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LEICA M-E

說明書

English instructions on pages 89-176

前言

親愛的顧客，

感謝您購買徠卡 M-E 相機，並恭喜您慧眼獨具選擇了這台獨一無二的數位測距式相機。

衷心期望這台嶄新的徠卡 M-E 相機，能帶給您許多攝影樂趣和滿意的成果。

我們建議您先閱讀本說明書，以便正確使用此台相機的所有功能。



产品说明书附件
SUPPLEMENT TO PRODUCT INSTRUCTIONS

这个文件涉及的是在中华人民共和国境内进口或销售的电子信息产品
Include this document with all Electronic Information Products
imported or sold in the People's Republic of China

LEICA M-E	有毒有害物质和元素 Toxic and Hazardous Substances and Elements					
	铅 Lead (Pb)	汞 Mercury (Hg)	镉 Cadmium (Cd)	六价铬 Hexavalent Chromium (Cr(VI))	多溴联苯 Polybrominated biphenyls (PBB)	多溴二苯醚 Polybrominated diphenyl ethers (PBDE)
部件名称 Part Name						
电路模块 (Circuit Modules)	○	○	○	○	○	○
电缆及电缆组件 (Cables & Cable Assemblies)	○	○	○	○	○	○
金属部件 (Metal Parts)	X	○	○	○	○	○
塑料和聚合物部件 (Plastic and Polymeric parts)	○	○	○	○	○	○
光学和光学组件 (Optics and Optical Components)	○	○	○	○	○	○
电池 (Batteries)	○	○	○	○	○	○
<p>表示该有毒有害物质在该部件所有均质材料中的含量均在SJ/T11363-2006标准规定的限量要求以下 O: Indicates that this toxic or hazardous substance contained in all of the homogeneous materials for this part is below the limit requirement in SJ/T11363-2006.</p> <p>表示该有毒有害物质至少在该部件的某一均质材料中的含量超出SJ/T11363-2006标准规定的限量要求。 X: Indicates that this toxic or hazardous substance contained in at least one of the homogeneous materials used for this part is above the limit requirement in SJ/T11363-2006.</p>						
<p>All parts named in this table with an X are in compliance with the European Union's RoHS Legislation "Directive 2002/95/EC of the European Parliament and of the Council of 27 January 2003 on the restriction of the use of certain hazardous substances in electrical and electronic equipment."</p>						
<p>除非另外特别的标注,此标志为针对所涉产品的环保使用期标志。某些零部件会有一个不同的环保使用期(例如,电池单元模块)贴在其产品上。 此环保使用期限只适用于产品是在产品手册中所规定的条件下工作。 The Environmentally Friendly Use Period (EFUP) for all enclosed products and their parts are per the symbol shown here, unless otherwise marked. Certain parts may have a different EFUP (for example, battery modules) and so are marked to reflect such. The Environmentally Friendly Use Period is valid only when the product is operated under the conditions defined in the product manual.</p>						

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警告提示

- 僅能使用建議的配件，以避免干擾、短路或電擊。
- 請勿讓器材暴露在濕氣或雨水中。
- 請勿嘗試拆除機身零件(外蓋)；專業修理工作僅能由獲得授權的維修單位執行。

法律提示：

- 請遵守著作權法。未經授權自行轉載或公開播放轉錄媒體，例如經由錄影帶、CD、他人發行或寄送的内容，皆有可能違反著作權法。
- 此點對於所有附贈的軟體亦然。
- SD符號為一種商標。
- 其他在本說明書裡提到的商標、公司及產品名稱皆為相關公司的商標及註冊商標。



電機及電子裝置的廢棄處置

(適用於歐盟以及其他有獨立回收系統的歐洲國家)

本裝置包含電機及/或電子組件，因此不得棄置於一般的家庭垃圾內！必須送到由地方政府設置的資源回收點，所提供免費的服務。若裝置本身包含可交換式電池或充電電池，則必須事先將這些零件取出，且按當地規定進行廢棄處置。

其他和本主題相關的資訊，可從當地政府、廢棄物處理公司或在購買產品的商店處得知。

出貨內容

開始操作徠卡M-E相機之前，請先檢查附贈的配件是否齊全。

- A. 電池
- B. 充電器
- C. 揹帶

各部名稱

前視圖


- 1.1 鏡頭解鎖鈕
- 1.2 揷帶吊耳
- 1.3 測距儀的視窗
- 1.4 亮度感測器¹
- 1.5 取景框線的採光窗
- 1.6 含鏡射面的觀景窗物鏡，可在非常亮的環境下，清楚辨識觀景窗顯示的訊息
- 1.7 自拍器發光二極體
- 1.8 底蓋的固定扣

相機鏡頭接座的前視圖/ 鏡頭接座的後視圖

- 1.9 鏡頭辨識用感測器
- 1.10 6-位元鏡頭辨識記號

¹ 有觀景窗座的徠卡M型鏡頭會遮住亮度感測器，關於這種或其他鏡頭使用方式的資訊，請看第10頁「顯示訊息 / 觀景窗內」及第22頁「徠卡M型鏡頭」這兩個章節。

上視圖

- 1.11 固定環，含
 - a. 對焦用指標
 - b. 景深範圍刻度尺及
 - c. 鏡頭更換用紅色指示鈕
- 1.12 對焦環，含
 - a. 握把
- 1.13 光圈設定環
- 1.14 光圈設定用白色指標點
- 1.15 遮光罩
- 1.16 快門時間設定轉盤，含
 - **A** 快門時間自動控制的停格位置
- 1.17 含各功能停格位置的主開關
 - **OFF** (相機關機)
 - **S** (單張拍攝)
 - **C** (連續拍攝)
 -  (自拍器)
- 1.18 快門鈕，含
 - a. 線控快門線用螺紋
- 1.19 閃燈靴座，含
 - a. 中央(觸發)接點及
 - b. 控制接點，還有
 - c. 固定銷孔

背視圖

- 1.20 SET-鍵，用於呼叫攝影參數選單 / 用於呼叫選單操控功能內的子選單 / 使用接受子選單內選擇的設定或功能。
- 1.21 INFO-鍵，用於在攝影模式下顯示設定或日期 / 在播放模式下顯示拍攝日期
- 1.22 ISO-鍵，用於開啟感光度設定
- 1.23 DELETE鍵，用於選擇刪除功能
- 1.24 PLAY鍵，開啟（持續）播放作業 / 回到全畫面顯示模式
- 1.25 觀景窗目鏡
- 1.26 MENU鍵，用於開啟 / 關閉主選單
- 1.27 中央設定調整轉盤，用來操控選單 / 設定所選擇的選單項目或功能 / 設定曝光修正值 / 翻閱記憶體中的相片，以及放大 / 縮小所觀賞的相片
- 1.38 十字鍵，用於選單中的操控動作 / 設定所選擇的選單 / 功能項目 / 使用於相片記憶體中翻頁
- 1.29 顯示攝影進行中 / 資料儲存中 / 的訊號燈
- 1.30 顯示幕

下視圖

(裝上底蓋時)

- 1.31 三腳架螺孔A $1/4$, DIN 4503 ($1/4$ ")
- 1.32 底蓋
- 1.33 底蓋的轉鈕

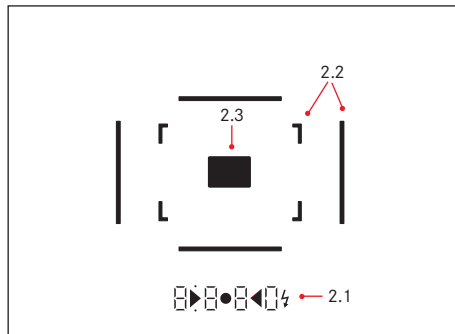
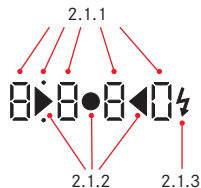
(取下底蓋時)

- 1.34 充電電池室
- 1.35 充電電池閃鎖推桿
- 1.36 記憶卡槽

充電器

- 1.37 綠色 (CHARGE) 訊號燈顯示充電過程進行中
- 1.38 黃色 (80%) 訊號燈顯示：充電已滿80%
- 1.39 充電電池用充電槽，含
 - a. 接點
- 1.40 車用充電線接頭
- 1.41 2針式接頭用於
- 1.42 可交換式電源線

顯示訊息



2. 觀景窗內

2.1 藉由 LED

(發光二極體) 顯示

(有自動亮度控制功能，配合外界亮度¹)
用於：

2.1.1. 四位數七格格式數位顯示，含位於上方
和下方的點狀數位燈號

數位顯示：

- 顯示光圈先決A時自動設定的快門時間，以及大於1秒的較長快門時間過程
- 光圈先決A下，超出及未達測光和設定範圍時的警告訊息
- 曝光修正值的顯示（調整設定中短暫出現）
- (暫存資料用)暫存記憶體已滿的提示
- SD卡未插入的提示 (Sd)
- SD卡已滿的提示 (Full)

上方點狀燈號：

- 使用測光值儲存功能的提示(恆亮)

下方點狀燈號：

- 使用曝光修正功能的提示(閃爍)

2.1.2 兩個三角形及一個圓形的LED訊號燈：

- 使用快照設定：圓形LED燈號用來顯示曝光正確，右邊的三角形LED代表有過度曝光可能的情形，左邊的三角形LED代表有晃動及 / 或曝光不足
- 手動調整設定時：共同作為曝光平衡的衡量指標
- 警示超出測量範圍

2.1.3 閃光燈符號：

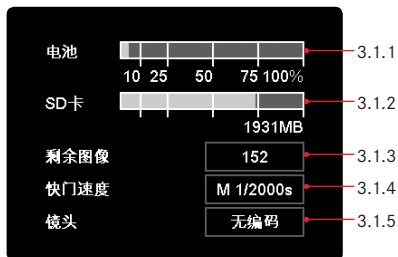
- 閃光燈就緒
- 攝影前後閃光燈曝光的數據資料

2.2 50mm 及 75mm 鏡頭用的取景框線
(範例)

2.3 焦距設定用的對焦區

¹ 含觀景窗座的徠卡M型鏡頭無法進行自動控制功能，因為它會遮住為該功能提供對應資訊的亮度感測器1.4°。在這種情形下，顯示訊息會持續以恆定的亮度顯示。

3. 顯示螢幕上



3.1 攝影時

(按下 INFO 鍵, 1.21)

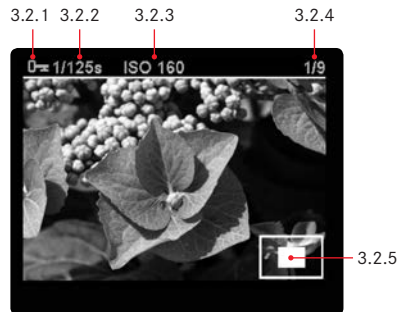
3.1.1 電池容量

3.1.2 以MByte為單位的剩餘記憶體容量

3.1.3 剩餘可拍張數

3.1.4 設定 / 控制的快門時間

3.1.5 鏡頭型號



3.2 一般的播放

(全螢幕顯示相片)

3.2.1 防止刪除符號 (有設定此功能時才會出現)

3.2.2 快門時間 (放大顯示時不會出現)

3.2.3 感光度 (放大顯示時不會出現)

3.2.4 相片編號 / 現存相片總張數

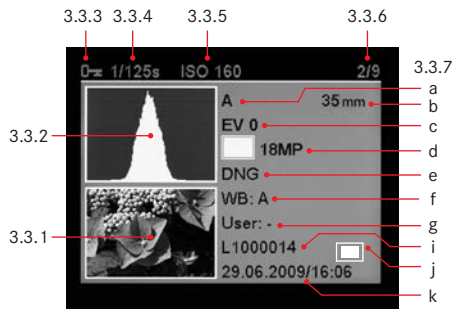
(放大顯示時不會出現)

3.2.5 放大等級及所顯示局部畫面的位置

(概要, 只有在放大播放時才會出現)

3.2.6 選取的相片

(只適用於4格及9格縮小播放時)



3. 顯示螢幕上 (續)

3.3 提供額外資訊的播放

(按下INFO 鍵, 1.21; 畫面縮小)

3.3.1 畫面 (視情況會有「截圖」顯示¹)

3.3.2 階調分布圖

a. 明度 (亮度)

b. 紅 / 綠 / 藍

(分開顯示單一顏色)

3.3.3 防止刪除符號 (有設定此功能時才會出現)

3.3.4 快門時間

3.3.5 感光度

3.3.6 相片編號 / 現存相片總數

3.3.7 相片資料

a. 測光作業模式

b. 焦距²

c. 曝光修正值

d. 解析度

e. 壓縮率 / 檔案格式

f. 白平衡

g. 使用者風格名稱

i. 檔案編號

j. 放大等級, 及顯示畫面局部的位置

(有設定此功能時才會出現)

k. 日期 / 時間

¹ 請參閱第 30頁的「階調分布圖」。

² 只有在使用具備6位元編碼的新型徠卡M型鏡頭或是相當的改裝鏡頭 (請看第22頁) 時, 或是在選單裡手動設定時 (請看第36頁)。

4.1 主選單 (透過MENU鍵，1.27)

選單項目	說明	使用快照設定的固定設定
4.1.1 鏡頭檢測	-	自動
4.1.2 用戶個人設定	使用者特定個人風格 (儲存)	不可使用
4.1.3 高級	防手震拍攝 / 快門上絃的時間點	標準
4.1.4 自拍設定	自拍器-前置時間	12秒
4.1.5 ISO自動設定	-	ISO自動/根據鏡頭焦距設定/ ISO 800 (最高)
4.1.6 銳度調整	相片銳利度	標準
4.1.7 色彩飽和度調整	相片色彩飽和度 / 黑白	能用
4.1.8 反差調整	相片對比	標準
4.1.9 包圍曝光設定	拍攝張數 / 等級 / 順序	不可使用 (=關閉)
4.1.10 曝光補償設定	透過選單 / 中央設定轉盤	不可使用
4.1.11 顯示屏亮度調節	-	標準
4.1.12 色階分佈圖	顯示階調分佈情形的圖示	標準
4.1.13 文件夾管理..	變更 / 重新輸入名稱	不可使用
4.1.14 自動回放	自動播放最後一張相片	3秒(階調分佈圖關閉)
4.1.15 節電設置	自動關機	2分鐘
4.1.16 閃光同步	-	第一幕帘
4.1.17 自動慢速閃光同步	閃光燈快門時間	根據鏡頭焦距設定
4.1.18 色彩管理	工作用色彩空間	sRGB
4.1.19 DNG設定	原始資料壓縮	不可使用
4.1.20 所有設定復位	(回到出廠預設值)	不可使用
4.1.21 傳感器清潔	打開快門以便清潔感光元件	不可使用
4.1.22 日期	-	能用
4.1.23 時間	時間	能用
4.1.24 聲音信號	按鍵提示音	關閉
4.1.25 語言	語言	能用
4.1.26 格式化SD卡	將記憶卡格式化	能用
4.1.27 固件版本	韌體版本	不可使用

提示：

使用快照設定時只有一種選單，裡面只包括灰底項目，其他項目則不會出現，不是固定值就是不能使用。

4.2 攝影選單 (透過SET鍵, 1.20)

選單項目	說明	使用快照設定的固定設定
4.2.1 白平衡	白平衡	自動
4.2.2 壓縮格式	壓縮率 / 檔案格式	JPG精細
4.2.3 分辨率	解析度	18 MP
4.2.4 曝光補償	曝光修正 (設定)	不可使用
4.2.5 包圍曝光	開啟 / 關閉	不可使用
4.2.6 用戶個人設定	使用者特定個人風格 / 快照設定 (開啟)	速写模式

簡介

請您準備好下列物品：

- 相機
- 充電電池(A)
- 記憶卡 (請自行購買)
- 充電器(B)

預設功能

1. 請將電池(A)放進充電器(請看第18頁)
2. 將充電器(B)接上電源，讓電池充電 (請看第18頁)
3. 將主開關 (1.17) 設定到**OFF** (請看第24頁)。
4. 將電池安裝到相機裡 (請看第20頁)。
5. 插入記憶卡 (請看第21頁)。

6. 將主開關 (1.17) 設定到**S** (請看第24頁)。
7. 設定您想要的選單語言 (請看第34頁)。
8. 將記憶卡格式化 (請看第69頁)

提示：

- 這項動作通常只有在記憶卡未於出廠前格式化時才有必要。
- 用簡單格式化的方法時，記憶卡上存在的資料並不是真的失去而無法回復，而只是將目錄刪除，讓現有的檔案無法直接存取而已，使用對應的軟體即可再度存取那些資料。只有透過接下來儲存新資料覆寫上去的方法，那些資料才真正被徹底刪除。因此請您養成習慣，將所有您的相片儘快轉存到安全的儲存裝置上，例如您電腦的硬碟 (請參閱第69頁)。

9. 設定日期和時間 (請看第34頁)。

攝影

10. 用相機對準想要拍攝的目標 (請看第23頁)。
11. 將快門時間設定轉盤設定到**A** 以便相機自動控制快門時間 (請看第28頁)。
12. 把眼睛靠在觀景窗上，使用對焦設定環調整焦距 (請看第46頁)。
13. 按壓快門按鈕 (1.18) 到第一段壓點，以啟動相機的測光功能。
14. 必要時利用鏡頭上的光圈設定環 (1.13) 修正曝光 (請看第48頁)。
15. 壓下快門按鈕完成拍攝動作。

觀看所拍攝到的相片

自動短時間顯示方才拍攝的相片（在攝影作業模式下）：

徠卡 M-E 出廠時已經預設啟動此功能 - 自動回放 在主選單裡這個項目 (4.1.14) 底下可以選擇不同的功能（請看第25頁）。

不限時的播放：

1. 按壓 **PLAY** 鍵，選用播放作業模式（請看第62頁）。
2. 按下十字鍵 (1.29) 的左鍵或右鍵，以便檢視其他相片。

提示：

若使用連續拍攝功能（請看第27頁），在兩種播放作業模式之下都會先顯示該系列的最後一張相片或者是該系列儲存在記憶卡的最後一張相片 - 除非該系列拍攝的所有相片都從相機內建記憶體轉存到記憶卡了

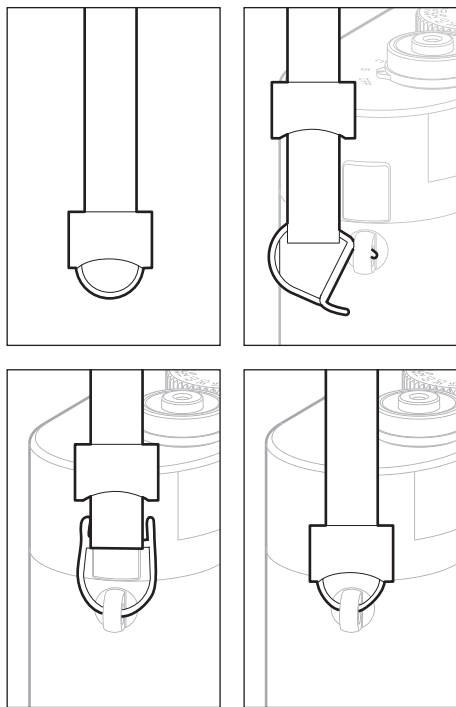
放大顯示螢幕上的相片

將中央設定轉盤 (1.27) 向右轉（順時針方向），以便放大觀看顯示的相片（請看第63頁），刪除相片按下刪除鍵（**DELETE** 鍵，1.23）然後遵循螢幕 (1.30) 上的說明（請看第65頁）。

詳細說明

準備工作

裝上揸帶



將充電電池充電

使用徠卡 M-E 由鋰離子充電電池 (A) 提供必要的電力。

注意：

- 僅能使用本說明書裡描述的充電電池種類，以及由徠卡相機公司所規定之相機充電電池種類。
- 這些充電電池僅能用專門設計的（亦即以下所說明的）裝置充電。
- 違反使用規定，以及使用不合規定種類的充電電池，可能會導致電池爆炸！
- 充電電池不得長時間暴露於熱源或日曬、溼度或濕氣之下，亦不得置於微波爐或高壓容器內，否則將會發生失火或爆炸的危險。
- 充電電池內的安全閥應確保釋放因不當操作或其他原因所產生的過度壓力。
- 僅能使用本說明書裡提及說明的充電器，或是訂購編號 14 463 的徠卡充電器，使用其他不是由徠卡相機公司許可的充電器，可能會對充電電池造成損害，嚴重情形下甚至可能造成嚴重、及生命危險的傷害。
- 隨機附贈的充電器僅能用於充電電池充電，請勿嘗試使用於其他用途。

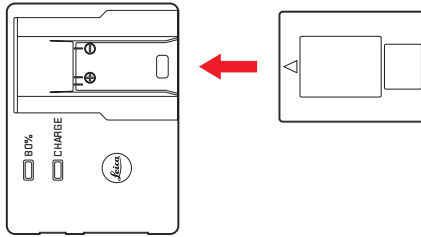
- 在充電器已連接電源的情況下，請切勿使用產品隨附的車用充電器。
- 充電時使用的電源插座，應該位於隨手可及之處。
- 充電器及電池不可以拆解。只能由獲得授權的工廠修理。

