICA X1. The LEICA X1 is a high performance compact camera and follows the design tradition of the classical Leica cameras. It combines professional picture quality with an optimum of performance in a compact body.

The LEICA X1 is a tool for the ambitious photographer but as well appeals those who seek for the extraordinary and unique. With regards to the compact size the X1 disappears discrete in the pocket of your jacket if required but is in full cry during the photo session.

Additionally Leica will offer a wide range of optional accessories for the X1. In addition to the bright line finder, the handgrip and the flash there will be a selection of three high quality cases:

1. Die LEICA X1 leather case styled like the D-Lux cases
2. Die LEICA X1 ever ready case, carries the camera with the mounted handgrip and offers a holster for the bright line finder on its strap
3. Die LEICA X1 system case with space for the camera and complete accessories

The scope of delivery of the LEICA X1 includes a license for Adobe Photoshop Lightroom, a professional digital workflow solution available for both Mac OS X and Microsoft Windows perating systems. The software is free of charge and can be downloaded by LEICA X1 customers, to guarantee that the most current version is always available.

### **Scope of delivery:**

LEICA X1 camera, leather carrying strap, battery LEICA BP-DC8, battery charger (LEICA BC-DC8), battery protector, USB-cable, lens cap, instructions, Adobe Photoshop Lightroom (after registration of the camera via download)

# Technical description LEICA X1

## Sensor

With its APS C-size the CMOS image sensor of the X1 is as huge as the sensor of a high end DSLR camera. Despite the high resolution of 12,2 mega pixels the dimension of a single pixel still remains sizeable, collects plenty of light and ensures a minimum rate of image noise, a high dynamic range and an accurate colour detection.

## LEICA ELMARIT 1:2.8/24 ASPH lens

Reams of ikons arised from the focal length of 35 mm. Still a classic amongst the reportage photography it remains of high topicality. The LEICA ELMARIT 1:2.8/24 ASPH is a real Leica lens with an outstanding performance precisely because of its famous focal length of 35 mm equivalent after conversion. With its tendency to a slide wide angle it creates sufficient distance if necessary and allows to approach the motive to pick up the details.

Thanks to the huge sensor with a maximum sensitivity of ISO 3200 combined with its fast lens, the camera allows a comprehensive number of creative options with the available light. Even under inadequate illumination the picture quality remains on a high level.

## Handling – Automatic settings and manual control

The LEICA X1 offers versatile photography with regards to her numerous automatic functions and manual individual settings. The photographer can choose the easy way and let the camera takeover the lead of exposure or shutter settings in the automatic mode or switch over to manual controls by using the wheels on top of the camera. Thus the X1 allows the photographer to keep full control for individual creative art work and at the same time provides the automatic mode to keep the capability for quick response.

## Autofocus

The LEICA X1 autofocus works precisely and fast. It provides an AF Metering range of 1-point, 1-point high speed, 11-point, 11-point high speed and spot as well as a face detection mode that can be used for portraits photography to concentrate on the selection of the details if required.

## Workflow software – Adobe Lightroom

The X1 is supplied complete with Adobe Photoshop Lightroom, a professional digital workflow solution for Apple Mac OS X and Microsoft Windows. The software is available as an online download for all LEICA X1 customers. This also ensures that the latest release is always readily available. Adobe Photoshop Lightroom offers a vast range of functions for the management, processing and presentation of digital images, quite independent of whether the images are in space-saving and fast jpeg format or in DNG format to preserve all image information. If the images from the X1 are saved as raw data in the standardized and future-proof Adobe Digital Negative Format (DNG), Adobe Photoshop Lightroom, with its sophisticated and precise processing options, guarantees direct and extremely high-quality image processing with maximised image quality.

## Optional accessories

Leica provides a wide range of accessories for the X1. With regards to the focal length of the X1 a dedicated bright line finder can be mounted on the hot shoe of the camera. The optional handgrip allows the photographer to hold the camera one-handed and provides a better grip.

Furthermore a comprehensive range of cases will be available for the LEICA X1. The ever ready case carries the camera with the mounted handgrip and offers a holster for the bright line finder on its strap. The high quality leather case gives an optimum of protection and the system case provides space for all of the accessories offered for the LEICA X1.

## Questions and Answers for LEICA X1

### **What was the background to choose a lens with fixed focal length and no zoom lens?**

The combination of the LEICA ELMARIT 1:2.8/24 mm lens and the APS sensor guarantees a best in class image quality. Compared to a zoom lens the imaging quality of a fixed focal length lens offers much better performance.

As things are now a zoom lens would have a significant effect on the dimensions of the camera and would require a bigger size of the X1 body. One of the requirements of the camera was to develop a high end camera in a compact body.

### **Will there be zoom version in the future?**

First of all our priority is to position the LEICA X1 in the market as the best in class compact camera. Of course Leica is thinking about further developments including a zoom lens model based on the X1 platform concept. A zoom version is one of the logical options in this connection.

### **Is it a real “Made in Germany” camera? To what extent was it developed in Germany?**

It is a real Leica “Made in Germany”. A major part of the added value of the LEICA X1 is created in Germany. Of course there are various numbers of parts that have been sourced in Asia like the sensor, display or other different mechanical parts that are not available in Germany.

### **Will there be an impact on Leica’s business relationship to Panasonic?**

Leica X1 is positioned in the mid price range of the Leica product portfolio. It covers the gap in the price class between the D-Lux and C-Lux and the M-cameras. Thus the LEICA X1 will not affect our product strategy for the models below 1.000€. Those cameras will be, together with Panasonic, continuously developed in the future.

### **What about the X1 with interchangeable lenses?**

Leica is not planning to launch a X1 version with interchangeable lenses in the medium term.

We are actually concentrating our power and resources on the development and completion of the range of lenses for the M- and S-cameras.

### **Where does the sensor come from?**

The APS-C sensor is supplied by Sony, it is the same sensor that is been used in the Nikon D300 and D90.

### **Is it a real Leica lens?**

The LEICA ELMARIT 1:2.8/24 mm is a real 100% Leica lens with the quality and range of benefits our customer expects from a Leica product with regards to the optical performance.