提示：

- 充電電池應該在首次使用徠卡 M-E 之前先充電。
- 充電電池的溫度應該在 0°-35°C 之間才能夠充電。（否則充電器不會開機，且會再度關機。）
- 鋰離子充電電池不管蓄電狀態如何，都可以充電。若原先還有蓄電，則充電電所需的時間會較短。
- 充電過程中電池會發熱，屬正常現象，而非故障。
- 如果兩個訊號燈（1.37/1.38）在開始充電後快速閃爍（>2Hz），表示充電有問題，請將充電器的電源拔掉並取出充電電池。請確定符合上述的溫度條件，然後再重新充電。若是問題再度發生，請與經銷商、所在國家的徠卡代理商或徠卡相機公司聯絡。

- 新的充電電池要先完全充電，並且裝在相機裡使用，再充分放電2-3次之後，才能達到其完整容量。應該大約每25次周期後就再重覆執行充分放電過程。
- 為讓充電電池的使用壽命達到最長，應避免長時間放置在溫度極高或極低的環境中（例如在夏天或冬天，放在停駛的汽車裡）。
- 每顆充電電池的使用壽命即便在最佳的使用條件下都是有限的！在經過幾百次充電周期之後，操作時間即會明顯縮短。
- 損壞的充電電池，應該遵照相關規定（請看第6頁）處置。
- 相機裡有一顆內建的備用充電電池，用以儲存相機設定的資料（例如日期），最長可用3個月。如果備用充電電池的電量耗盡，即必須裝上可交換式充電電池對其充電。在裝上可交換式充電電池後，備用充電電池大概60小時可充到完整容量。這段期間，相機必須保持不開機。

1. 若接上充電器，亦即是將電源線（1.42）的電線插頭插到充電器（1.41）的對應插座中，並將電源插頭插到室內電源插座。
2. 將充電電池的接點朝下，有箭頭標示的那一面朝前放進充電器的充電槽（1.39）。充電槽的形狀能防止電池錯置。



- 綠色的CHARGE訊號燈（1.38）開始閃爍，即表示電池開始充電了。只要充電電池到達至少 $\frac{1}{3}$ 的容量，黃色、標示80%的LED（1.38）就會發亮。為讓充電電池的使用壽命達到最長，應避免長時間放置在溫度極高或極低的環境中（例如在夏天或冬天，放在停駛的汽車裡）。

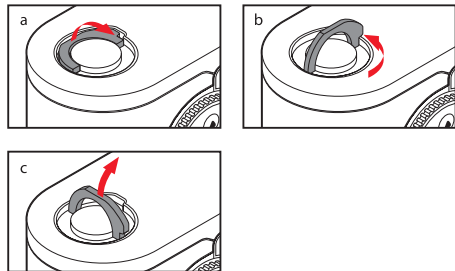
提示：

80%-LED因充電特性之故，在大約2小時之後就已經到達此充電電池容量的一半，而且已經足供280張相片拍攝之用。所以除非您一定要讓電池充滿到可以拍攝350張相片的容量，本機算是可以在相當短的時間內回復就緒狀態。

3. 接著應該拔除充電器電源，充電時並不會有過度充電的危險。
4. 請從充電槽裡抽出或是推出電池（充電槽的上端有個缺口以便推取電池）。

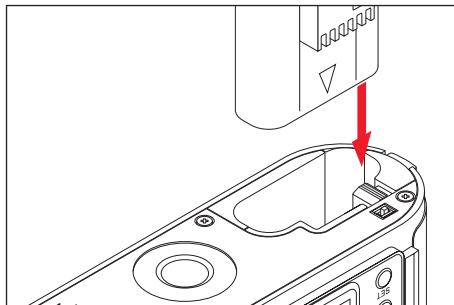
將電池裝入相機／ 從相機取出

1. 將主開關 (1.18) 設定到 OFF。



2. 取下相機的底蓋 (1.32)。步驟：

- 將底蓋的門扣 (1.33) 往上扳，
- 將它向左旋轉，然後
- 將底蓋拿起來。



3. 讓充電電池的接點朝前，放進電池室裡，將電池往電池室 (1.34) 裡面按，讓有彈簧的白色門鎖推桿 (1.37) 跳到電池上面固定住。

4. 重新裝上底蓋，步驟：

- 將其掛在相機側面的固定扣 (1.8) 上。
- 將其蓋住。
- 然後轉鈕向右轉到底將其鎖緊。
- 將轉鈕闔上。

為了要以相反順序取出充電電池，必須將電池室裡有彈簧的白色門鎖推桿往側面推，以便鬆開充電電池。

提示：

若欲取出充電電池，相機應保持在關機狀態。充滿電的充電電池（根據CIPA標準）可拍攝大約350張相片，包含每張相片各顯示4秒的時間。

充電狀態顯示 (3.1.1)

在攝影模式下壓按 INFO 鍵 (1.30)，即可在顯示螢幕 (1.21) 上檢視電池的充電狀態。

電池容量只剩10%或更少時，就應該更換電池或重新充電。

提示：

- 若長時間不使用相機，請取出充電電池，在這之前要先將相機主開關關機。
- 最遲3個月之後，即內建在相機內之充電電池的電力耗盡之後（請看第18頁「將電池充電」最後一條提示），必須重新執行所有個別設定。

插入及取出記憶卡

徠卡 M-E 會將攝影資料在一片非常小巧的 SD- (數位安全)、以及 SDHC (-高容量) 記憶卡內。

SD/SDHC 記憶卡是小型、輕巧且可交換的外部儲存媒體。SD/SDHC 記憶卡，具有高容量及可容許高速讀寫的特性，可以快速記錄及播放資料。它具備防寫開關，可防止意外寫入及刪除卡上現存的資料。此開關就是位在記憶卡上無斜角那邊的推桿，推到下面標示著 LOCK [上鎖] 的位置可保護記憶卡上現存的資料。SD/SDHC 記憶卡有不同的供應商，而且各有各種容量和讀寫速度。

提示：

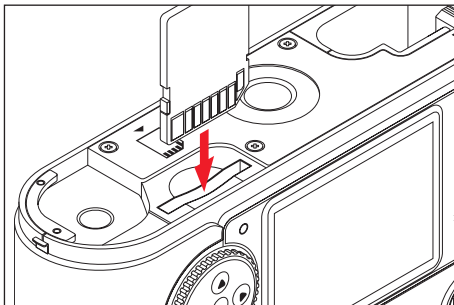
請勿接觸記憶卡上的接點。

1. 將主開關 (1.17) 設定到 OFF。

2. 取下相機的底蓋 (1.32)。

步驟：

- 將底蓋的門扣 (1.33) 往上扳，
- 將它向左轉到底，然後
- 將底蓋拿起來。



3. 讓記憶卡的接點朝後，並且讓斜角朝下，將記憶卡插入記憶卡槽 (1.39) 裡，克服彈簧的反作用力推到底，直到聽到卡住定位的聲音為止。

4. 重新裝上底蓋，步驟：

- 將其掛在相機側面的固定扣 (1.8) 上。
- 將其蓋住。
- 然後轉鈕向右轉到底將其鎖緊。
- 將轉鈕闔上。

為了取出記憶卡，要先將相機關機，然後執行相反的步驟。為了要解開門鎖，必須將記憶卡 - 如同相機底部所示 - 先稍微往裡面推一點。

提示：

- 市面上供應的 SD/SDHC 卡廠牌種類繁多，徠卡相機公司無法全面檢驗所有品牌與型號的相容性與品質。因此我們建議您使用市場領導品牌「SanDisk」出品的「Extreme III」卡。
- 使用其他記憶卡型號雖然不至於損害相機或記憶卡，但鑒於有些記憶卡，尤其是那些所謂的「白牌」產品，並不符合 SD 及 SDHC 標準，徠卡相機公司無法擔保其功能。
- 若無法插入記憶卡，請檢查配備是否正確。
- 如欲取下底蓋或取出記憶卡，顯示幕裡即會出現對應的警告訊息，取代當時的顯示訊息：
 - 注意 相繼底蓋未閉合
 - 注意 無 SD 卡

- 只要顯示螢幕 (1.30) 右下方紅色LED (1.29) 還在閃爍時，即表示相片正在紀錄中及 / 或資料正儲存至卡上，此時不得將底蓋打開亦不可取出記憶卡或電池，否則尚未完全儲存的相片資料即可能會遺失。
- 電磁場、靜電電荷以及相機和記憶卡上的損傷，可能會造成記憶卡上的資料損壞或遺失，所以建議將資料傳送至電腦儲存 (請看第70頁)。
- 基於同樣理由，建議原則上將記憶卡存放在抗靜電的容器裡。

徠卡M型鏡頭

原則上：大多數徠卡M型鏡頭都可使用於徠卡M-E，請您注意下列少數例外和限制事項。其適用性與相機鏡頭配備無關，無論接座是否有6位元辨識碼 (最新版本)。

即使沒有這些額外的配備，也就是說使用無辨識碼的徠卡M型鏡頭，徠卡M-E在大部分狀況下仍可提供優秀的攝影作品。

在這種情況下，為得到最佳的相片品質，請輸入鏡頭型號 (請參看「開啟 / 關閉鏡頭型號辨識功能」，第36頁)。

重要：

• 無法使用的鏡頭：

- Hologon 1:8/15mm,
- 含微距功能的 Summicron 1:2/50mm
- Elmar 1:4/90mm，縮筒式 (製造日期 1954-1968)
- Summilux-M 1.4/35mm (非球面，製造日期 1961-1995，加拿大製) 有某些個別產品無法裝在徠卡M-E上，以及無法對焦到無限遠處，徠卡客服部門可修改這些鏡頭，讓其亦能使用在徠卡M-E上。

- 可使用，但有損壞相機或鏡頭的風險的縮筒式鏡頭只能在鏡筒伸出時才能使用，亦即是其鏡筒絕對不可縮進徠卡M-E裡。這點不適用於現在的Macro-Elmar-M 1:4/90mm，其鏡筒本身在縮筒狀態下並不會伸進相機，因此可不受此限制使用。

• 可使用，但有限制條件的

雖然徠卡M-E測距器的精度很高，光圈全開時因為景深很淺，所以無法保證使用135mm鏡頭時能準確對焦，因此建議縮2格光圈。

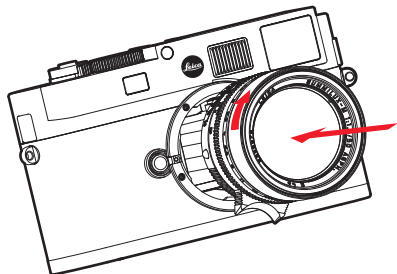
• 可應用，但無法測光

- Super-Angulon-M 1:4/21mm
- Super-Angulon-M 1:3,4/21mm
- Elmarit-M 1:2,8/28mm，製造序號低於 2 314 921者。

提示：

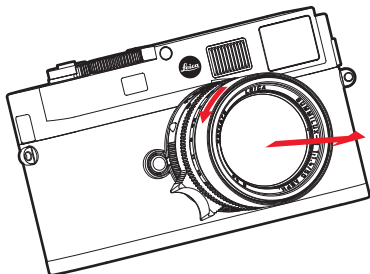
徠卡客服維修部門可以替許多徠卡M型鏡頭加裝6位元辨識碼，請個別詢問 (地址，請看第87頁)。

裝上鏡頭



1. 握住鏡頭的固定環（1.11），
2. 將鏡頭的紅色指標鈕（1.11c）對準相機機身上的解鎖鈕（1.1），然後
3. 將鏡頭直接裝進此位置。
4. 稍微向右旋轉，直到聽到和感覺到鏡頭卡住定位。

拆下鏡頭



1. 握住鏡頭的固定環（1.11），
2. 將相機機身上的解鎖鈕（1.1）向下按，
3. 將鏡頭向左轉，直到其紅色指標鈕（1.11c）對準解鎖鈕為止，然後
4. 直接把鏡頭取下。

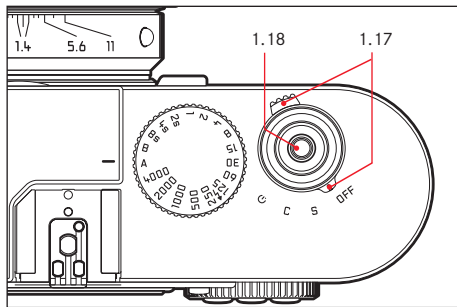
提示：

- 原則上：為了防止灰塵等異物侵入徠卡 M-E相機內部，應該隨時裝上鏡頭或機身蓋。
- 基於同樣理由，更換鏡頭的動作應迅速，而且儘可能在無塵的環境中進行。
- 相機或鏡頭後蓋不應該放在褲子口袋裡，因為那裡會沾灰塵，裝到相機上時會跑進相機內部。

最重要的設定／

操作元件

打開及關閉相機／主開關



徠卡 M-E 用主開關 (1.17) 來開機和關機，主開關位於快門鈕 (1.18) 下面，是有四段位置的定格式撥桿：

a. OFF - 在此位置上相機會關機。

在此位置上相機會關機。

b. S - 單張拍攝一切換選項

按下快門鈕 (請看上面) 每次會拍攝一張相片，與是否按住不放無關。

對於特別需要低調進行的拍攝工作，可以在選單 (請看第 14/31 頁) 裡啟動寧靜的功能 (請參閱第 27 頁)。

c. C - 連續拍攝 - 一切換選項

若按住快門鈕不放 (請參見上述)，就會連續拍攝最多 8 張相片 - 只要所使用的記憶卡與相機內部暫存記憶體容量足夠即可 (請參閱第 21 頁的「插入及取出記憶卡」)。

d. 自拍器

按下自拍器 (請看上面) 會開始倒數預設的前置時間 (請看第 69 頁)，然後拍攝相片。

開機

開機之後，亦即把開關設定到 S、C 或 自拍器 其中一項功能後，LED 訊號燈 (1.29) 會短暫發亮，隨之觀景窗 (2.1.1) 就會出現顯示 (請看第 10 頁)。

提示：

開機約 1 秒之後即可到達待命狀態。

關機

即便主開關無設定在 OFF 的位置，相機還是會自動關機，只要有透過選單控制功能預先設定了自動關機時間 (節電設置，請看第 31/35 頁的 4.1.15)，並且在這段時間無任何操作動作。

提示：

相機長時間不使用或是放在相機袋裡時，應該要用主開關關機。如此可以阻斷電力消耗。否則在待機作業模式下，測光表自動關機以及顯示訊息熄滅之後還是會繼續耗電。藉此也可防止不經意按壓到快門按鈕而攝入影像的意外發生。

選擇攝影及播放模式

徠卡 M-E開機後原則上會是攝影模式，亦即是顯示幕（1.30）一在到達待命模式之後（請參閱第24頁）一會保持全黑狀態。

播放相片時可在兩種模式之間作選擇：

1. **PLAY** 不限時播放
2. 自動回放 於拍攝後短暫播放。

不限時播放－PLAY

按下**PLAY**鈕（1.25），即可切換到播放模式。

- 顯示幕裡會先出現拍攝的相片，還有對應的顯示訊息（請看第11頁）。
但是如果插入的記憶卡裡沒有任何相片檔案的話，則切換到播放模式之後就會出現對應的訊息：
注意 無有效圖像可以播放

自動播放最後一張相片

在自動回放模式裡，在每拍攝一張相片之後，就會立即於顯示幕顯示（1.30），可迅速且簡單的預覽檢查該相片成功拍攝或應重拍。

此功能容許您

1. 選擇相片顯示的持續時間，還有
2. 播放相片時，加上階調分布圖（請參閱第30頁）。

設定功能

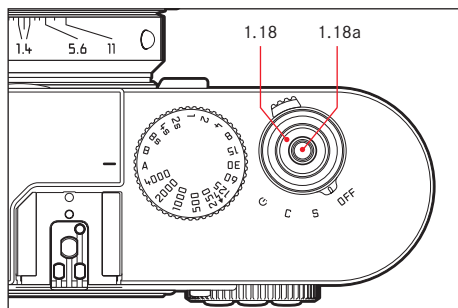
1. 在主選單裡（請看第14/31頁）選擇 自動回放（4.1.14），
2. 在附屬的子選單裡，先選擇持續時間項目，然後
3. 在隨後出現的其他子選單裡，選擇想要的功能及持續時間：（關閉，1s，3s，5s，保持，快門保持）。
4. 若是想要選擇播放時是否加上階調分布圖（請參閱第30頁），則請重新選擇第一層子選單，
5. 選擇 色階分佈圖，
6. 並且在這裡選擇想要的選項（開啓、關閉）。

從自動回放模式，隨時切換到正常模式，也就是不限時的**PLAY**模式（請看上面）。

提示：

若使用連續拍攝功能（請看第27頁），在兩種播放作業模式之下都會先顯示該系列的最後一張相片或者是該系列儲存在記憶卡的最後一張相片－除非該系列拍攝的所有相片都從相機內建記憶體轉存到記憶卡了。要如何選擇一系列相片裡的別張相片，以及播放時的其他可能性，請看從第62頁起「播放」裡各段說明的內容。

快門鈕



快門鈕 (1.18) 有三個壓段：

1. 輕按到第一個壓點，啟動測光及觀景窗顯示訊息，此時若設定在自拍模式，則也會啟動預設的自拍倒數計時（請參閱第69頁）。

放開快門鈕後，測光系統和顯示訊息會維持開啟狀態約12秒（詳細內容請參閱第47頁「測光」），若將快門鈕按在這個壓段不放，顯示訊息就會維持顯示中。若之前是設定在播放模式（請參閱第62頁），則相機就會切回攝影模式。若相機之前是設定在待機模式（請參閱第24頁），則會重新啟動並開啟顯示訊息。

快門鈕維持在此位置的過程中，可使用調整設定轉盤非常快速又簡單的調整曝光修正值（更進一步的細節請查閱第49頁的「曝光修正」章節）。

提示：

快門鈕失效原因：

- 相機內部的暫存記憶體已滿，例如連拍超過8張相片之後，或是
- 插入的記憶卡以及內建記憶體（暫存）已滿。

2. 繼續按到第二個壓點，可將光圈先決時的測光值，也就是將相機所決定的快門時間儲存起來（詳細內容請參閱第48頁的「測光值儲存」），放開快門鈕之後可以重新測光。

3. 如果將快門鈕按到底，就會完成拍攝動作，接著會將資料傳送到記憶卡上。

快門鈕上有一個快門線用的標準螺紋孔。

提示：

- 使用快門線時拍攝時不會感覺到第二個壓段。
- 若已經啟動播放模式（請看第25頁的「選擇攝影及播放模式」）或選單操控功能（請看第31頁），則可藉由碰觸快門鈕立即切換回到攝影模式。
- 可透過選單操控功能選擇按鍵（回報）音以及進行設定（請看第35頁）。
- 為了避免手震模糊，應輕緩按壓快門鈕，直到有一聲輕輕的快門響聲為止。

連續拍攝

使用徠卡 M-E 相機您不但可以進行單張拍攝 - 主開關 1.17 切到 (S [單張]), 也可以連續拍攝 - 主開關切到 (C [連續]), 以便多段拍攝人物的動作。

連續拍攝的快門鈕 (1.18) 操作方式和單張拍攝相同: 只要將快門鈕按到底不放 (且記憶卡的容量足夠), 就能連續拍攝。若僅按一下就放開快門鈕, 則只會是單張拍攝而已。

最多每秒可拍 2 張相片, 並且連續拍攝最多 8 張。

提示:

- 上述拍攝頻率及最大可能的連拍張數, 係以標準設定 - ISO 160 以及壓縮成 DNG 格式為準。若採用其他設定, 頻率及張數都會減少。
- 若使用連續拍攝功能 (請看第 25 頁), 在兩種播放作業模式之下都會先顯示該系列的最後一張相片或者是該系列儲存在記憶卡的最後一張相片 - 除非該系列拍攝的所有相片都從相機內建記憶體轉存到記憶卡了。

低調/防手震拍攝

在某些需要極度低調的場合, 最好能將快門上絃的異音至少暫時壓低, 另有些場合也該讓相機在按下快門時儘可能保持安靜。

您可以為此透過選單控制改變快門的運作方式。

設定功能

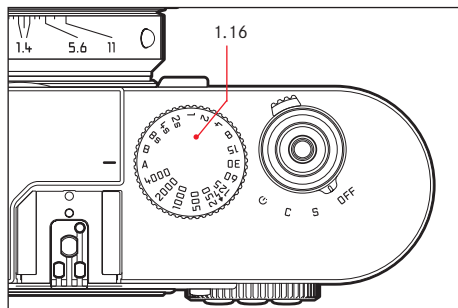
1. 在主選單裡 (請看第 14/31 頁) 選擇高級 (4.1.3), 隨之
2. 在附屬的子選單裡選擇想要的運作方式, 標準、輕按、寧靜 或 謹慎+輕按。

使用輕柔功能時, 按到第 2 個壓點, 相機就會釋放快門, 您不需要再如平時多用些力氣按壓。這有利於在按快門的瞬間持穩相機 - 此為以略長的快門時間拍攝出銳利相片的先決條件。

使用寧靜功能時, 上絃動作 - 不像平時是在拍攝後立即進行 - 而是在再次放開快門鈕之後才會進行。舉例而言, 可利用任意長 - 延遲時間, 將相機拿到可吸收異音的環境再進行上絃動作 (在衣服或類似東西裡), 或是等到合適的時機再進行。

輕柔功能, 不管是單張拍攝還是連續拍攝都能使用, 而寧靜功能則只有在單張拍攝模式 (主開關 1.17 設定在 S 位置) 時才能使用。

快門時間設定轉盤




徠卡 M-E 快門時間設定轉盤 (1.16) 的大小和安排方式，乃是依據人體工學設計而成：一方面很好操作-即使將相機拿到眼前，而且也可有效防止不經意設定錯誤。

除此之外，在手動操作時，其旋轉方向 (和鏡頭的光圈設定環相同) 也配合觀景窗裡的測光表顯示訊息 (2.1.3)：例如左邊的三角形 LED 亮起，就表示要朝箭頭方向 (也就是向右邊) 旋轉，以便得到需要的較長快門時間。

使用徠卡 M-E 的快門時間設定轉盤，可以選擇三種曝光模式，

- 光圈先決模式，設定到用紅色標示的 A 位置，(請看第 48 頁)，
- 手動模式，讓您選擇快門時間 $1/4000$ 秒至 8 秒 (以 $1/2$ 格為單位的中間值也能使用，請看第 52 頁)

以及

- 用  符號另外標示的最短同步時間 $1/180$ 秒，適用於閃光燈模式 (請看第 56 頁)，以及
- B 長時間曝光模式 (請看第 52 頁)。

徠卡 M-E 的快門時間設定轉盤沒有停止點，可以從任何位置朝任意方向旋轉，可以停在所有刻度及其中間值位置，停格位置以外的中間位置則無法使用。

提示：

- 正如第 40 頁 ISO 感光度設定的總結裡所述，使用較高感光度時，特別是在均勻、黑暗的表面時，可以察覺到或多或少的畫面雜訊。為了減少這些令人困擾的現象，徠卡 M-E 在以較長的快門時間拍攝之後會自動產生第二張「黑相片」(快門關閉)。在這些平行拍攝相片中所測量得到的雜訊，就可以從原本的攝影相片資料裡用運算的方式「消掉」。
- 進行長時間曝光時，必須要考慮這種重覆「曝光」時間，例如在這段過程中相機不應該關機。
- 快門時間超過 2 秒以上時，噪點降低 12s¹ 的訊息會出現在顯示螢幕上。
- 如果同時使用 B 快門功能和自拍器 (請看第 69 頁)，不能按住快門鈕不放；快門會一直保持開啟狀態，直到第二次按下快門鈕為止 (符合 T 功能)。

關於設定正確曝光的詳細內容，請看下列章節：從第 47 頁起的「測光」。

¹ 時間值僅為範例

顯示幕

徠卡 M-E 具有一個 2.5 吋的大型液晶彩色顯示幕(1.30)，此顯示螢幕讓您能觀看記憶卡上的相片並且播放整張相片畫面以及當時選擇的資料和資訊（請看第 11/12 頁「顯示訊息 / 顯示螢幕上」以及下列章節）。

提示：

顯示螢幕畫面只有在播放模式時才會出現（請看第 62 頁），而且必須用 **PLAY** 鍵（1.24）開啟，或在自動回放功能開啟時（請看第 25 頁）會自動顯示。

為了便於觀賞，在標準設定下只會顯示下列資訊（也就是說用 **INFO** 鍵（1.21, 請看第 11 頁）無法呼叫出附加資訊）：

1. 標題列只會顯示快門時間（3.2.2）、ISO 感光度（3.2.3）以及相片編號 / 現存相片總數（3.2.4），
2. 相片有防止刪除保護時（請看第 66 頁）會有相關提示符號（3.2.1, 第 **0** 頁），
3. 放大以及偏離中心播放時，右下方會多出一個提示符號（3.2.5, **▣**），代表相片局部畫面的大概位置和大小。
4. 以 4 格或 9 格縮小播放時會有一個紅色框標示被選取的相片（3.2.6）。

設定亮度

顯示幕的亮度，可以藉由選單操控功能分成五段調整，使顯示幕的亮度和現場的光線作最佳配合。

設定功能

1. 在主選單裡（請看第 14/31 頁）選擇顯示屏亮度調節（4.1.11），隨之
2. 在子選單裡從五段設定中選擇其中一段（低、較低、標準、較高、高）。

在攝影作業模式裡顯示基本設定 / 資料

相機處於攝影模式時，您可壓按 **INFO** 鍵（1.21），以顯示電池及記憶卡剩餘容量，以及一些拍攝基本設定（請看第 11 頁）。

在播放模式裡顯示拍攝日期

相機處於播放模式時，您可壓按 **INFO** 鍵（1.21），以顯示一整列其他相片資料（請看第 12 頁）連同一幅縮小的圖片。除此之外，還可透過選單操控功能（色階分佈圖，5.1.9, 請看第 14/31 頁）選擇各種階調分佈圖的變化型態（請看下一節）。

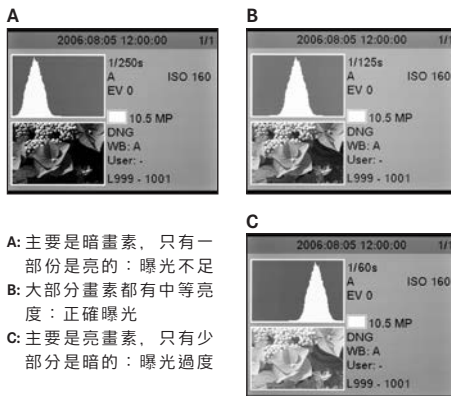
階調分布圖

階調分布圖 (3.3.2) 展示相片的亮度分布情形。其中橫軸對應於從黑 (左) 到灰，最後到白 (右) 的色調值，垂直軸則對應於符合該亮度的畫素數量。這種展示形式能夠讓攝影者在拍攝之後，迅速、簡單地判斷曝光設定是否理想。

徠卡 M-E 的階調分布圖有四種變化型態供您選擇：可以就整體亮度來看，也可以各自用三原色紅 / 綠 / 藍來看，或者另外標示出畫面中無法顯示內容的範圍，也就是太亮及太暗的區域 (Clipping 裁剪)。

提示：

階調分布圖顯示的內容一定是當時顯示的相片的局部畫面的內容。



- A:** 主要是暗畫素，只有一部份是亮的：曝光不足
B: 大部分畫素都有中等亮度：正確曝光
C: 主要是亮畫素，只有少部分是暗的：曝光過度

設定功能

1. 在主選單裡 (請看第 14/31 頁) 選擇色階分佈圖 (4.1.12)，隨之
2. 在附屬的子選單裡選擇想要的標準或 RGB，或是剪裁設定功能，以便開啟相關子選單。

裁切顯示的其他設定

3. 在剪裁設定的子選單選擇是否要關閉這些顯示，或是否只要顯示過度曝光 (紅色) 或過度及不足曝光 (紅色及藍色)。

提示：

同時播放多張縮小相片 (請看第 63 頁) 時，無法使用階調分布圖。

選單操控功能

在徠卡 M-E 上，可以透過兩個互不相關的選單(請看第 14/15 頁) 來進行許多設定。

使用光圈先決及手動設定曝光時，有兩種彼此獨立的選單可供使用，主選單是由 27 種項目 (4.1.1-.27) 組成，另外還有一個攝影參數選單。透過建立群組及分離的功能，根據經驗，將最常用的選單項目，以迅速、簡單的方式呼叫出來及設定。

使用快照設定模式 (請看第 14/53 頁) 時，只有唯一一種選單 - 主選單，裡面只有 5 個選單項目，大部分只和只要輸入一次的基本設定 (4.1.7 / .22 / .23 / .25 / .26)，其他所有相關參數為了簡化操作都已預先設定好。

提示：

使用快照設定模式時大部分選單項目的選項都是被固定的，也就是說使用者不能變更的設定值取代 (請看第 14/15 頁「選單項目」章節裡的列舉項目)。

主選單

在光圈先決及手動調整設定曝光時，主選單裡除相機基本設定以外，另外還整合使用者個人風格的儲存以及其他副功能。

攝影參數選單

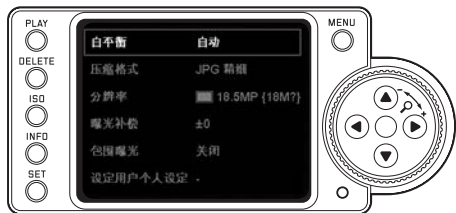
攝影參數選單有 6 個選項 (4.2.1-.6，請看第 15 頁)，可進行攝影基本設定，以及儲存使用者風格。

功能選項及其設定步驟，在已開機的相機上可一覽無遺，並且在顯示幕 (1.30) 逐步展示說明。

兩個選單的設定方式基本上是相同的，只有呼叫和離開方式不同。

設定選單功能

1. 用 MENU 鍵 (1.26) 呼叫主選單，用 SET 鍵 (1.20) 呼叫攝影參數選單。
 - 主選單會呈現前7個選單項目 (或是快照設定模式的所有5個項目)，攝影參數選單裡則會呈現所有選項。



提示：

- 攝影參數選單
 - 只能從攝影模式進入攝影參數選單 (請看第25頁)。以及
 - 只有在使用曝光作業模式的光圈先決功能 (請看48頁) 或手動設定功能 (請看第52頁) 時才能使用。然而使用快照設定模式時則無法使用。
- 當 DELETE [刪除] 程序或防清除功能 (請參閱第65/66頁說明) 正在進行時，無法進入主選單。

2. 您可以旋轉設定轉盤 (1.27)，也可以用上/下十字鍵 (1.28) 來選擇想要的選單項目。





3. 為了設定當時的功能，請您先按 - 下以及在 攝影選單裡重新按 - 下 SET 鍵。

- 選單項目的右邊會出現附屬的、用紅邊標示的多行子選單，選擇的項目則用加亮方式來標示。

4. 接著您可再次旋轉設定轉盤，或者用上 / 下十字鍵，選擇想要的功能變數。

5. 再按一次 SET 鍵，以儲存您的設定。

- 選單列的右邊會列出已設定的功能變數。

6. 可按以下按鈕離開此選單：

	快門鈕 (1.18)	PLAY (1.24)	MENU (1.26)
主選單	相機切回 攝影模式	相機切回 播放模式	無其他功 能轉換
攝影參數 選單		-	-

提示：

- 您隨時可以按下 MENU 鍵離開主選單，而不會讓當時可能執行的設定生效。
- 例如日期 (4.1.22) 及時間 (4.1.23) 之類的選單項目，還有白平衡 (4.2.1) 都要求進一步的設定。相關內容說明，還有其他針對個別選單功能的細節，都可以在對應的章節裡查詢。

預設功能

相機基本設定

選單語言

初次開啟選單時，所有選項與說明都是英文（出廠預設值）。您可選用其他選單語言如德文、法文、西班牙文、義大利文、日文、俄文、繁體中文或簡體中文。

設定功能

1. 在主選單裡（請看第 14/31 頁）選擇 **Language** (4.1.25)，隨之
2. 在附屬子選單裡選取想要的語言。
 - 除了少數例外（按鍵名稱、簡寫），所有語言內容都會改變。

日期及時間

日期和時間分別以個別的選單項目設定。

日期

有 3 種日期顯示方式可供選擇。

設定

1. 在主選單裡（請看第 14/31 頁）選擇日期 (4.1.22)，隨之
2. 呼叫子選單，由兩個選單項目設置及序列所組成。
3. 選擇設置，
 - 這時會出現下一個子選單，有年、月、日的數字組，可以調整的數字，會用黑底紅邊標示。
4. 用設定轉盤 (1.27) 或上 / 下十字鍵 (1.28) 來設定數值，用左 / 右十字鍵切換不同的數字組。

提示：

- 在大部分情形下，使用設定轉盤既舒適又迅速。
 - 按 MENU 鍵 (1.26) 可以隨時回到主選單，而在此之前於子選單所做的內容變更不會生效。
5. 完成全部 3 個數值的設定後，按下 SET 鍵 (1.20) 儲存。
 - 選單項目清單會再度出現。
 6. 若要改變日期的顯示方式，則要在子選單裡選擇序列這個選項，
 - 會出現三種可能的順序供選擇：
日/月/年、月/日/年，以及年/月/日。
 7. 設定及確認動作和第 3 點及第 4 點中所提到的相同。

提示：

若未裝上充電電池，或電池沒電，日期和時間設定就會由內建的備用電池保持約 3 個月（請看第 20 頁的「充電狀態顯示」），若超過期限，之後就必須照上面說明的方式，重新設定日期和時間。

時間

時間顯示可選24小時制或12小時制格式。

設定

兩組數字組及顯示方式的設定都要在選單項目時間 (5.1.19) 子項目的設置及查看進行。設定方法，基本上和前面章節日期所述雷同。

自動關機

利用本功能，在預設的時間過後，徠卡M-E會自動關機，這種狀況等同於主開關位置OFF (1.17, 請看第24頁)。

您可以選擇，

- a. 是否要啟動本功能，如果是，
- b. 在多久之後讓相機關機。

可使用本功能關機，以配合您個人的工作方式，而且可以使充電電源的待機時間明顯變長。

設定功能

1. 在主選單裡 (請看第14/31頁) 選擇節電設置 (4.1.15)，隨之
2. 選擇想要的功能。

提示：

如果相機處於待機狀態，也就是說顯示幕在12秒後消失，或啟動的節電設置功能將相機關機，則可於任何時間藉由壓下快門鈕 (1.18) 再度回到操作狀態。

按鍵音及訊號音調

使用徠卡M-E可決定使設定、部分功能流程及警告訊息發出聲響 - 有兩種音量大小可選擇，或讓相機的操作變成無聲。有喀聲和嗶聲可作為回報訊息，可單獨用於確認按鍵動作，也可當做試圖在已滿記憶卡上執行動作的提示聲。

提示：

出廠設定裡訊號音調是關閉。

設定功能

1. 在主選單裡 (請看第14/31頁) 選擇聲音信號 (4.1.24)，隨之
2. 呼叫子選單，3個項目音量、按鍵聲以及SD卡已滿的子選單。
3. 選擇音量。
 - 隨之會出現另一個子選單，裡面有3個選項：關閉 (基本上沒有聲音)、低以及高。
4. 在子選單裡選擇想要的功能。
 - 確認之後，回到原先的顯示幕畫面。
5. 在另外兩個子選單裡選擇是否要啟動各功能的聲響。

攝影基本設定

啟動／關閉鏡頭型號辨識功能

最新徠卡M型鏡頭的接座 (1.10) 上有6位元辨識碼，可以讓徠卡M-E利用其鏡頭接座 (1.9) 裡的感測器，辨識出裝上的鏡頭型號。

- 此外，為了最佳化影像資料時會將這些資訊納入考量，例如在廣角鏡頭和大光圈下特別明顯的周邊失光現象，就會在影像資料裡作補償修正。
- 閃光燈曝光及閃光燈反射罩的控制，亦會利用鏡頭資料 (請看第55頁的「可使用的閃光燈」)。
- 除此之外，這些6位元辨識碼提供的資訊，會紀錄在相片的EXIF資料中，在INFO說明的相片資料裡 (請看請看第29頁)「顯示幕」，會另外出現鏡頭焦距的顯示訊息 (3.3.7b, 請看第12頁)。

提示：

使用不含6位元辨識碼的鏡頭時必須將辨識功能關閉以避免故障。您可將您使用的鏡頭型號手動輸入 (請看第36頁)。

設定功能

1. 在主選單裡 (請看第14/31頁) 選擇

鏡頭檢測 (4.1.1)，隨之

2. 在附屬的子選單裡選擇想要的項目。

- 關閉，或是
- 自動如果安裝上的鏡頭有辨識碼，或是
- 手動 (如果裝上無辨識碼鏡頭的話)。

手動輸入鏡頭型號／焦距

本機無法辨識舊款缺少辨識碼的徠卡M型鏡頭，但可以透過功能選單執行「辨識」動作。

3. 從子選單手動的清單裡選擇您所使用的鏡頭。

- 顯示螢幕 (1.31) 會顯示一份鏡頭清單。為了方便辨識，裡面也包含各個鏡頭的料號。

提示：

- 鏡頭料號通常蝕刻在焦距刻度表的對面。
- 該清單包含沒有辨識碼的鏡頭 (大約2006年六月以前的款式)，推出日期較新的鏡頭都有辨識碼，所以無法手動選取。
- 使用徠卡 Tri-Elmar-M 1:4/16-18-21mm ASPH. 鏡頭時，焦距的設定無法傳送到相機裡，因此無法記錄在相片的EXIF資料裡。不過有需要時您可手動輸入當時所用的焦距。
- 相對的，徠卡 Tri-Elmar-M 1:4/28-35-50mm ASPH 具備連動觀景窗內取景框線的必要機械式傳導功能，可將設定的焦距傳給相機，讓相機的電子功能得以感測，並可使用該焦距的特定修正值。因為空間不足，選單裡只列出一個料號11625。另外兩個型號11890和11894也都能使用，選單裡選取的設定對它們當然也都有效。

解析度

影像資料在JPEG格式裡可用五種不同的畫素數量，也就是解析度來記錄。以配合記憶卡容量及預定的用途而運用，

選擇最高解析度（同時也代表最大的資料量），例如您在列印大張相片時想得到最高品質，則在同一張記憶卡上能儲存的相片數，就會比選擇最小解析度時要少。後者用在寄送電子郵件或放在網站上即已足夠。

提示：

原始資料儲存方式（DNG，請看下一節）只能用於最高解析度。

設定功能

1. 在攝影參數選單裡（請看第15/31頁）選擇分辨率（4.2.3），隨之
2. 在附屬子選單裡選擇想要的解析度。

壓縮率／檔案格式

影像資料的儲存格式有如下幾種選擇

- a. 選用一種JPEG壓縮率：JPEG精細或JPG基本，或是
- b. 使用DNG檔案格式，選擇無壓縮或壓縮，或是
- c. 結合兩種壓縮率之一和DNG格式儲存影像。意即每拍一張相片就會產生兩個檔案，對JPG檔案則使用針對選擇的選項所設定的解析度。

可配合使用者預定的使用目的及記憶卡的容量，另外一方面，亦可為事後才決定的可能變更，保留必要的彈性。

設定功能

A. 選擇DNG格式

1. 在主選單裡（請看第14/31頁）選擇DNG設定（4.1.19），隨之
2. 在附屬的子選單裡選擇想要的選項無壓縮或壓縮。

B. 選擇JPEG壓縮率／格式組合

1. 在攝影參數選單裡（請看第15/31頁）選擇壓縮格式（4.2.2），隨之
2. 在附屬子選單裡選擇想要的壓縮率／組合。

提示：

- 相機儲存完全未經處理的原始攝影資料時，會使用標準化的DNG（Digital Negative，數位負片）格式。
- 壓縮格式包含輕度壓縮，
 - 幾乎不會造成可見的品質損失，
 - 允許事後各種影像資料處理，
 - 儲存迅速，
 - 所需的儲存空間也較少。
- 相機儲存原始資料（DNG）時，不管當時（針對JPEG格式）所做的設定為何都會自動切換到■（18MP），（請看前面章節）。
- 同時將相片資料儲存為DNG和JPG時，JPEG格式會套用當時的解析度設定，所以兩個檔案解析度可能不同。
- JPG基本使用偏高的壓縮率，拍攝主題裡的細部結構可能會因此流失或有缺陷（人工失真；例如斜邊「鋸齒化」）。
- 顯示幕並不會在每次拍攝之後顯示剩下張數，而是視拍攝主題而定。非常細膩的結構會產生較大的JPEG檔案，均質平面所產生的影像檔案則較小。








白平衡


數位攝影裡，白平衡可以在任何光線下都能獲得中性的色彩再現效果，徠卡 M-E 會預先決定以哪一種顏色當成白色再現。

徠卡 M-E 提供十種設定供您選擇：

- 自動 - 相機自動操控選項。在大部分的情況下能有中性的結果。


七種為最常見的光源所預設的選項：

-  - 例如（主要為）白熾燈光源的室內攝影，
- ¹, - 例如（主要）用日光燈管照明的室內攝影，例如以大約 2700K 暖色調、類紅熾燈泡照明的客廳
- ², - 例如（主要）用日光燈管照明的室內攝影，例如約 4000K 冷色調的書房和戶外照明
-  - 例如陽光下的室外攝影，
- , - 例如（主要）電子閃光燈照明的攝影，
-  - 例如多雲時的室外攝影，
-  - 例如主要拍攝主題位在陰影下的室外攝影，

-  手動 - 藉由測光進行手動設定以及
- 色溫設定¹ - 可直接調整設定色溫值。

提示：

使用電子閃光燈時，技術上的先決條件是，使用系統 3000 的系統相機接頭（SCA）及使用 SCA-3502 接頭（第 4 版起）或是對應的整合式靴座，白平衡可以調到自動 -（自動）以得到正確的色彩再現效果。

如果裝上的並非是特地為徠卡 M-E 設計的閃光燈，並不會自動切換相機的白平衡模式，則應使用  這個設定。

設定功能

自動或固定設定

1. 在攝影選單（請看第 15/31 頁）選擇白平衡（4.2.1），隨之
2. 在附屬子選單裡選擇想要的功能。

¹ 色溫值的表示原則上用凱氏溫標。

直接設定色溫值

您可以直接設定一個介於2000和13100 (K¹) 之間的值 (2000至5000K之間的最小遞增 / 遞減值是100, 5000至8000K之間的最小遞增 / 遞減值是200, 8000至13100K之間的最小遞增 / 遞減值是300), 這幾乎涵蓋了所有實際存在的色溫。在此範圍內, 您可以非常精準地配合現場光源色及 / 或您個人的偏好設定出讓色彩完美再現的效果。

1. 在攝影參數選單裡 (請看第15/31頁) 選擇 白平衡 (4.2.1), 隨之
2. 在所屬的子選單裡選擇色溫值設定此選項。
3. 用設定轉盤 (1.27) 或上 / 下十字鍵 (1.28) 選擇想要的值, 隨之
4. 再度壓按SET鍵以確認您的設定。

藉由測量進行手動設定

1. 在攝影參數選單裡 (請看第15/31頁) 選擇 白平衡 (4.2.1), 隨之
2. 在所屬的子選單裡選擇 **☑**。
3. 按壓SET- 鍵 (1.20)
 - 顯示幕中會出現下列訊息 **注意**
將相繼對準白色表面拍攝
4. 真正的設定要拍攝一張畫面中間對準一白色、或中性灰色平面的相片才會完成。
 - 顯示幕裡會顯示剛才拍攝的影像 (而非選單列) 以及訊息 **白平衡設定成功** 。如果沒有正確判斷曝光, 或是瞄準的平面並非中性色的話, 就會出現 **注意 曝光不正確 白平衡設定失敗** 的提示。在這種情形下, 請您用正確的曝光設定以及用中性色的平面重覆步驟2。

以此方法取得的設定值會被儲存起來, 套用於後續的攝影, 直到您重新測光或使用其他的白平衡設定為止。

提示 :

一個藉由測光設定的白平衡值被儲存後, 即使中途切換使用了其他白平衡值, 也可以藉由步驟1-3 (而非步驟4) 並且再次按壓SET鍵後重新呼叫出來。

¹ 色溫值的表示原則上用凱氏溫標。

ISO感光度

傳統攝影用設定ISO值的方式來配合底片的感光度。在相同的亮度下，較高感度的底片容許較短的快門時間及 / 或較小的光圈，反之亦然。

徠卡 M-E 的 ISO 設定值範圍是 ISO 160 至 2500，使用 ISO 160 的所攝得的影像播放品質最佳。較高的感光度會引發較多「畫面雜訊」，如同高感度底片的「顆粒感」。

Pull 80 的設定相當於 ISO 感光度設定為 ISO 80 時的亮度。以此設定拍攝的相片會有較低的對比。使用這種感度時，務必注意重要的畫面部分不可以過度曝光。

設定 ISO 感光度時，其最小遞增 / 遞減值是 $\frac{1}{3}$ ，允許您配合各個場合手動微調出最適當的快門時間 / 光圈。

除了固定設定選項外，徠卡 M-E 還提供一項 ISO 自動- 的功能，可以讓相機自動配合外界亮度調整感光度，如此連同光圈先決功能¹（請看第 48 頁）可大幅提升曝光控制的範圍 - 最多可控制到 4 格光圈。您也可以，例如基於構圖的理由²，在此功能內訂定優先次序。您不但可以（例如因為上面提過的雜訊問題）限制所使用感光度的範圍，也可以（例如為了避免不容許的相片晃動模糊現象）決定從哪段快門時間開始自動提高感光度。

設定功能

1. 按住 ISO 鍵 (1.22) 不放。
 - 顯示幕 (1.30) 裡會顯示列舉出可用的設定。
2. 按住 ISO 鍵 不放，同時使用設定轉盤 (1.27，往前或往後) 或十字鍵 (1.28，橫向或縱向) 選擇想要的感光度或是自動設定。

¹ 手動設定曝光及使用閃光燈時（固定使用 $\frac{1}{180}$ 秒），此功能無法使用。使用快照設定（請看第 53）時，此功能基本上會被啟用。

² 這些選項在快照設定裡無法使用。

提示：

放開 ISO 鍵之後，清單會繼續顯示約 2 秒鐘。清單消失後，新設定值隨即生效。一旦選用了 ISO 自動，就可以配合您的工作方式以及您的構圖喜好設定此功能²。

3. 在主選單（請看第 14/31 頁）選擇 ISO 自動設定 (4.1.5)，隨之
4. 在附屬的子選單選取最高 ISO 及 / 或最低速度。
5. 接著在最高 ISO 的子選單裡選擇
 - 自動功能應該運作的範圍，為此您必須設定最高可感光度。並且 / 或者
 - 在最低速度子選單選擇，是否讓相機自行設定使用一個確保不虞手震的快門時間 - 為此必須使用根據鏡頭焦距設定³功能，或是
 - 您要自己預先設定一個介於 $\frac{1}{125}$ s 和 $\frac{1}{8}$ s 的最長快門時間（全部級數）。

若選用根據鏡頭焦距設定功能，亮度不足而使快門時間超出 $\frac{1}{\text{焦距}}$ 的門檻，例如用 35mm 鏡頭而快門時間大於 $\frac{1}{30}$ 秒時，相機會先切換使用較高的感光度。

³ 使用此功能的前提是要安裝有辨識碼的鏡頭（請看第 22 頁）

提示：

使用包圍曝光功能時（請看第51頁），所有ISO自動設定都是既定的：

- 相機自動為第一張相片計算求得的感光也應用於該系列裡其他相片，也就是說此ISO值在該次包圍曝光序列裡不會改變。
- 在ISO自動子選單裡的設定都會失效，也就是說相機可用的快門時間範圍全都可以使用。

影像特性／對比、銳利度、色彩飽和度

電子影像記錄的眾多優點之一是能輕易修改主要影像特性。這類修改工作大多可以在攝影完後在電腦上使用影像處理軟體進行。徠卡M-E卻讓您在攝影前就能先左右三項主要影像特性：

- 對比，也就是亮區和暗區之間的區別，決定一張相片看起來「平淡」或「生動」。因此放大或縮小這些區別，換句話說讓亮的部分顯得更亮、暗的部分顯得更暗，即能更改整體影像的對比。
- 正確的對焦（至少對拍攝主題）以獲得銳利影像，是成功攝影的先決條件。話說回來，影像輪廓邊緣的銳利度，亦即影像輪廓邊緣的亮／暗過渡區的大小，對該影像所呈現出的銳利感有很大的影響。藉由擴大或縮小這些區域，即能改變影像所呈現的銳利感。
- 色彩飽和度決定了相片裡的色彩，看起來「蒼白」又柔和、或是「耀眼」又花俏。光線和天氣（陰暗／晴朗）是既定的攝影條件，當然也就會影響影像重現的效果。

這三項彼此互不相關的影像特性，都可以藉由功能選單進行設定（每個特性功能各有五個設定選項），讓您能夠配合現場光線條件，調整出最佳的影像品質。色彩飽和度調整還提供兩個進一步的選項：黑白和老照片黑色+白色。

提示：

此設定只適用於以JPEG格式拍攝存檔。如果預先選用了兩種DNG檔案格式之一，這些特性的設定無效。因為這種情形下的影像資料，基本上是以原始形式儲存的（要做修改的話，必須事後在電腦上進行）。

設定功能

1. 在主選單裡（請看第14/31頁）選擇銳度調整（4.1.6）及色彩飽和度調整（4.1.7）和反差調整（4.1.8），隨之
2. 在子選單裡選擇想要的等級（低、較低、標準、較高、高）。

影像色彩空間

使用數位影像檔案的目的多樣，對於色彩再現效果的要求也隨之各異，因此就發展出不同的色彩空間。例如標準的RGB（紅 / 綠 / 藍）就能滿足一般列印所要求的品質。需要以特殊軟體進行的繁複影像處理的，例如要修正色彩的，則會使用在相關領域內已趨普遍的Adobe® RGB。

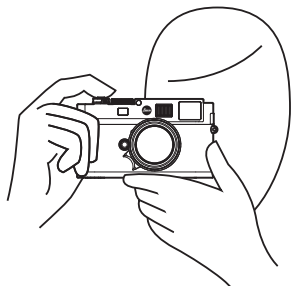
設定功能

1. 在主選單裡（請看第14/31頁）選擇色彩管理（4.1.18），隨之
2. 在附屬子選單選擇想要的功能。

提示：

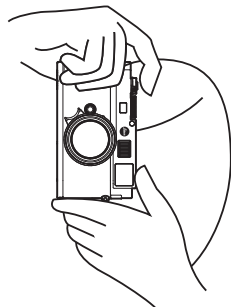
- 若要在大型照相沖洗店、小型沖洗店或透過網路沖洗服務列印相片，則務必選擇sRGB設定。
- Adobe RGB的設定，只在需要於有徹底色彩校正的工作環境裡的做專業色彩處理時，才建議使用。

正確握持相機



請儘可能穩定及舒適地握持住相機，才能得到清晰不模糊的攝影作品。若用右手持握相機，請將食指放在快門鈕上，大拇指穩定放在機身的背面；此外再用左手從下面支撐住鏡頭，準備好可以快速補對焦或是抓穩相機，如此即為適當、安全的「三點式支撐」姿勢。靠緊在額頭和臉頰上可以讓相機得到額外的支撐。要直式攝影時，請將徠卡M-E向左轉（逆時針方向），雙手位置和橫式攝影時的位置相同。

當然您也可以向右（順時針方向）轉握相機。在這種情形下最好用大拇指按快門。



提示：

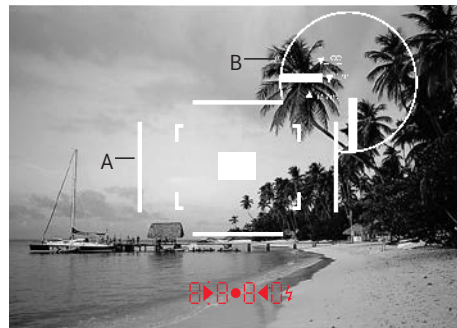
- M-E手把是很實用的配件，能讓您非常穩固地單手握持徠卡M-E，故在此特別建議您使用（訂購編號14486黑色，14490鐵灰色）。
- 徠卡M-E配備了一顆內建的感測器，可在每次攝影時測得相機的位置水平或垂直（兩個方向），這項資訊可以在將來播放時，藉由對應的軟體程式，在電腦上（而非相機的顯示幕上！）自動將相片轉正顯示。

徠卡M-E的取景框線－測距觀景窗

不只是一個品質特別高、較大、較鮮明以及較明亮的觀景窗而已，它同時也是一個和鏡頭連動的、非常精確的測距儀，有0.68倍的放大倍率。

本取景框線的尺寸是配合Leica M-E原廠預設的格式而定的，距離1m時就相當於感測器的大小24x36mm¹。本取景框線的尺寸是配合Leica M-E原廠預設的格式而定的，讓取景框線和距離設定是連動的，視差－也就是鏡頭和觀景窗軸線之間的偏差會自動補償修正。在整個從0.7m到無限遠的對焦設定範圍裡，取景框線和相片畫面涵蓋的範圍大體上都相同。大體說來，感測器在距離小於1m以內時能感測到的比取景框線內緣顯示的小一點兒，距離超過1m時則多一點兒（請看旁邊的圖解），這些細微的誤差在實務中通常是不值得注意的，而且是受限於應用原理的：

運動測距式相機的取景框線必須配合所用鏡頭焦距的視角調整。然而在對焦時額定視角會隨著變化中的移動量而變，也就是說隨光學系統和感測器平面之間的距離而變。如果設定的距離比無限遠小（比對應的移動量大），則實際上的視角比較小－鏡頭能掌握到的目標較小。此外焦距較長時的視角差異會隨著較大的移動量跟著有變大的傾向。



A. 取景框線
B. 實際畫面

- 設定為0.7m時：感測器取得的景象略微小一點，其差異約為框線線寬。
- 設定為1m時：感測器取得的景象與取景框線內緣所顯示的畫面吻合。
- 設定為無限遠時：感光元件可涵蓋大約1(垂直)/4(水平)的框線寬度。

¹其確切格式為 23,9 x 35,8mm，和類比式徠卡M型相機的可用格式相符。

如果裝上焦距為28mm(出廠序號從2411001起的Elmarit),35,50,75,90和135mm的鏡頭,則會自動套用所屬28+90mm, 35+135mm, 50+75mm的取景框線組合。

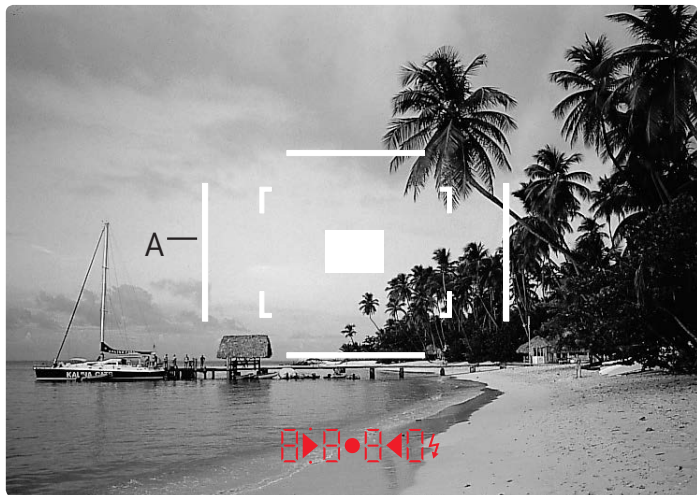
在觀景窗區域的中央有四邊形的對焦區,比周圍的影像區域亮。焦距16到135mm的所有徠卡M型鏡頭,裝到徠卡M-E上後都會和測距儀形成連動。

若啟動了測光表,觀景窗影像下緣就會額外出現測光表的LED訊號或LED閃光燈符號。

其他關於測距和測光以及閃光燈作業的進一步說明,請參考相關章節,請看第46/47/55頁。



35 mm + 135 mm



50 mm + 75 mm



28 mm + 90 mm

測距

徠卡 M-E 的測距儀，由於有效基線很大，可以非常精準地作業。特別是在使用廣角鏡頭時，因為其景深相對來說很大，其優點會更加顯著。

機械基線 (觀景窗和測距 儀觀測窗的光學 軸之間的距離)	x × 觀景窗 放大倍率	= 有效基線 測量基線
69,25mm	x 0,68	= 大約 47,1mm

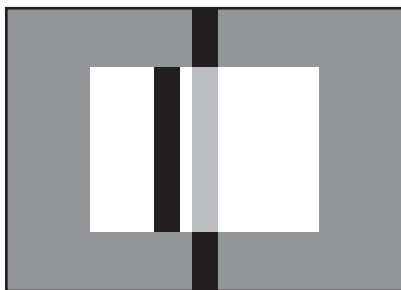
測距儀的對焦區在觀景窗的中央，是一個明亮及銳利的方塊區，若遮住觀景窗的接物鏡 (1.6)，即只剩下投射的取景框線和這個對焦區可看得到。銳利度可依混合影像或分割影像法調整：

混合影像法 (雙重影像)

在拍攝人像時，例如把測距儀的對焦區瞄準眼睛，然後持續轉動鏡頭上的對焦環，直到對焦區裡的輪廓疊合為止。接著再確定拍攝主題的構圖範圍。



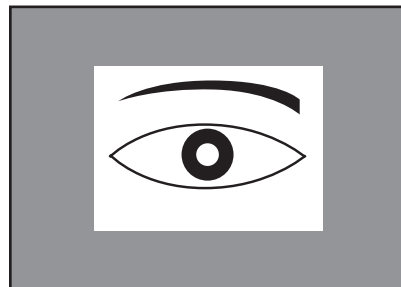
輪廓重影 = 模糊



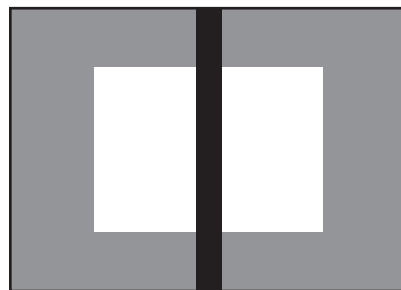
斷開的線條 = 模糊

分割影像法

拍攝建築物時，例如用測距儀的對焦區瞄準垂直邊緣或別條清楚定義的垂直線，然後一直轉動鏡頭的對焦環，直到邊緣的輪廓或線條和對焦區的邊界呈現無錯位為止。接著再確定拍攝主題的構圖範圍。



輪廓疊合 = 銳利



延續的線條 = 銳利

這兩種調整方法在實務上並無明顯區別，這兩種準則很適合合併使用。

測光

徠卡 M-E 對環境的測光，是透過鏡頭以工作光圈加上中央重點模式進行，由一顆光電二極體接收並測量從第一道快門簾幕上明亮快門葉片反射的光線。這顆矽基光電二極體加上前置聚光鏡片位於相機底部中央。

有助於正確曝光的快門時間 / 光圈組合會顯示在觀景窗以及顯示螢幕上。

若使用光圈先決時手動選擇光圈，相機會自行決定適合的快門時間。在這種作業模式下會有一數位LED顯示訊息告知當時的快門時間（例如 1000）。

手動設定這兩個值時，由三顆紅色LED組成的測光平衡儀(▶◀)能協助您調整曝光值。若設定正確，就只有中間的圖形LED會亮。

打開／關閉測光表

測光表在輕按快門鈕 (1.18) 到第1段壓點時就會啟動，前提是相機已經用主開關 (1.17) 開機，並且快門時間設定轉盤 (1.16) 不是設定在B的位置。

在觀景窗上，下列一個訊號持續發亮，就表示測光表已就緒：

- 使用光圈先決時，快門時間的數位LED訊號
- 使用手動設定時，兩個三角形LED，有時候中間的圓形LED也會派上用場

若放開快門按鈕，而沒有啟動快門，測光表會繼續維持約12秒長的啟動狀態，而且相關的LED會繼續發亮。

快門時間設定轉盤調到B時，測光表就會關閉。

提示：

- 顯示訊息熄滅，代表相機處於「待機」狀態。
- 環境光線很微弱時，也就是說在測光表的極限範圍裡，可能會等大約0.2秒，LED燈才會亮起來。
- 如果在光圈先決模式下以現有的快門時間不可能有正確的曝光，則快門時間顯示訊息會閃爍以示警告（相關詳細內容請看第48頁的「光圈先決」）。
- 在使用手動設定模式而且環境光線密度低的情況下，如果測光表的測光範圍超出下限，左邊的三角形LED會閃爍表示警告。使用光圈先決時，快門時間會繼續顯示。如果所需快門時間超過上限32秒，該訊號也會閃爍。
- 相機長時間不使用或是放在相機袋裡時，應該要用主開關關機。如此可以阻斷電力消耗。否則在待機作業模式下，測光表自動關機以及顯示訊息熄滅之後還是會繼續耗電。藉此也可防止不經意按壓到快門按鈕而攝入影像的意外發生。

曝光模式

徠卡 M-E 提供兩種曝光模式：光圈先決或手動設定。您可依拍攝主題、場合和個人偏好從中選擇

- 常見的「半自動化」，或是
- 預先設定的快門時間和光圈。

光圈先決

快門時間設定轉盤 (1.16) 設定在 A 位置時，相機的電子系統會自動設定適當的快門時間， $1/4000$ 秒至 32 秒之間的任意值，而且是依預設的感光度、測得的亮度和手動選定的光圈而定。

相機的觀景窗會顯示計算所得的快門時間數值。為求一目了然，會以半階單位顯示。

曝光時間若大於 2 秒，按下快門後，觀景窗會顯示倒數剩下的曝光時間。實際計算設定的曝光時間，可能會和以半階單位顯示的數值略有差異。例如按下快門前，顯示訊息裡看到的值是 16 (離實際值最近的值)，但是計算設定的時間值其實更大，這時按下快門後的倒數計時可能會從 19 開始。

在極端的光線條件下，測光機制計算所有參數後，可能得到超出運作範圍以外的快門時間，亦即為配合亮度值的條件，曝光時間可能必須小於 $1/4000$ 秒或大於 32 秒。在這種情形下，相機會採用額定的最小或最大的快門時間值，並在讓這些值觀景窗裡閃爍以示警告。

測光值儲存

重要的拍攝主題，往往基於構圖的理由並不在畫面中心，而且有時候這些重要的拍攝主題，也比整個畫面的平均值來得較亮或較暗。不過徠卡 M-E 的中間強調式測光大部分只看畫面中央的區域，並依平均灰度校正。上面說明的拍攝主題和狀況，在使用光圈先決功能時，可以輕易用測光值儲存功能克服。

方法：

1. 首先把相機觀景窗中央對準重要的拍攝主題，然後再轉向另一個亮度平均的細部，
 2. 按壓快門按鈕 (1.18) 到第 2 段壓點，以啟動測光機制並儲存所測得的數值。一直壓在該壓點時，觀景窗裡數字列的上方會出現一個小紅點以示確認，而且快門時間顯示值即使在亮度條件有變化時亦不會改變。
 3. 繼續按住快門鈕不放，將相機擺動到最後的畫面構圖。
 4. 然後用原來計算求得的曝光設定拍攝。
- 成功儲存測光值之後，改變光圈設定並不會讓快門時間跟著變動，也就是說，有可能造成錯誤曝光。手指頭一旦離開快門鈕的壓段，儲存值就會失效。

提示：

輕按快門功能被啟動時 (請看第 27 頁)，測光值儲存功能無法使用。

曝光修正

測光表是以一個中度灰色值為基值（18%反射率），相當於一般常見拍攝主題的亮度。如果拍攝主題細部不符合此先決條件，您可採取對應的曝光修正。

例如基於特定理由，做一系列拍攝時想刻意拍出有點不足或有點過頭的曝光效果，這時曝光修正便是極為有益的功能。測光值的儲存功能相反，修正值一旦設定好就維持到您（刻意）把它更改回來為止（關於測光值儲存的詳細內容，請參閱第48頁的相關章節）。

徠卡 M-E 所支援的曝光修正值範圍是 $\pm 3EV$ ，最小遞增 / 遞減值是 $1/3$ （EV = 曝光值）。

設定功能

徠卡 M-E 提供三種設定曝光修正值的方法。兩種方法是輸入持久的數值，亦即您輸入的數值會維持到您再次改變它或重置為止。同時您也可以選擇是要使用功能選單還是設定轉盤進行設定。

若您在連續攝影前已打算要對拍攝主題進行偏弱 / 偏強的曝光，建議您使用功能選單進行設定。使用調整設定轉盤能迅速進行設定，適用於突發意外狀況，讓您無須中斷用觀景窗追蹤拍攝主題的動作。

A. 透過功能選單

1. 在攝影參數選單裡（請看第15/31頁）選擇 曝光補償（4.2.4），隨之
2. 在附屬的子選單裡選擇想要的修正值。

B. 使用設定轉盤

1. 在主選單裡（請看第14/31頁）選擇 曝光補償設定（4.1.10），隨之
2. 在附屬的子選單裡選擇設置環。
3. 您可以藉由轉動設定轉盤（1.28）設定曝光修正值 - 順時針方向為正，逆時針方向為負。

C. 利用快門按鈕和設定轉盤

1. 在主選單裡（請看第14/31頁）選擇 曝光補償設定（4.1.10），隨之
2. 在附屬的子選單選擇設置環+快門。
3. 將快門鈕（1.18）按住保持在第一段壓點¹，就可使用設定轉盤（1.27）設定下張照片的曝光修正值。

不論您用何種方式輸入，以下皆適用於設定的修正值：

- 修正值在手動重設為零之前，保持有效。
- 修正值可用選單或設定轉盤重設。
- 修正值在攝影參數選單中以EV值的形式顯示，在觀景窗內則以改變的快門時間呈現。

¹關於快門按鈕功能進一步的細節，請參閱從26頁起的相關章節

提示：

在相機上設定的曝光修正值只會影響現場光線的測光。如果您在閃光燈作業模式下想要修正TTL閃光燈的測光 - 您必須自行另外(在閃光燈上)設定為平行光或逆光！請參閱第55頁起關於閃光燈作業模式的章節。

修正值為正的範例



在很明亮的拍攝主題中，例如雪或海灘，測光表會測定出一個相當短的曝光時間，相片中的雪會因此呈現中灰色，人物會顯得太暗：曝光不足！為此您可延長曝光時間或開大光圈，例如設定為+1 EV $\frac{1}{3}$ EV。

修正值為負的範例



在很陰暗的、只反射少許光線的拍攝主題中，測光表會測定出一個太長的曝光時間。黑色汽車在相片中會因此變成灰色汽車：曝光過度！此時，曝光時間必須縮短，例如設定成-1EV。

自動包圍曝光

許多誘人的攝影目標對比都很強烈，也就是說裡面有不是很亮就是很暗的區域，隨著您依什麼部位決定曝光而異，相片畫面效果會大不相同，在這種情形下您可以用徠卡 M-E 在光圈先決時利用自動包圍曝光拍許多張曝光級數不同的相片，也就是說用不同的快門時間拍攝。接下來您可以挑選最合適的相片來用，或是用對應的影像處理軟體算出對比範圍最高的一張相片（關鍵字HDR）。

下列選項可供使用：

- 4種段數：0.5EV、1EV、1.5EV和2EV
- 3種連續拍攝張數：3、5或7
- 2種拍攝順序：正確曝光、過度曝光、不足曝光，或是不足曝光、正確曝光、過度曝光。

提示：

- 使用包圍曝光功能時（請看第40頁）所有自動ISO設定都會確定：
 - 相機自動為第一張相片計算求得的感光度也應用於該系列裡其他相片，也就是說此ISO值在該次包圍曝光序列裡不會改變。
 - 在自動ISO-子選單裡的設定都會失效，也就是說相機可用的快門時間範圍全都可以使用。
- 隨著初始快門時間的不同，自動包圍曝光的工作範圍也受到限制，範例（一定在固定的光圈設定下）：
 - 測量所得的快門時間 $1/1000$ 秒，5張相片/2EV的包圍曝光：受限的功能，因為-2 EV的相片需要 $1/16000$ 秒。
 - 測量所得的快門時間 $1/125$ 秒，5張相片/2EV的包圍曝光：不受限的功能，因為-2 EV的相片 $1/2000$ 秒是有可能的。
 - 測量所得的快門時間 $1/1000$ 秒，7張相片/1EV的包圍曝光：受限的功能，因為-3 EV的相片需要 $1/8000$ 秒。
 - 測量所得的快門時間 $1/500$ 秒，7張相片/1EV的包圍曝光：不受限的功能，因為-3 EV的相片 $1/4000$ 秒是有可能的。

- 不管如何一定會拍預定張數的相片，結果可能一次包圍曝光裡有好幾張以相同的曝光條件拍攝。
- 7張相片的包圍曝光只有0.5EV和1EV這兩種級數可用。
- 閃光燈作業模式無法使用自動包圍曝光功能，如果裝上的閃光燈已打開，則不會拍任何相片。
- 此功能會繼續保持有效，直到在選單裡再度關閉為止。如果沒有關掉的話，每次按下快門鈕就會產生另一次包圍曝光序列。

設定功能

1. 在攝影參數選單裡（請參閱第15/31頁）選擇**語言**（4.2.5），
2. 決定想要開啟或關閉此功能。
3. 接著在主選單裡（請參閱第14/31頁）選擇**包圍曝光設定**（4.1.9），
4. 在附屬的子選單 **曝光數**、及 **序列**、與 **曝光值增量**，以及
5. 於子選單中選擇想要的數值及選項

手動設定曝光

如果要完全用手動設定曝光的話，快門時間設定轉盤（1.16）就必須轉到某格快門時間上，或停在兩格中間。

然後

1. 啟動測光表並且
2. 旋轉快門時間設定轉盤及 / 或鏡頭的光圈設定環（1.13），依發亮的三角形LED所指示的方向，讓圓形LED單獨亮起。
 - ▶ 曝光不足至少一格光圈；必須向右轉
 - ▶▶ 曝光不足 $1/2$ 光圈格數；必須向右轉
 - 正確曝光
 - ◀▶ 曝光過度 $1/2$ 光圈格數；必須向左轉
 - ◀ 曝光過度至少一格光圈；必須向左轉

提示：

選擇大於2秒的長時間曝光，按下快門後，顯示訊息裡會倒數剩下的曝光時間。

B快門設定/T功能

使用B快門設定時，只要按住快門鈕不放，快門就會一直維持在開啟狀態（最多240秒）。加上自拍器，另外有T功能可供使用：若是已經設定B快門，而且自拍器也藉由碰觸快門鈕而啟動（請看第69頁），快門就會在選定的預設時間之後自行打開，然後就會一直維持開啟狀態 - 不用繼續按著快門鈕不放，直到再碰觸快門鈕第二次為止，如此一來，即便在長時間攝影裡亦可避免因操作快門鈕而可能產生的晃動。測光表在兩種情形下都會關閉，釋放快門後，觀景窗裡的數位計時器則會依據進行的曝光時間以秒為單位計時。

提示：

- 長時間曝光下會有非常嚴重的畫面雜訊。為了減少這種擾人的現象，徠卡M-E會自動在每一次以較長快門（大約從 $1/30$ 秒起，視其他選單設定而異）拍攝之後產生第二張「全黑相片」（在快門全關的情形下），在這些平行拍攝相片中所測量得到的雜訊，就可以從原本的攝影相片資料裡用運算的方式「消掉」。
- 進行長時間曝光時，必須要考慮這種重覆「曝光」時間，例如在這段過程中相機不應該關機。
- 快門時間超過2秒以上時，噪點降低 12s¹ 的訊息會出現在顯示幕裡。

¹ 時間值僅為範例

使用快照風格時曝光的設定

另外針對個人可設定及儲存的風格，徠卡 M-E提供了一種快照風格。在這種風格下，大部分選單項目的設定都已事先確定，就大多數的攝影目標而言都確保最佳的播放效果。某些只有對於特定目的有必要的選單項目，還有其他特殊功能在這裡無法選取（請看第14頁）。

設定作業模式

1. 在攝影參數選單裡（請看第15/31頁）選擇 用戶個人設定（4.2.6），以及
2. 在所屬的子選單裡選擇 速寫。

除此之外還有一種簡化的觀景窗顯示訊息可以顯示曝光設定，如果您的相片因為晃動而可能變模糊的話，相機會事先警告您。請務必注意觀景窗裡的顯示訊息：

- 若僅有中間的紅色LED (•) 閃爍，即表示一切都沒問題。
- 如果右邊另外有一個紅色三角形在閃爍 (•◀)，則有過度曝光的危險。不過在大部分情形下還是有可能確保正確的曝光。
 - 使用光圈先決時（請看第48頁）：設定較小的光圈值，做法為將光圈轉環（1.13）朝向閃爍三角形的方向轉動 - 向左轉。
 - 手動曝光控制時（請看第52頁）您也可以依意願設定較短的快門時間。
- 若另外還有左邊的紅色三角形 (▶•) 閃爍，則表示拍攝影像有可能晃動（請看下面：「說明」）。不過在大部分情形下您還是有可能確保銳利、不晃動的相片。
 - 使用光圈先決時（請看第48頁）：設定較大的光圈值，做法是將光圈轉環（1.13）朝向閃爍三角形的方向轉動 - 向右轉。
 - 手動曝光控制時（請看第52頁）您也可以依意願設定較長的快門時間。

關閉快照風格

啟動的快照風格可以隨時藉由按下 SET 鍵（1.20）離開。

說明

基本原理：因為晃動引起的不銳利現象從低於 $1/f_{\text{焦距}}$ 臨界點的快門時間起就有出現的風險，例如用 50mm 鏡頭時快門時間比 $1/60$ 秒還長。

提示：

- 使用快照風格您就可以在亮度範圍特別大的地方攝影 - 如果因為跑到亮度較低處 - 就會自動將感光度設定成較高的值（更多細節請看「ISO感光度」，第40頁）。
- 使用閃光燈攝影也可以用快照風格，更進一步的細節請看從第55頁起的對應章節。

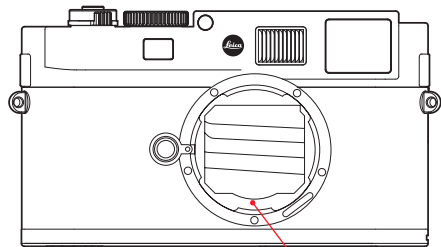
測光表的測光範圍

測光範圍相當於在室溫、普通空氣濕度之下以及ISO 160/23 EV 0到20還有光圈 1.0及 1.2秒，一直到光圈 32和 $\frac{1}{1000}$ 秒。

超出及低於曝光範圍

若測光表的測光區處於手動設定模式，而且低於非常低的光線密度，則左邊的三角形LED會閃爍表示警告，同理亮度過高時右邊的會閃爍。光圈先決時會繼續顯示快門時間，低於或超過必要的快門時間的話，最長的32秒以及最短的 $\frac{1}{4000}$ 秒也會閃爍顯示。因為測光是以工作光圈進行的，所以這些狀態也可能因鏡頭光圈縮小而產生。即使超出測光範圍，測光表還是會在放開快門鈕後，繼續維持約12秒的開啟狀態。若在這段時間內光線關係有所改善（例如改變拍攝主題構圖範圍，或放大光圈），則LED顯示訊息會從閃爍變成持續發亮（表示測光完成）。

關於閃光燈測光及控制的一般事項



連續拍攝

徠卡 M-E 可在真正攝影之前，用觸發一次或多次瞬間測試閃光，來計算必要的閃光燈功率，在這之後開始曝光時，就會觸發主閃光燈。

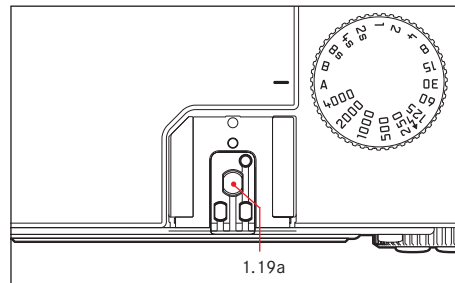
所有會影響曝光的因素（例如攝影濾鏡及光圈設定改變）都會自動被考慮到。

可用的閃光燈

下列閃光燈可以在徠卡 M-E 上執行所有本說明書裡說明的功能：

- 系統閃光燈 SF 58（訂購編號 14 488）。最大閃光導數到 58（於 105mm 的設定之下），自動（用含辨識碼的徠卡 M 型鏡頭，請看第 22 頁）控制的變焦式反射罩，可選擇性開啟的第二反射罩，還有許多其他的功能，不但功能強大又多用處。由於固定內建的閃光燈腳座有對應的額外控制及訊號接點，可用來自動傳送一系列資料和設定，所以操作上很簡單。
- 系統閃光燈徠卡 SF 24D（訂購編號 14 444）。由於外形精巧，而且和相機很搭調的設計使得此閃光燈很適合用在此相機上。和徠卡 SF 58 一樣有固定內建的閃光燈靴座，具備所有接點，操作也同樣簡單。
- 具備系統 3000 之系統相機接頭（SCA）的閃光燈，配備 SCA-3502/3501¹ 接頭，並可控制閃光燈導數。

¹ 使用 SCA-3502（從第 4 版起）轉接頭時白平衡（請看第 38 頁）可以為了得到正確的色彩再現效果而設定成自動，使用快照風格也自動適用。

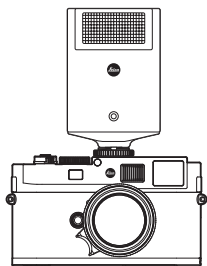


亦可使用其他市售、具備標準閃光燈接腳^{2,3}以及正極中央接點的外接式閃光燈，透過中央接點（X 接點，1.19a）來觸發。建議使用現代的晶閘管控制的電子式閃光燈。

² 若使用不是特地為徠卡 M-E 調整的閃光燈，相機的白平衡功能就不會自動切換，因此應該使用設定 ☑ （請看第 38 頁）。結果在這類情形下，不能以快照風格進行正確的彩色再現。

³ 在鏡頭上預先設定好的光圈，必須在閃光燈上以手動設定。

裝上閃光燈



安裝閃光燈時要注意，將其腳座完全推進徠卡 M-E 的閃燈靴座 (1.19) 裡面。而且（如果有的話）要用夾緊螺帽固定好，防止意外掉落。這對於有額外控制及訊號接點的閃光燈來說格外重要，因為它在閃光燈靴座裡位置的變化，會讓必要的接點中斷，並且可能因此造成故障。

提示：

在安裝之前，相機和閃光燈必須關閉。

閃光燈作業

全自動，也就是完全由相機控制的閃光燈作業模式，在徠卡 M-E 上可以用前面章節提過的系統相容閃光燈，以及兩種曝光作業模式，光圈先決 A 和手動設定，還有快照風格。

在這全部三種曝光模式下，都有一種自動照亮模式。為了確定閃燈和現場光源保持平衡，在較高亮度下，閃光燈功能有時可能會減少多達 $1\frac{2}{3}$ EV。如果現場亮度加上最短的閃光燈同步時間 ($\frac{1}{180}$ 秒) 會造成過度曝光，則在光圈先決模式下，就不會觸發閃光燈。在這種情形下，快門時間會根據環境光線而調整，並且會顯示在觀景窗裡。

除此之外，具備光圈先決 A 和手動設定功能，但不包含快照風格的徠卡 M-E 容許使用更多設計上有趣的閃光燈科技，像是閃光燈觸發的同步動作是發生在第 2 簾幕而非習慣上的第一簾幕，而且用比同步時間 $\frac{1}{180}$ 秒較長的快門時間，這些功能在相機上透過選單進設定（進一步細節請看對應的後面章節）。徠卡 M-E 亦會將設定的感光度傳給閃光燈。如此一來，只要閃光燈上有這類顯示訊息，而且可以用手動方式，把相機鏡頭上選擇的光圈設定在閃光燈上，閃光燈就可以自動配合調整其有效距離數據。感光度設定則無法被閃光燈影響。

提示：

- 下列章節裡說明的設定和功能，都只和那些可以用在徠卡 M-E 及系統輕巧型的閃光燈有關。
- 在相機上設定的曝光修正值（請看第49頁）只會影響現場光的測光！如果您在閃光燈作業模式下同時想要修正 TTL 閃光燈測光 - 您必須自行另外（在閃光燈上）設定是平行光或逆光！
- 關於閃光燈作業（特別是和其它那些並非特地為徠卡 M-E 設計的閃光燈），還有關於閃光燈不同作業模式的詳細內容，請您到各自的附錄裡查閱。

由相機控制的設定，自動閃光燈作業

啟動所用閃光燈、以及設定好導數控制（例如 GNC=導數控制）作業模式之後，必須在徠卡 M-E 上

1. 每次用閃光燈攝影前，先輕輕壓下快門來啟動測光功能，也就是說觀景窗裡的顯示訊息必須能提供快門時間值，或是切換測光平衡儀。若太快完全按下快門，因而錯過此動作，則閃光燈可能不會觸發。
2. 快門時間設定轉盤設定在 A、設定在閃燈同步時間 $\frac{1}{180}$ ，或是為了特殊效果設定在較長快門時間（包括 B 快門）。在光圈先決模式下，相機會自動設定在透過選單設定的閃光燈同步時間、以及時間範圍（請看第59頁的「選擇同步時間/同步時間範圍」）。
3. 設定想要或拍攝當時所必要的光圈。

提示：







若自動控制（請看第56頁的「閃光燈模式」）或手動控制的快門時間小於 $\frac{1}{180}$ 秒，則不會觸發閃光燈。

以相容系統閃光燈攝影時，觀景窗內的閃光燈控制顯示訊息




徠卡 M-E 的觀景窗裡，有一顆閃電形狀的 LED (2.1.3)，用於回報及顯示不同的作業狀態。這顆 LED 會和對應章節裡說明的現場光線測光顯示訊息一同出現。

自動閃光燈作業

(閃光燈設定用於導數控制)

-  仍然沒有出現，雖然閃光燈已開機和在待命中：
相機上手動設定了比 $1/180$ 秒更短的快門時間，在這種情形下，徠卡 M-E 不會觸發已開機和待命中的閃光燈。
-  在攝影前緩慢閃爍 (頻率 2Hz)：
閃光燈還沒進入待命狀態。
-  在攝影前發亮：
閃光燈已在待命中
-  在按下快門後繼續發亮，但其他顯示訊息都已熄滅：
閃光燈曝光沒問題，閃光燈繼續保持待命狀態。
-  在按下快門後快速閃爍 (頻率 4 Hz)，但其他的顯示訊息都已熄滅了：
閃光燈曝光沒問題，但還未進入待命狀態。
-  在按下快門後和其他顯示訊息一起熄滅：
曝光不足，例如，選擇了對於拍攝主題來說太小的光圈。若在閃光燈上設定了部分功率輸出等級，則基於較小輸出功率的原因，即使閃光燈 LED 已熄滅也一樣可以繼續處於待命狀態。

閃光燈設定成電腦控制(A)或手動作業(M)

-  仍然沒有出現，雖然閃光燈已開機和在待命中：
相機上手動設定了比 $1/180$ 秒更短的快門時間，在這種情形下，徠卡 M-E 不會觸發已開機和待命中的閃光燈。
-  在攝影前緩慢閃爍 (頻率 2Hz)：
閃光燈還沒進入待命狀態。
-  在攝影前發亮：
閃光燈已在待命中

選擇同步時間／同步時間範圍

雖然快門時間對於閃光燈曝光的控制並沒有任何影響(相對來說，閃光燈持續的時間非常短暫)，現場光線的再現效果，還是大部分由快門時間(以及光圈)來決定。閃光燈模式固定設定在最短快門時間時，同步時間在很多狀況下還是會造成不必要的、或多或少的局部嚴重曝光不足情形，無法用閃光燈正確補償。

徠卡 M-E讓您能夠在閃光燈模式之下，結合光圈先決來應用快門時間，讓當時的拍攝主題條件，和您針對畫面構圖的預先設定細膩地配合。您可以選擇五種設定其中的一種：

1. 根據鏡頭焦距設定
依應用的焦距（根據手持攝影不模糊鐵則 = $1/\text{焦距}$ ，例如使用 Summicron-M 1:2/50mm 時為 $1/60$ 秒）自動控制快門時間，最快到同步時間 $1/180$ 秒。¹
2. 關閉 (1/180)
固定設定在最短的快門時間 $1/180$ 秒，例如為了得到移動中拍攝主題最銳利的影像及加亮式閃燈效果。

3. 最慢降至1/30 秒、
4. 最慢降至1/8 秒以及最慢降至32 秒
自動設定所有前述數值的快門時間，最快到同步時間 $1/180$ 秒。

提示：

- 手動控制時，曝光同樣可以設定所有快門時間，最快到同步時間 $1/180$ 秒。
- 使用快照風格時（請看第 14/53 頁）用有辨識碼的鏡頭（請看第 22 頁）要預先設定為鏡頭相關控制，用無辨識碼的鏡頭則為 $1/180$ 秒。

設定功能

1. 在主選單裡（請看第 14/31 頁）選擇
自動慢速閃光同步（4.1.17）以及
2. 在附屬子選單裡選擇想要的選項變數。

¹ 只有在使用接頭上有 6 位元辨識碼的徠卡 M 型鏡頭，並且在選單裡啟動鏡頭辨識功能時才能使用（請看第 14/36/31 頁）。

選擇同步時間點

閃光燈攝影的曝光是由兩種光源達成的：現場光線及閃光燈光線。僅僅或主要由閃光燈照明的部份，可以藉由極短的瞬間光線拍得十分銳利（在正確設定焦距的前提下）；但是，那些用現場光源照明即已足夠或自己會發光的其它部分，看起來就不會一樣銳利。這種拍攝主題部分看起來是否銳利或「模糊」，還有「模糊」的程度，是由兩種互相獨立的因素來決定的：

1. 快門時間的長短，也就是這種拍攝主題部分在感光元件上「作用」多久，以及
 2. 這種拍攝主題部分（或者可能是相機自己）在攝影過程中的運動有多快
- 快門時間越長、以及運動越快，這兩個（互相重合的）局部畫面就越明顯不同。



閃光燈觸發動作的傳統時間點是在曝光開始時，也就是在第1快門簾幕完全打開畫面視窗之後。這時有可能產生視覺上不合理的情形，例如在摩托車的相片上（請看第頁的左邊），因為它自己的光線軌跡跑在前面。

徠卡 M-E 可以讓您選擇這種傳統的閃光燈觸發時間點，或是到曝光結尾處同步，也就是在第2快門簾幕剛要開始再將畫面視窗蓋起來之前。銳利的畫面會出現在運動結尾之處，這種閃光燈技術在相片裡（請看第頁的右邊）可以得到自然的運動以及動感的感覺。



這項功能可以用在所有的相機及閃光燈設定下，不管是光圈先決還是手動設定，不管是不同的自動閃光燈模式還是手動閃光燈模式，這兩種情形的顯示訊息都一樣。

提示：

使用快照風格模式（請看第 14/53 頁）時，同步功能會先預設為第1快門簾幕。

設定功能

1. 在主選單裡（請看第 14/31 頁）選擇閃光同步（4.1.16）以及
2. 在附屬子選單裡選擇想要的選項變數。第一幕帘 或 第二幕帘。

其他功能

使用者／使用者特定風格

徠卡 M-E 上可以將所有主選單及攝影參數選單設定的任意組合永遠儲存起來，讓您隨時可以為了一直重覆出現的狀態／拍攝主題，迅速又不複雜地呼叫出來。總共有四個儲存位置可供這類組合使用。這四種風格的名稱基本上由十個字元所組成，出廠時第一個資料夾名稱為 個人設定 1¹，第二個稱為 個人設定 2¹，等等。不過您也可以將相機預定的名稱改掉，例如以應用範圍命名，這樣可以比較好也比較快辨識及呼叫。為了簡化預先設定，除此之外還有一種快照風格可以使用（請看第 14/53 頁）。

進行設定／建立風格

1. 在主選單及攝影參數選單裡設定想要的功能。
2. 在主選單裡（請看第 14/31 頁 / 選擇用戶個人設定（4.1.2）以及
3. 在附屬的子選單裡選擇想要的記憶體位置。
 - 風格名稱出現。第一格標示成準備好可以讓人編輯。
4. 利用十字鍵（1.28）的上鍵和下鍵，還有中央設定轉盤（1.27）可以改變字元，用十字鍵的左鍵和右鍵可以選擇其他格。
 - 可用字元有大寫字母從 A 到 Z、小寫字母從 a 到 z 以及數字從 0 到 9；依此順序安排成無限迴圈。
5. 儲存設定可透過按下 SET 鍵（1.20）的方式。

選擇已儲存的風格以及快照風格其中之一

1. 在攝影參數選單裡（請看第 15/31 頁）選擇 用戶個人設定（4.2.6），以及
2. 在附屬的子選單裡選擇想要的風格。

提示：

- 如果您改變了正在使用的風格中的設定，對應的數字就會熄滅。
- 啟動的快照風格可以隨時藉由按下 SET 鍵（1.20）離開。

回復所有個別設定

可用此功能，將所有先前在主選單及攝影參數選單裡執行的個人設定，回復到出廠基本設定。

設定功能

1. 在主選單裡（請看第 14/31 頁）選擇所有設定復位（4.1.20），以及
2. 用 SET 鍵（1.20）呼叫附屬的子選單。
3. 接著用左/右十字鍵（1.29）選擇想要的功能，然後
4. 重新按 SET 鍵確認您的設定。

提示：

這種回復動作也對可能用用戶個人設定（4.1.2，請看第 46 頁）確認及儲存過的個人風格有效。

¹底線「_」代表格子，在顯示幕裡「未被佔用」的格子是空的。

播放模式

正如「選擇攝影 / 播放模式」和「自動播放最後拍攝的一張相片」（請看第25頁）這兩節裡已說明過的，可在攝影之後，從徠卡 M-E 的顯示幕（1.30）裡觀賞相片。不管是在自動回放自動回放模式下直接自動播放一小段時間，或是隨時在 **PLAY** 模式下不限時間播放，在這兩種情形下您都有多種其他選項可供選擇。

提示：

- 播放功能一定只會針對當時所應用記憶卡的啟用中的資料夾，如果您想要看其他資料夾裡的相片，您就必須啟動對應的資料夾（請看第68頁）。
- 如果記憶卡上沒有儲存相片的話，就會在按下 **PLAY** 鍵之後，於顯示幕上出現這個訊息：**注意 無有效圖像可以播放**
- 隨著先前設定的功能，按 **PLAY** 鍵會有不同的反應：

	輸出狀況	按 PLAY 鍵之後
a.	相片全畫面播放	攝影模式，顯示幕關掉
b.	檢視放大區塊 / 部分縮小的相片 (請見 63 頁) ¹	全畫面播放相片
c.	INFO 顯示訊息加上任意的放大率 (請看第 12/63 頁)	INFO 顯示訊息加上全畫面播放
d.	功能表控制項之一 (請見 31 頁)、或 DELETE 或刪除保護功能 ¹ (請見 65/66 頁) 啟動)	全畫面播放最後顯示的相片

¹ 此時必須按壓兩次播放按鈕

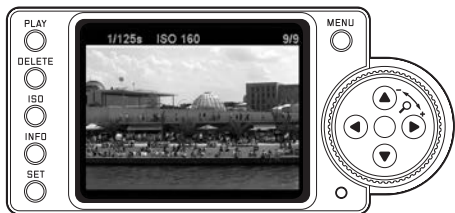
- 徠卡 M-E 會根據 DCF 標準 (相機檔案系統的設計規定) 儲存相片。
- 用徠卡 M-E 只能播放由這類相機所拍攝的相片資料。

觀賞過程中的其他選項

A. 觀賞其他相片／記憶體內「翻頁」

您可以用左、右十字鍵 (1.30) 呼叫出其他儲存的相片，按下左鍵可跳到編號較小的相片，按下右鍵則可跳到較高編號的相片。按住久一點 (約2秒) 可以快速前進後退。通過最高及最低編號之後，以無盡迴圈方式排列的相片就會從頭開始，於是您從兩種方向都可以找到所有的相片。

- 顯示幕上會交替顯示對應的相片及檔案編號。



B. 放大／選擇局部畫面／同時觀賞多張縮小相片

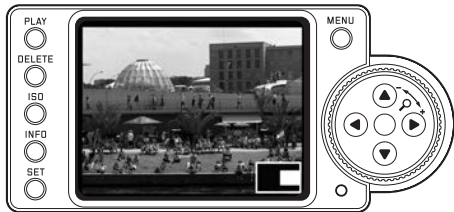
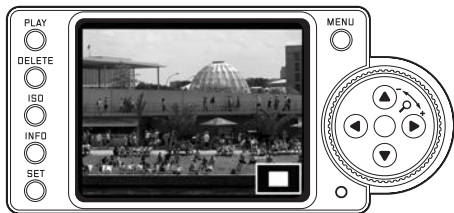
徠卡 M-E 可以為了更精確評估而將單張相片變成放大的局部畫面，而且可自由選擇局部畫面。您也可以為了製作總覽，或是為了快速找到想找的相片，同時在顯示幕上最多同時觀賞 9 張相片。

提示：

- 相片放得愈大，顯示幕內播放品質就愈差，因為解析度較小。
- 只要相片放大顯示，十字鍵就無法用來呼叫其他相片，而是變成用來在相片裡「操控方向」(例外：請看下一項提示)。

將設定轉盤 (1.27) 向右旋轉 (順時針方向)，可以將中央的畫面局部放大，轉得越多，放大得就越多，而畫面局部佔的區域就越小。放大率最多可到 1:1，也就是說直到顯示幕的 1 個畫素等於相片的 1 個畫素時為止。您可以用四個十字鍵 (1.28) 在放大的影像裡，另外任意選擇畫面局部的位址，方法就是按下您想要移去那個方向的鍵 (多次)。

- 顯示幕右下角框 (3.2.5/3.3.7j) 裡的方塊，不但代表當時放大的區域，同時也代表所顯示畫面局部的位址。



提示：

您也可以在放大的影像裡直接換到別張相片，而且會以相同的放大率顯示。方法是再按左或右十字鍵但是同時要按住 **PLAY** 鍵 (1.24) 不放。

將設定轉盤向左轉（時針方向，從正常大小開始）可以讓使用者同時觀賞4張相片，繼續轉下去則可看9張相片。

- 顯示幕 (1.30) 裡可顯示最多9張縮小的影像，先前以正常大小觀賞的相片，會以紅色外框標示出來。

您可以用十字鍵在縮小的影像之間自由操控方向，移到的相片就會對應標示出來，您可以將設定轉盤向右轉將這張相片變回正常大小。

提示：

播放9張相片時再繼續將設定轉盤向左轉，紅色框就會圍住整組相片，然後可「以群組方式」相當快速「翻頁」。

C. 刪除相片

只要一張相片顯示在顯示幕上，就可以利用這個機會予以刪除。例如相片已儲存在別的媒體、不再需要這張相片、或者需要在記憶卡上騰出更多儲存空間。

徠卡 M-E 提供可能性，可依需要刪除單張，或同時刪除多張相片。

提示：

- 只有在播放模式下才可以刪除相片，這和相片以正常大小或以多張同時縮小顯示無關(但是9格播放下紅色框將整組圍住時無法刪除，請看第63頁)。
- 有保護的相片必須先取消防止刪除功能後才能夠予以刪除 (請看下一節)。

重要：

刪除照片是不可更改的動作，相片一經刪除就無法再回復了。



做法

1. 按刪除鍵 (1.23)。
 - 顯示幕 (1.30) 裡會在畫面中出現對應的子選單。

提示：

- 刪除過程可隨時以重新按刪除鍵的方式中斷。
- 進行刪除工作期間，無法使用下列控制項與其功能：資訊 - (1.21) 按鈕及刪除保護功能。

2. 第一步您要決定，

- 是否要 **刪除 單張**，或是
- 同時刪除全部相片 **刪除 全部**。

3. 其他的操作則透過選單控制，和「選單操控」一節(請看第31頁)裡說明的完全相同，遵照當時的選單畫面，並利用設定轉盤 (1.27)、十字鍵 (1.28) 及 SET 鍵 (1.20)。

提示：

- 若顯示的相片有防止刪除的保護(請看第66頁)，則無法在子選單裡選擇功能選項 **單張**。
- 要刪除所有相片時，為了防止意外刪除，您必須再確認一次，確定您真的想要刪除記憶卡上所有的相片。

刪除後的顯示訊息

刪除單張相片

刪除後會出現前一張相片。

如果記憶卡上沒有儲存別的相片，就會出現下列訊息：

注意 無有效圖像可以播放

刪除記憶卡上全部相片

刪除後會出現下列訊息：

注意 無有效圖像可以播放

如果有一張或一張以上相片有防止刪除保護的話，就會出現這張相片或者這些相片裡的第一張。

提示：

刪除相片會讓相片計數器 (3.2.4/3.3.6) 裡將後面的相片都跟在前面相片後重新編號。例如刪除第3號相片，原來的第4號相片就會變成第3號，原來的第5號相片變成第4號，以此類推。不過這點不適用於記憶卡上的檔案編號 (在INFO說明裡，請看第12頁) 留在資料夾 (3.3.7i) 裡的相片檔案基本上留著不會改變。

D. 保護相片／取消防刪除保護

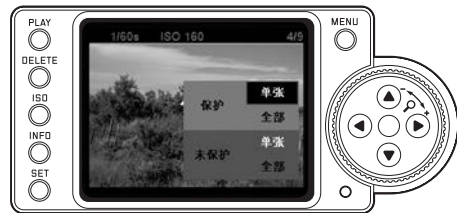
記錄在記憶卡上的相片，可以設定保護，防止意外刪除，這種刪除保護亦可隨時取消。

提示：

- 只有在播放模式下才可以刪除相片和取消防刪除保護，這和相片以正常大小或以多張同時縮小顯示無關 (但是9格播放下紅色框將整組圍住時無法刪除，請看第63頁)。
- 對於刪除受保護相片的不同方式 / 反應，請看前面的章節。
- 若您仍想刪除，請如下所述先取消保護。
- 防刪除保護功能只有在徠卡M-E上才有效。
- 受保護的相片在將記憶卡格式化時也會被刪除 (請看下一節)。
- 在SD/SDHC記憶卡上您可以防止意外刪除，方法是將卡上的防寫開關推到標示著LOCK的位置 (請看第21頁)。

做法

1. 按SET鍵 (1.20)。
 - 顯示幕 (1.30) 裡會在畫面中出現對應的子選單。



提示：

- 設定過程可以隨時中斷
 - 按下PLAY鍵 (1.24) - 以便回到正常播放模式，
 - 或是輕觸快門鈕 (1.18) - 以便跳到攝影模式。
- 在整個設定過程中，下列操作元件及其功能都無法使用：MENU- (1.26) 和 DELETE- (1.23) 鍵，以及 INFO- (1.21) 鍵

其他的操作則透過選單控制，和「選單操控」一節 (請看第31頁) 裡說明的完全相同，遵照當時的選單畫面，並利用設定轉盤 (1.27)、十字鍵 (1.28) 及SET鍵 (1.20)。

2. 第一步您要決定,


- 是否要 保護 單張,
- 或是
- 要同時保護所有相片 保護 全部,
- 以及
- 是否要取消單張相片的保護 取消保護 單張,
- 或是
- 取消所有相片的保護 取消保護 全部。

提示：


後續無法使用的功能，在選單文字上會以白色而非黑色出現的方式來表示：

- 想保護一張已經有保護的相片，或者所有相片都已經有保護了。
- 要對沒有保護的相片，或者在沒有相片受保護的情形下取消保護。

保護後的顯示／取消刪除保護

離開選單操控功能後會再度出現原來的顯示幕畫面，在受保護的相片上會出現一個對應的顯示訊息  (3.2.1/3.3.3)。

提示：

顯示訊息  也會在呼叫一張已受保護的相片時出現。

其他功能

資料夾管理

記憶卡上的相片資料儲存在資料夾裡，會自動產生。資料夾名稱基本上由八個字元組成，三個數字加五個字母，出廠時第一個資料夾名稱為「100LEICA」，第二個稱為「101LEICA」，等等。因此相機最多可以建立999個資料夾。這些編碼可以隨時歸零重置。除此之外您還可以利用徠卡M-E自己建立新的資料夾，並且為它命名，也就是說

- 重設資料夾編號
- 新建資料夾 / 自行命名

重設資料夾編號

提示：

此功能只有在沒有使用既沒有相片資料也沒有空資料夾的記憶卡上使用，也就是說沒用過的 / 全新的記憶卡，或是之前才格式化過的卡（請看第69頁）。

1. 在主選單裡（請看第14/31頁）選擇文件夾管理（4.1.13），以及
2. 在所屬的子選單裡選擇重設文件夾號
相機內建的資料夾編號會重設，也就是說建立新資料夾時一定會使用數字最小、還沒有用過的號碼。

提示：

這樣可能造成在特定情形下，一個或多個號碼沒有用到：例如說，如果相機先用了102這個號碼，然後再插入裡面資料夾號碼最高是105的記憶卡，那麼下一個新的資料夾號碼就會是106。

選擇資料夾

這些播放功能（參閱第25、62頁）的播放內容都是來自當前使用中的記憶卡正在啟用的資料夾。

1. 在主選單裡（請看第14/31頁）選擇文件夾管理（4.1.13），以及
2. 在所屬的子選單裡選擇選擇文件夾。
 - 顯示幕（1.31）裡會出現一份所有現存資料夾的清單。如果記憶卡的資料量很大，則在這個顯示訊息出現之前會花一小段時間，這段時間會出現 **讀取文件夾數據中** 的訊息。
3. 選擇您想要的資料夾，

新建資料夾 / 自行命名

徠卡M-E可以讓您在記憶卡上建立新的資料夾，裡面可以讓人自己命名。

1. 在主選單裡（請看第14/31頁）選擇文件夾管理（4.1.13），以及
2. 在所屬的子選單裡選擇新建文件夾。
 - 資料夾名稱出現（一定先出現「Leica」），現有名稱的前五個字母裡的第一個已經標示成可供編輯。

提示：

資料夾編號基本上會填下一個還沒用的號碼。

3. 利用十字鍵（1.28）的上鍵和下鍵，還有中央設定轉盤（1.27）可以改變前五格，用十字鍵的左鍵和右鍵可以選擇其他格。可用字元有大寫字母從A到Z、小寫字母從a到z以及數字從0到9；依此順序安排成無限迴圈。

將記憶卡格式化

正常情形下並沒有必要將已經插入的記憶卡格式化（初始化）。不過若第一次插入還未格式化的記憶卡，則必須將其格式化。因此在這種情形下會自動出現格式化SD卡子選單。

使用徠卡 M-E您可以選擇是否只要格式化記憶卡，或是例如為了防止盜用的安全理由而要將記憶卡上所有存在的資料完全真正刪除－用覆寫的方式。

提示：

- 用簡單格式化的方法時，記憶卡上存在的資料並不是真的失去而無法回復，而只是將目錄刪除，讓現有的檔案無法直接存取而已，使用對應的軟體即可再度存取那些資料。只有透過接下來儲存新資料覆寫上去的方法，那些資料才真正被徹底刪除。因此請您養成習慣，將所有您的相片儘快轉存到安全的儲存裝置上，例如您電腦的硬碟。特別是在將相機連同記憶卡一起送修的時候。
- 視使用的記憶體類型而定，最長需要3分鐘才能完成格式化。

做法

1. 在主選單裡選擇（請看第14/31頁）格式化SD卡（4.1.26），以及
2. 在附屬的子選單裡選擇想要的功能，是、否或改寫。
3. 如果記憶卡真的應該要被覆寫，您接下來必須一為了安全起見，避免不小心設定，在子選單裡進行確認動作。


提示：

- 記憶卡格式化 / 覆寫過程中，請勿將徠卡 M-E關機。
- 如果記憶卡是在別的裝置裡，例如電腦裡格式化的話，則應在徠卡 M-E裡重新格式化。
- 若記憶卡無法格式化 / 覆寫，請您和您的經銷商或徠卡的資訊服務（地址，請看第87頁）聯絡尋求建議。
- 格式化記憶卡時，加保護相片的存取點（請看前面的章節）會被刪除。
- 隨著記憶卡容量和寫入 / 讀取速度的不同，覆寫動作可能最多要花60分鐘，因此請事先檢查電池的充電狀態（請看第20頁）。如果在覆寫過程中電池的容量已經到了極限，則在顯示幕裡會出現對應的提示訊息。

以自拍器攝影

利用自拍器時，您可以選擇延遲2或12秒拍攝相片。第一種情形是您想避免在按快門時，因為晃動而造成不銳利的畫面；第二種情形是在團體照相的時候，您自己也想出現在相片裡，這種情形下，建議您將相機放在三腳架上固定。

設定及應用功能

1. 將主開關（1.17）設定到.
2. 在主選單裡（請看第14/31頁）選擇自拍設定（5.1.3）以及
3. 接下來，請在子選單中選取需要的延遲時間或關閉項目。
4. 輕觸快門鈕（1.18）（按到第1個壓段為止，請看第26頁）開始前置時間。發光二極體（1.7）可呈現前置時間的進行過程，12秒前置時間中的前10秒先閃爍，然後變成持續發亮，在顯示幕裡也會同時倒數計時。

在自拍器啟動的前置時間進行過程中，可隨時按下SET鍵（1.20）中斷作業，當時的設定則保持不變，而且重新輕觸快門鈕即可重新開始。

重要：

自拍作業中，曝光的設定並非在按到快門鈕中間壓點時進行，而是在拍攝之前的瞬間。

用讀卡機連線及傳送資料

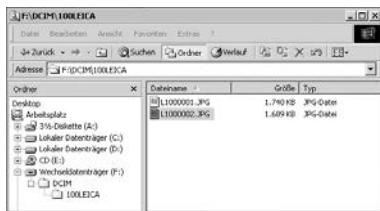
可使用市售的SD/SDHC記憶卡讀卡機將相片檔案傳送到另一台電腦上。對於有USB介面的電腦可以使用USB介面的讀卡機，若電腦配備有PCMCIA插槽(通常是可攜式電腦上會有)，亦可使用有PCMCIA接頭的插卡式裝置。這些裝置和其他資訊產品一樣，都可以在電腦配件商店裡買得到。

提示：

徠卡 M-E 配備了一顆內建的感測器，可在每次攝影時測得相機的位置水平或垂直（兩個方向），這項資訊可以在將來播放時，藉由對應的軟體程式，在電腦上（而非相機的顯示幕上！）自動將相片轉正顯示。

記憶卡上的資料結構

如果在記憶卡上的資料傳送到電腦上，就會形成下列檔案夾結構：



在 100LEICA-、101LEICA- 等等檔案夾裡最多可以儲存 9999 張相片。

處理 DNG 原始資料

若選擇標準化和有未來性的 DNG（數位負片）的照片格式，則需要特殊的軟體程式，以便以最高品質轉換儲存的原始資料，例如隨機附贈的 Adobe 公司所出品的專業原始資料轉換軟體 Adobe® Photoshop® Lightroom®。該軟體提供最佳化品質的運算法則用於數位色彩處理，同時能夠將雜訊降到特別低的程度並實現令人驚奇的相片解析度。

進行影像處理時，您可以事後調整例如白平衡、減少雜訊、階調、銳利度之類的參數，進而達到最高水準的影像品質。

Adobe® Photoshop® Lightroom® 可以免費下載使用，只要您在徠卡相機公司網站的首頁登錄您的徠卡 M-E。其他相關細節可以在相機包裝裡隨機附贈的文件裡找得到。

安裝韌體更新

徠卡會持續開發及最佳化他們的產品，因在數位相機的領域裡有許多功能完全以電子方式控制，所以有些改善和功能範圍的擴充，可於事後再安裝到相機裡。

為了達成這項目的，徠卡不定期提供所謂的韌體更新，且可輕易從網站首頁下載，傳送到相機中。

提示：

針對徠卡M-E可使用徠卡M9/M9-P的固件更新程式。

1. 您的徠卡M-E中有一張格式化記憶卡。
2. 將相機關機，然後將記憶卡插入內建或外建到的電腦 - SD/SDHC讀卡機（軟體更新必須使用讀卡機）
3. 例如將韌體檔案從徠卡M-E網站以「更新」的連接名稱下載。
4. 將檔案m9-X_xxx.upd儲存在記憶卡資料夾結構的最上面一層， X_xxx表當時的版本。

5. 將記憶卡依正確方式自讀卡機中取出後插入相機內，並將底蓋關上，使用主開關將您的相機開機，

6. 請確認在顯示幕裡出現的問題，是否想要將相機的體更新到最新的X_xxx版，

更新過程最多約需時180秒，之後即會出現以主開關重新開機之要求。

7. 請您將相機關機後再重新開機，

提示：

如果充電電池沒有充足電，您就會得到對應的警告訊息。

其他雜項

徠卡 M-E 的系統配件

交換式鏡頭

徠卡 M 系統提供最佳的適應快速及低調攝影的基礎，鏡頭產品線包括從 16 到 135mm 的焦距和最高到 1:0.95 的光圈。

濾鏡

對於現有的徠卡 M 型鏡頭，即配備標準規格濾鏡螺紋者，可選用 Uva（抗紫外線）濾鏡及 M 型環形偏光濾鏡。

提示：

特別為徠卡 M8 和 M8.2 開發的徠卡 UV/IR 濾鏡不應該用在徠卡 M-E 上，因為可能特別在使用廣角鏡頭時會在相片邊緣發生色偏現象。

泛用式 M 型廣角觀景窗

徠卡 M 型泛用廣角觀景窗是一種非常實用的配件，可以不受限制地用在所有類比及數位徠卡 M 系列機型上，並且（和相機的觀景窗一樣）可以依照廣角鏡頭焦距 16、18、21、24 和 28mm 的取景範圍選擇，並可投射出取景框線。

觀景窗配備了視差補償裝置，還有一個水平儀可精確校準相機的水平方位（訂購編號 12 011）。

21/24/28mm 用觀景窗

徠卡的 21/24/28mm 鏡頭用觀景窗可以用在所有的徠卡 M 型相機，而且用它可動的光學系統可以選擇顯示最喜歡的廣角焦距 21mm、24mm 和 28mm 下的畫面構圖。複雜的光學構造確保徠卡 M 型觀景窗水準的高度再現品質，其放大率讓戴眼鏡的人於瞳孔距離 15mm 下不但可清楚分辨細節，而且還能舒適地觀賞全畫面（訂購編號 12 013）。

M 型反射鏡式觀景窗

18、21 和 24mm 的鏡頭有反射式觀景窗可供使用。其特點為特別小巧的結構及其明亮的觀景窗畫面。為了確定畫面構圖範圍，和相機觀景窗一樣有取景框線可用（訂購編號 18mm: 12 022 黑色，12 023 銀色 / 21mm: 12 024 色，12 025 銀色 / 24mm: 12 026 黑色，12 027 色）。

觀景窗放大鏡 M 型 1.25 倍及 M 型 1.4 倍

徠卡觀景窗 M 型 1.25 倍及 1.4 倍放大鏡，可以在使用 35mm 以上焦距鏡頭時，使構圖變得更簡單。它可以用在所有徠卡 M 系列機型上，並且將觀景窗畫面的中央區域放大四分之一。徠卡 M-E 的 0.68 倍觀景窗加上 1.25 倍放大鏡有 0.85 倍的放大效果，用 1.4 倍放大鏡則有 0.95 倍的放大效果。

為防止遺失，有一條含簡易鎖的安全鏈，可用其將觀景窗掛在揹帶的固定環上。

觀景窗放大鏡有一個皮袋，皮袋上有個掛環，有一個含孔的套圈可以讓人將觀景窗放大鏡收藏在相機的揹帶上以備使用，並可得到保護（訂購編號 12 004 M 型 1.25 倍，12 006 M 型 1.4 倍）。

閃光燈

最大閃光導數到 58（於 105mm 的設定之下）的徠卡 SF 58（訂購編號 14 488），有自動（用含辨識碼的徠卡 M 型鏡頭，請看第 22 頁）控制的變焦式反射罩，可選擇性開啟的第二反射罩，還有許多其他的功能，不但功能強大又多用途。由於固定內建的閃光燈腳座有對應的額外控制及訊號接點，可用來自動傳送一系列資料和設定，所以操作上很簡單。

系統閃光燈徠卡 SF 24D（訂購編號 14 444），它小巧的尺寸和它針對此相機調整的設計，特別適合本機使用。和徠卡 SF 58 一樣有固定內建的閃光燈靴座，具備所有接點，操作也同樣簡單。

M-E 手把

M-E 手把是一種實用的配件，特別是想要抓穩以及用單手握持徠卡 M-E 時建議使用，用它取代量產零件的底蓋裝在相機上。（訂購編號 14 486 黑色，14 490 鐵灰色）。

視力矯正目鏡

為了讓眼睛能夠以最佳程度適應相機的觀景窗，我們提供了下列的正或負視度值（球面）的視力矯正目鏡： $\pm 0,5/1/1,5/2/3$ 。

相機袋

徠卡 M-E 有兩種合成橡膠材質的相機套，有不同的前端部分適用於不同長度的鏡頭。還有一種經典的皮套，以及類似傳統相機套底部的保護墊，這個保護墊可確保攝影時對相機機身的保護（訂購編號 14 867 短型，14 868 長型，14 872 皮套，14 869 保護墊）。

除此之外，還有多種相機配備可供選擇，如以防水布料製作的 Billingham 綜合式相機袋，可容納雙機雙鏡，或是一機三鏡，就算對大型鏡頭和裝上 M-E 手把都有足夠的空間，另外可提供擺徠卡閃光燈 SF 24D 及其他配件之用（訂購編號 14 854 黑色，14 855 卡其色）。

替換零件

訂購編號

相機鏡頭接座蓋	14 195
揹帶	14 312
鋰離子電池	14 464
小型充電器。（含歐規及美規電源線， 車用充電線）	14 470
澳洲及英國用電源線	14 422/14 421

一般注意措施

- 請勿在有強力磁場及靜電或電磁波的器材（例如電磁爐、微波爐、電視或電腦螢幕、錄影機、手持式攝影機、收音機）旁邊使用您的徠卡M-E。
- 若將徠卡M-E放在電視上或是放在它旁邊，或是在手持式攝影機旁使用，其磁場可能會干擾相片的記錄。
- 同理亦適用於在手持式攝影機旁使用的情形。
- 強力磁場，例如揚聲器或大型電動馬達，都可能損壞儲存的資料並干擾攝影。
- 請勿在無線電發送機或高壓電線旁使用徠卡M-E。其電磁場可能干擾相片的記錄。
- 若徠卡M-E因為電磁場的作用而有錯誤動作，請先關機，取出電池，並且稍後再重新開機。
- 請保護徠卡M-E不和殺蟲劑及其他侵蝕性化學品接觸，亦不得用汽油、稀釋劑和酒精來清潔相機。
- 某些特定的化學藥劑和液體可能會損害徠卡M-E的機身以及表面的塗層。
- 因為橡膠和塑膠有時會析出侵蝕性化學品，所以不應和徠卡M-E長時間保持接觸。
- 請您確定砂粒和灰塵不會跑進徠卡M-E裡面，例如在海灘。砂粒和灰塵可能會損害相機和記憶卡，更換鏡頭及插入和取出記憶卡時請特別注意。
- 請您確定不會水侵入徠卡M-E裡面，例如在雪地、雨天或在海灘。濕氣可能會造成徠卡M-E和記憶卡故障，甚至造成無法修復的損害。
- 如果鹽水噴霧碰到徠卡M-E（例如在海灘），請您將柔軟的毛巾先用自來水弄濕，徹底擰乾，接下來再用乾毛巾徹底擦拭。

顯示幕

顯示幕是以高精度的製程製造的，經過確認，在全部 230,000 個畫素裡有 99.995% 以上的畫素可正常工作，只有 0.005% 是暗點或亮點，但這並非故障，而且不會傷害影像輸出。

- 若徠卡 M-E 碰到溫度劇烈變化的情形，可能在顯示幕上形成冷凝潮濕現象，請用柔軟、乾燥的毛巾仔細擦拭。
- 如果徠卡 M-E 開機時外面很冷，顯示幕一開始比較暗是正常的，只要變暖就會回到其正常亮度。

感光元件

高空射線（例如在飛行時）可能會造成畫素損壞。

冷凝濕氣

若在徠卡 M-E 上面或裡面形成冷凝潮濕現象，請先關機，並將它放在室溫下約 1 個小時，等室溫和相機溫度接近，冷凝潮濕現象就會消失。

保養指示

污漬是微生物的溫床，請小心保持配備的清潔。

相機

- 只能用柔軟、乾燥的毛巾來清潔徠卡 M-E，頑固的污漬，應該先用稀釋得很薄的清潔劑沾濕，接著再用乾毛巾擦拭。
- 相機和鏡頭要用乾淨、不起毛球的毛巾來擦掉斑點和指紋，位於相機機身上不容易搗得著角落的粗糙污漬，則看情形用一根小刷子來清理，同時不得傷害到快門葉片（例如讓刷子柄碰到）。
- 您的徠卡 M-E 上所有軸承和滑動面都潤滑過。請您要記住，如果長時間不使用相機的話，為預防潤滑位置硬化，相機應於每三個月就觸發快門幾次，也請重覆調整和使用所有其他操作元件，例如視野撥桿，還有鏡頭的距離及光圈調整環亦都應該偶爾操作。
- 請您注意鏡頭接座上 6 位元辨識碼用的感測器 (1.9) 既不能弄髒也不能刮傷，同時要請您注意該處不能有可能會刮傷接座的砂粒或類似顆粒附著在上面，且只能用乾燥方式清潔這些組件！

鏡頭

- 在鏡頭外部鏡片上要清除灰塵，正常情形下用軟毛刷應該就夠了，若很髒可用乾淨、無異物顆粒及柔軟的毛巾，以圓周運動由內往外小心清潔。建議使用存放在保護容器裡的微纖維毛巾（可在照相館和光學用品專賣店購買），而且在最高40°C的溫度下可清洗（不用軟性清潔劑，絕對不要熨）。不要使用浸過化學原料的眼鏡清潔布，因為可能會傷害鏡頭的玻璃。
- 請您注意鏡頭接座上的6位元辨識碼（1.10）既不能弄髒也不能刮傷，同時要請您注意該處不能有可能會刮傷接座的砂粒或類似顆粒附著在上面，且只能用乾燥方式清潔這些組件！
- 在不良攝影條件（例如砂子、鹽水噴霧！）之下，最佳的前方鏡片保護是無色的UVa（抗紫外線）濾鏡；不過也應該考慮到，在特定的逆光場合及高對比的場合裡，任何濾鏡都會造成不想要的反射光，建議使用遮光罩，可以保護鏡頭，避免沾到雨水或指紋。

電池

- 可重覆充電的鋰離子電池是透過內部化學反應產生電流，這種反應也會受到外界溫度和空氣濕度的影響，非常高和非常低的溫度，都會縮短待機時間和電池的使用壽命。
- 如果您長時間不使用徠卡 M-E 的話，請取出電池，否則電池可能在幾星期後放電到快沒電的程度，因為徠卡 M-E 即使在關機狀態下，還是會消耗微小的電流（用來儲存日期）。過度放電的電池可能會無法再充電。
 - 鋰離子電池應該只能以部分充電的狀態存放，也就是說既不要完全放電也不要充飽電（顯示幕（1.30）裡對應顯示的狀態）。存放時間很長時，應該每年將電池充電約15分鐘兩次，以避免把電放光。
 - 電池接點要保持乾淨並且不要碰觸它。雖然鋰離子電池可防止短路，但是其接點還是不應該和金屬（像是辦公室用的長尾夾或飾品之類）物品接觸。短路的電池可能會變得很燙，而且會造成嚴重的火災。
 - 當發生有氣味、褪色、變形、過熱或流出液體的現象時，必須立即將充電電池從相機中取出，或是取下並更換充電器；若繼續使用充電電池可能會產生過熱現象，導致火災及 / 或爆炸的危險。

- 如有液體流出或燒焦味時，請將充電電池遠離熱源，流出的液體可能有著火的危險！
- 充電電池內的安全閥應確保釋放因不當操作或其他原因所產生的過度壓力。
- 電池只有有限的使用壽命。
- 請您將受損的電池交給資源收集點回收。
- 充電電池不得長時間暴露於熱源或日曬、溼度或濕氣之下，亦不得置於微波爐或高壓容器內，否則會導致失火或爆炸的危險。

充電器

- 如果在收音機附近使用充電器的話，收音可能會受到干擾；這些裝置之間至少要維持1公尺的距離。
- 使用充電器時，可能有異音出現（「唧唧聲」），這是正常現象，並不是故障。
- 充電器不使用的時候請不要插電，因為即使沒放電池進去還是會消耗一定的電流量。
- 充電器的接點應該保持乾淨，並且絕對不要讓它短路。
- 請務必將充電器存放於 -40 至 +70°C 的環境溫度下。

對於記憶卡

- 在儲存相片或是讀取記憶卡的過程中，不能將記憶卡取出、將徠卡M-E關機或是劇烈震動。
- 為了安全方面的考量，記憶卡原則上只能存放在附贈的抗靜電容器裡。
- 請勿將記憶卡存放在高溫、直接日曬、磁場或有靜電的場所。
- 請勿讓記憶卡掉落地面，並且不要將它彎折，因為這樣可能會受損，而且可能會讓儲存的資料不見。
- 如果長時間不使用徠卡M-E的話，請將記憶卡取出。
- 請勿接觸記憶卡背面的接點，並且要去除上面的污漬、灰塵和濕氣。
- 建議偶爾將記憶卡格式化，這樣可以刪除佔掉記憶卡儲存容量的一些破碎片段。

提示：

- 用簡單格式化的方法時，記憶卡上存在的資料並不是真的失去而無法回復，而只是將目錄刪除，讓現有的檔案無法直接存取而已，使用對應的軟體即可再度存取那些資料。只有透過接下來儲存新資料覆寫上去的方法，那些資料才真正被徹底刪除。因此請您養成習慣，將所有您的相片儘快轉存到安全的儲存裝置上，例如您電腦的硬碟。特別是在將相機連同記憶卡一起送修的時候。
- 視使用的記憶體類型而定，最長需要3分鐘才能完成格式化。

清潔感光元件

如果有灰塵或污點附著在感光元件表面玻璃上，依顆粒的大小，可能會在相片上造成黑點或斑點。

徠卡 M-E 可以自費寄到徠卡相機公司（地址：請看第 89 頁）客戶服務部門進行付費的感光元件清潔工作。這項清潔工作並非保固服務的一部分。

不過您也可以自己清潔，這時可使用選單功能傳感器清潔，將快門持續打開以便對感光元件進行處理。

提示：

- 原則上：為了防止灰塵等異物侵入徠卡 M-E 相機內部，應該隨時裝上鏡頭或機身蓋。
- 基於同樣理由，更換鏡頭的動作應迅速，而且儘可能在無塵的環境中進行。
- 因為塑膠零件本身會帶一點靜電，因此很容易吸灰塵，所以鏡頭蓋和機身蓋儘量不要單獨放在衣物口袋裡太久。

設定功能

1. 在主選單裡（請看第 14/31 頁）選擇傳感器清潔（4.1.21）。
 - 相關的子選單就會出現。
2. 在子選單裡確認功能 – 此時電池容量必須足夠，至少要有 60%。
 - 出現另一個子選單。

提示：

若電流量變得更小，就會出現警告訊息

注意 電池電量太低 不能進行傳感器清潔

以提示無法使用該功能，也就是說無法選擇是。

3. 按下快門鈕（1.18），快門就會打開並保持開啟狀態。
4. 進行清潔工作時，務必要注意下列事項：

提示：

- 檢驗和清潔感光元件都一樣，應該儘可能在無塵環境中進行，以避免弄髒。
- 在清潔工作前後檢驗時，使用 8 倍或 10 倍的放大鏡會很有幫助。
- 稍微附著的灰塵，可以用乾淨的、可能帶離子化的氣體（例如空氣或氮氣）從感光元件表面玻璃上吹掉。最好是用沒有刷子的（橡膠）吹氣球，也可以用特殊的低壓清潔用吹嘴，舉例來說，可以根據預定的應用方式來使用「Tetenal 的防塵專業」器材。
- 若用前述方式無法去除附著的顆粒，則請和徠卡資訊服務部門（地址：請看第 87 頁）。
- 若電池的容量在快門開啟時降低到低於 40%，則在顯示幕會出現警告訊息 **注意 電量低關閉相機**。同時會發出持續的嗶聲，只有將相機關機才會停止。藉由關機可讓快門再度關閉，務必注意：在這種情形下快門窗裡不能有東西妨礙快門關閉，以避免損害！

重要：

- 使用者清潔感光元件時造成的損害，徠卡相機公司不提供保固服務。
- 請勿用嘴巴向感光元件表面玻璃吹氣來去除灰塵顆粒；即使最小的唾液滴都可能造成難以去除的斑點。
- 不得使用氣體壓力很高的壓縮空氣式清潔工具，以免造成損害。
- 請小心避免在檢驗和清潔時讓感光元件表面和任何堅硬的東西接觸。

存放

- 若長時間不使用徠卡 M-E，建議
 - a. 將它關機（請看第24頁），
 - b. 取出記憶卡（請看第21頁），然後
 - c. 取出電池（請看第20頁），（最遲3個月以後輸入的時間和日期就會消失，請看第34頁）。
- 若直射的陽光從正前方照到相機的話，鏡頭作用就像聚焦鏡。因此相機無論如何不得在沒有保護的情形下對著強烈的陽光。裝上鏡頭蓋、將相機拿到陰影下（或是放進袋子裡）都有助於避免相機內部的損害。
- 請您將徠卡 M-E 存放在封閉和有軟墊的容器裡，這樣就不會擦傷而且也可以防灰塵。
- 將徠卡 M-E 存放在乾燥、通風充足，而且不會面臨高溫和濕氣的場所。徠卡 M-E 在潮濕環境使用後，要收起來之前，務必將濕氣先清除掉。
- 使用中弄濕的相機袋應該先騰空，以避免因濕氣和可能析出的製革劑殘渣對您的配備造成損害。
- 為了防止在濕熱的熱帶氣候裡使用時受到真菌侵染（霉菌），相機配備應該儘可能多曝露在太陽和空氣之下。只有在放了乾燥劑，例如矽膠凝體的情形下，才建議放進密封的容器或相機袋裡。
- 為避免霉菌侵染，亦不宜長時間將徠卡 M-E 存放在皮袋裡。
- 請記錄您的徠卡 M-E 和鏡頭的工廠序號（刻在配件靴座上），萬一遺失時此點為非常重要線索。

故障及其排除方式

1. 徠卡 M-E 開機時沒反應。

- 1.1 已裝入電池嗎？
- 1.2 電池的電量充足嗎？
請使用充飽電的電池。
- 1.3 底蓋正確裝上去了嗎？

2. 開機後徠卡 M-E 直接再度關機。

- 2.1 電池的電量足以供徠卡 M-E 作業嗎？
請將電池充電，或是換上一顆充飽電的電池。
- 2.2 有冷凝濕氣存在嗎？若徠卡 M-E 從很冷地方拿到暖處，即會發生此種情形。
請等到冷凝濕氣蒸發後再開機。

3. 徠卡 M-E 無法觸發快門。

- 3.1 正在將影像資料傳送到記憶卡上，而且暫存記憶體已滿。
- 3.2 記憶卡的容量用完了，而且暫存記憶體也滿了。請先刪除不再需要的相片。
- 3.3 沒有插入記憶卡，而且暫存記憶體滿了。

4. 無法儲存相片。

- 4.1 已插入記憶卡嗎？
- 4.2 記憶卡的容量用完了。
請先刪除不再需要的相片。

5. 顯示幕太暗或太亮。

- 5.1 從大角度（不是直視）觀賞顯示幕畫面時，基本上一定比較難看清楚。
若已直視顯示幕卻還是太亮或太暗：請設定成別的亮度¹。

6. 剛拍攝的相片無法在顯示幕上顯示

- 6.1 是否（將徠卡 M-E 設定為攝影模式時）已開啟自動回放功能已開啟？²

7. 相片無法播放。

- 7.1 已插入記憶卡嗎？
- 7.2 記憶卡上沒有資料。

8. 時間和日期資料錯誤，或是不存在。

- 8.1 徠卡 M-E 長時間沒有使用，特別是電池已取出時。

¹ 裝上一顆充飽電的電池。

² 設定日期和時間。

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技術資料及器材說明

相機型式 LEICA M-E (Typ 220), 小型數位運動測距式系統相機。

鏡頭接頭 徠卡M型接座，加上額外的6位元辨識碼用感測器。

鏡頭系統 從16到135mm的徠卡M型鏡頭。

記錄格式/影像感 5270 x 3516 畫素(1850萬畫素) CCD晶片，有效面積大約23.9 x 35.8mm / 5212 x 3472 畫素(1800萬畫素) (符合類比徠卡M型相機的可用格式)。

解析度 可選擇 DNG™: 5212 x 3472 (萬畫素) · JPEG: 5212 x 3472 (1800萬畫素)、3840 x 2592 (1000萬畫素)、2592 x 1728 (450萬畫素)、1728 x 1152 (200萬畫素)、1280 x 846 畫素 (1000萬畫素)。

資料格式 DNG™ (原始資料)，可以選擇不壓縮或輕度壓縮 (透過非線性色彩深度減縮)，2種JPEG壓縮級數。

DNG™: 壓縮後為 18MB、未壓縮時為 36MB · **JPEG** : 約為 2-10MB。

色彩空間 Adobe® RGB, sRGB。

白平衡 自動、手動、7種預先設定、色溫值輸入。

儲存媒體 最高到2GB的SD卡 / 最高到32GB的SDHC卡。

選單語言 德文、英文、法文、西班牙文、義大利文、日文、繁體中文、簡體中文、俄文。

相容性 Windows® XP / Vista®/7®, Mac® OS X (10.6)

測光 通過鏡頭測光 (TTL) ; 工作光圈下中央重點式測光 ; 以系統相容SCA-3000/2標準閃光燈閃光燈曝光時，用中央重點式TTL測光。

測光原理 測量從第1快門簾幕上明亮葉片反射的光線

測光範圍 (在ISO 160/23°) 符合室溫和正常空氣濕度下 EV0 到 20或是曝光值1.0 和 1.2秒32和 $\frac{1}{1000}$ 秒。觀景窗內左邊的三角形LED閃爍表示低於測光範圍。

現場光線測 光元件 (持續光線測光) 矽基光電二極體連同聚光鏡位於相機底部中間下方。

感光度範圍 ISO 80/19° 到ISO 2500/35°，以 $\frac{1}{3}$ 的ISO級數調整設定，使用光圈先決A和手動曝光設定，可選擇自動控制或手動設定，使用快照風格時為自動控制。

曝光模式 在手動光圈預先選定時可選擇自動快門時間控制A- 利用對應的數位顯示訊息，或是手動設定快門時間和光圈，並藉由可顯示正確曝光的LED平衡表，還有過度曝光 / 手震傾向 (只用於快照風格)。

閃光燈曝光控制

連接閃光燈 透過有中央及控制接點的配件靴座。

同步 可選擇切到第1及第2快門簾幕。

閃光燈同步時間 $t = 1/180$ 秒；可用更長的快門時間。

閃光燈測光 (有SCA-3501/3502接頭，還有SCA-3000-標準閃光燈，例如徠卡SF 24D / 徠卡 SF58) 用中央重點式TTL預閃測光方式控制。

閃光燈測光元件： 2顆矽基光電二極體連同聚光鏡位於相機底部。

閃光燈曝光修正 $\pm 3\frac{1}{3}$ EV以 $\frac{1}{3}$ EV級數在SCA-3501/3502轉接頭上設定。在徠卡SF 24D上以 $\frac{1}{3}$ 的EV級數進行電腦控制 ± 3 EV，或是從0到-3EV以1EV級數 / 在徠卡SF 58於所有作業模式下都可以用 $\frac{1}{3}$ EV級數設定 ± 3 EV。

閃光燈模式時的顯示訊息 待命狀態：觀景窗內閃光燈符號LED持續發亮。成果檢查：拍攝後LED繼續發亮及暫時快速閃爍。曝光不足顯示：LED暫時熄滅。

觀景窗

觀景窗原理 大型、明亮取景框線的測距觀景窗，含自動視差補償功能。

目鏡：調整成-0.5視度。可選購從3到+3視度的視力矯正目鏡。

畫面範圍 以投射每兩組取景框線來表示：35及135mm，或28及90mm，或50及75mm。鎖上鏡頭時即自動投射。使用視野撥桿，**視差補償** 觀景窗和鏡頭之間、水平方向及垂直方向的誤差可以自動補償，也就是說，可以對應於當時的對焦狀態，把取景範圍自動涵蓋在取景框線內。

觀景窗和實際畫面的吻合度 取景框線的大小在設定距離為1公尺時相當於感測器大約23.9 x 35.8mm的大小。調在無限遠的距離時，則隨著焦距的不同，感光元件上會比當時取景框線所示範圍多拍到大約7.3% (28mm) 到18% (135mm) 的內容，反過來說，設定距離比1公尺短時會變得小一點。

放大率 (在所有鏡頭下 0.68倍率)。

長基線測距儀 分割及混合影像式測距儀，在觀景窗畫面中間呈現為一塊明亮的區域。

有效測距基線 47.1mm (機械基線長度69.25mm 乘以觀景窗放大倍率0.68倍)。

顯示訊息

在觀景窗內 (在下緣) 閃光燈狀態的LED符號、四位數七格式LED數位顯示訊息、位於上方及下方的點狀顯示訊息。顯示亮度會配合外界亮度。適用於：曝光修正時警示、光圈先決時顯示自動設定的快門時間、提示使用測光值儲存功能、警告光圈先決下超出或低於測光範圍以及快門時間大於2秒。手動設定曝光時，有兩個三角形和一個中央圓形LED的LED測光平衡儀，三角形LED提示調整光圈環及快門時間設定轉盤的旋轉方向，同時也用於警告超出或低於測光範圍。

在背蓋上 2.5吋顯示幕 (彩色TFT-LCD) 有230,000畫素，顯示訊息請看第10頁。

快門及觸發快門

快門 微電腦控制的、特別輕的縱走式金屬葉片狹縫式快門。

快門速度 光圈優先功能 (A) 可連續調整 32s 至 $1/4000$ s。手動設定 8s 半步進至 $1/4000$ s，長曝光時為 B (≤ 240 s，配合定時自拍器 T 功能，即第 1 次放開 = 快門打開，第 2 次放開 = 快門關閉)， $\frac{1}{180}$ s 可與閃光燈同步處理的高速快門。

快門上絃 利用內建的馬達，只發出輕微的異音，可選擇在放開快門鈕後才動作。

連續拍攝每秒大約可拍2張相片，可連續拍攝最多8張相片。

快門鈕 三段式：啟動測光功能-測光值儲存(在光圈先決之下)-觸發快門。內建快門線用標準規格螺紋。

自拍器 前置時間可選擇2秒(使用光圈先決及手動設定曝光模式)或12秒，透過選單進行設定，以相機正面閃爍的發光二極體(LED)以及顯示幕裡對應的顯示訊息來顯示。

開啟及關閉相機 用相機頂蓋上的主開關。可選擇在大約2/5/10分鐘後自行關掉相機電子系統，碰觸快門鈕可重新啟動。

電源供應 1顆鋰離子電池，額定電壓為3.7V，容量為1900mAh。容量資料顯示在顯示幕，快門時常打開時(為了感光元件清潔)會在容量不足時另外發生聲響警告。

充電器輸入： 交流電100-240V，50/60Hz，自動切換，或是直流電12/24V；輸出：直流電4.2V，800mA。

相機機身

材質 以壓鑄鎂鋁合金製成的全金屬機身，有KTL浸漬式塗裝，人造皮革表皮，頂蓋及底蓋以黃銅製成，兩者都有黑色烤漆或漆成鐵灰色的表面處理。

視野撥桿 可以讓人隨時手動檢視取景框線的配對(例如為了比較構圖)。

腳架螺孔 A $1/4$ ($1/4$ ") DIN以貴金屬製成，位於底蓋。

作業條件 0到+40°C

尺寸 (寬 x 深 x 高) 大約。139 x 37 x 80mm

重量 大約。585公克(含充電電池)

出貨內容： 充電器 100-240V 含2條電源線(歐規、美規，某些出口市場會有差異)以及1條車用充電線，鋰離子電池、揹帶。

保留變更設計、規格及出貨內容的權利。

徠卡學院

除了提供從觀景到播放均具有最優異性能的徠卡高檔相機產品外，作為特別服務，許多年來我們還在徠卡學院提供以實踐為本的專題講座和培訓。它們涵蓋攝影、幻燈投影以及影像放大等各個領域的知識，不僅讓初學者，也使高級攝影愛好者受益良多。裝備先進的教室在位於索爾姆斯的工廠內及鄰近的古特阿爾騰堡地區。由一支培訓有素的專業講師隊伍進行授課，課程內容從普通攝影到有趣的專題攝影應有盡有，為實際運用提供了豐富的創意、資訊及建議。相關詳情和當前專題講座計畫，包括攝影旅遊活動在內，均可通過以下聯繫方式獲得：

Leica Camera AG
(徠卡照相機股份公司)
Oskar-Barnack-Str. 11
D-35606 Solms (德國)
電話：+49 (0) 6442-208-421
傳真：+49 (0) 6442-208-425
la@leica-camera.com

徠卡資訊服務

徠卡資訊服務部門會以書面、電話或電子郵件的方式，回答您關於徠卡產品應用技術方面的問題，包括隨產品提供的軟體（若有）。若需購買諮詢及訂購說明書等方面的服務，亦請洽詢徠卡資訊服務部門。您也可以使用徠卡相機公司網站首頁的聯絡表，提出您的問題。

Leica Camera AG
Anwender-Service / Software-Support
Postfach 1180
D-35599 Solms (德國)
電話：+49 (0) 6442-208-111 / -108
傳真：+49 (0) 6442-208-490
info@leica-camera.com/
software-support@leica-camera.com

萊卡客戶服務

在徠卡器材需要維護以及受損時，徠卡公司的客戶服務中心，或者您所在國的徠卡代理處下屬維修服務部將竭誠為您效勞（地址見保用卡）。

Leica Camera AG
Customer Care
Solms Gewerbepark 8
D-35606 Solms (德國)
電話：+49 (0) 6442-208-189
傳真：+49 (0) 6442-208-339
customer.care@leica-camera.com



LEICA M-E

Instructions

FOREWORD

Dear Customer,

Leica would like to thank you for purchasing the

Leica M-E and congratulate you on your choice.

With this unique digital view- and rangefinder camera,
you have made an excellent selection.

We wish you a great deal of pleasure and success
using your new Leica M-E.

In order to make best use of all the opportunities
offered by this high performance camera, we recom-
mend that you first of all read these instructions.

This is a Class B product based on the standard of the Voluntary Control Council for Interference from Information Technology Equipment (VCCI). If this is used near a radio or television receiver in a domestic environment, it may cause radio interference. Install and use the equipment according to the instruction manual.

FCC Note: (U.S. only)

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Caution:

To assure continued compliance, follow the attached installation instructions and use only shielded interface cables with ferrite core when connecting to computer or peripheral devices.

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

Trade Name: Leica
Model No.: Leica M-E
Responsible party/
Support contact: Leica Camera Inc.
1 Pearl Count, Unit A
Allendale, New Jersey 07401
Tel.: +1 201 995 0051 232
Fax: +1 201 995 1684
technicalinfo@leicacamerausa.com

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This Class B digital apparatus complies with Canadian ICES-003

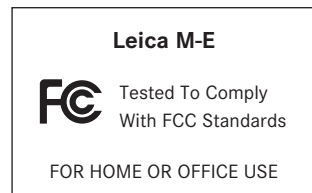


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WARNING MESSAGES

- Use exclusively recommended accessories to prevent faults, short circuits or electric shock.
- Do not expose the unit to moisture or rain.
- Do not attempt to remove parts of the body (covers); specialist repairs can be carried out only at authorized service centers.

LEGAL NOTES:

- Please ensure that you observe copyright laws. The recording and publication of pre-recorded media such as tapes, CDs or other published or broadcast material may contravene copyright laws.
- This also applies to all of the software supplied.
- The SD logo is a registered trademark.
- Other names, company or product names referred to in this manual are trademarks or registered trademarks of the relevant companies.



DISPOSAL OF ELECTRICAL AND ELECTRONIC EQUIPMENT

(Applies within the EU, and for other European countries with separated waste collection systems)

This device contains electrical and/or electronic components and therefore may not be disposed of as general household waste. Instead it should be disposed of at a recycling collection point provided by the local authority. This costs you nothing.

If the device itself contains exchangeable (rechargeable) batteries, these must be removed first and, if necessary, also disposed of according to the relevant regulations.

You local authority or waste disposal authority, or the shop where you bought this device, can provide you with further information on this issue.

SCOPE OF DELIVERY

Before using your Leica M-E for the first time, please check that the accessories supplied are complete.

- A. Battery
- B. Charger
- C. Carrying strap

DESIGNATION OF PARTS


Front view

- 1.1 Lens release button
- 1.2 Eyelets for carrying strap
- 1.3 Distance meter window
- 1.4 Brightness sensor¹
- 1.5 Illumination window for bright-line frames
- 1.6 Viewfinder window with mirror blinds for better legibility of the displays against bright backgrounds
- 1.7 Self timer LED
- 1.8 Bottom cover locking clip

Front view of camera bayonet/ rear view of lens bayonet

- 1.9 Lens identification sensor
- 1.10 6-bit lens identification barcode

Top view

- 1.11 Fixed ring with
 - a. Index for distance setting
 - b. Depth of field scale
 - c. Red index button for changing lenses
- 1.12 Focusing ring with
 - a. Finger grip
- 1.13 Aperture setting ring
- 1.14 White index point for aperture setting
- 1.15 Lens hood
- 1.16 Shutter speed setting dial with
 - **A** Detent position for automatic shutter speed control
- 1.17 Main switch with detent positions for
 - **OFF** (camera switched off)
 - **S** (single pictures)
 - **C** (continuous pictures)
 -  (self timer)
- 1.18 Shutter release button with
 - a. Tapped hole for cable release
- 1.19 Flash unit shoe with
 - a. Center (flash) and
 - b. Control contacts, and
 - c. Hole for retaining pin

¹ Leica M lenses with viewfinder adapters cover the brightness sensor. Information about the use of these and other lenses can be found in the section "The displays/In the viewfinder", p. 98, and "Leica M lenses", p. 110.

Rear view

- 1.20 **SET** button for calling up the image parameters menu/calling up sub-menus in the menu system/saving settings/functions selected in the sub-menus
- 1.21 **INFO** button for displaying settings/data in picture mode/image data in review mode
- 1.22 **ISO** button for calling up the sensitivity settings
- 1.23 **DELETE** button for selecting the delete function
- 1.24 **PLAY** button for activating (continuous) review mode/returning to full picture display
- 1.25 Viewfinder window
- 1.26 **MENU** button for calling up and exiting the main menu
- 1.27 Central setting dial for navigation in menus/setting the selected menu items/functions/setting an exposure compensation value/scrolling in the memory and for enlarging/reducing the pictures viewed
- 1.28 Direction buttons for navigation in the menus/setting the selected menu items/functions/scrolling through the picture memory
- 1.29 LED indicating picture mode / saving data
- 1.30 Monitor

Bottom view

(with bottom cover in place)

- 1.31 Tripod thread A $\frac{1}{4}$, DIN 4503 ($\frac{1}{4}$ ")
- 1.32 Bottom cover
- 1.33 Locking toggle for bottom cover

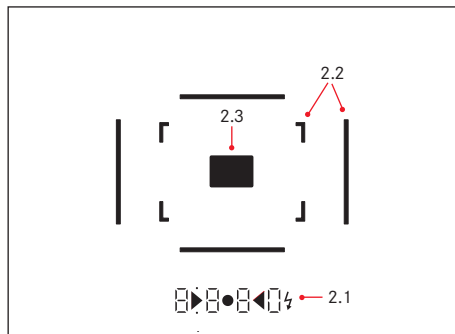
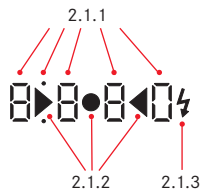
(with bottom cover removed)

- 1.34 Battery compartment
- 1.35 Battery locking slider
- 1.36 Memory card slot

Charger

- 1.37 Green (**CHARGE**) LED to indicate charging
- 1.38 Yellow (**80%**) LED indicating: 80% charge reached
- 1.39 Charging bay for battery with
 - a. Contacts
- 1.40 Socket for in-car charging lead
 - 1.41 2-pin socket for
 - 1.42 Exchangeable power cable

DISPLAYS



2. IN THE VIEWFINDER

2.1 LEDs (Light Emitting Diodes)

(with automatic brightness control, adjusted to the ambient brightness¹):

2.1.1 Four-digit seven-segment digital display with dots above and below

Digital display:

- Displays the automatically determined shutter speed for aperture priority **A**, or for counting down exposures longer than 1 s
- Warning that the metering or setting ranges are overshoot or undershot when using aperture priority **A**
- Display of the exposure compensation value (briefly during adjustment)
- Indicates that the buffer memory is (temporarily) full
- Indicates that no SD card is inserted (**Sd**)
- Indicates that the SD card is full (**Full**)

Dot above:

- Indicates (when lit) that metering memory lock is being used

Dot below:

- Indicates (flashing) that exposure compensation is being used

2.1.2 Two triangular and one circular LED:

- For manual adjustment: Jointly used as light balance for exposure compensation
- Warning of values below the metering range
- With the snapshot profile: Circular LED indicates the correct exposure, plus right triangular LED to indicate possible overexposure or left triangular LED to indicate possible blurring and/or underexposure
- For manual adjustment: Jointly used as light balance for exposure compensation
- Warning of values below the metering range

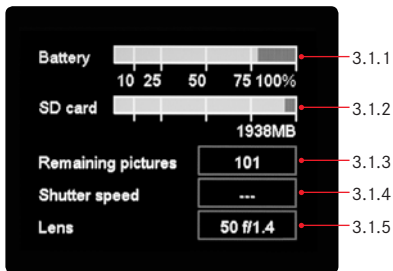
2.1.3 Flash symbol:

- Flash ready to use
- Details of flash lighting before and after the picture

2.2 Bright-line frame for 50 mm and 75 mm (example)

2.3 Metering field for distance setting

¹ Automatic brightness control is not available for Leica M lenses with viewfinder attachments, as they cover the brightness sensor 1.4, which supplies the information required for this function. In such cases the displays always maintain a constant brightness.



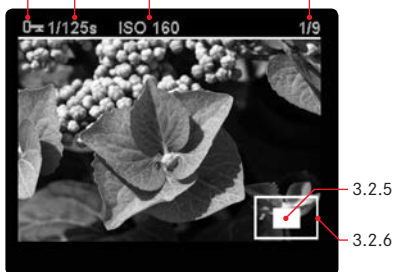
3. ON THE MONITOR

3.1 In picture mode

(when you press the INFO button, 1.22)

- 3.1.1 Battery capacity
- 3.1.2 Remaining memory capacity in MB
- 3.1.3 Number of pictures remaining
- 3.1.4 Set/applied shutter speed
- 3.1.5 Lens type

3.2.1 3.2.2 3.2.3 3.2.4

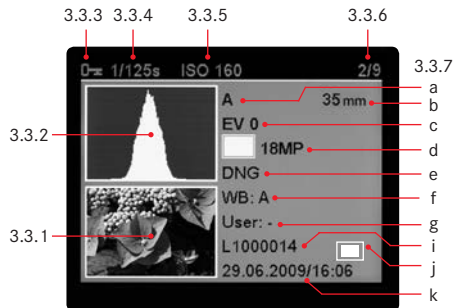


3.2 In normal review mode

(image/s fill the entire monitor area)

- 3.2.1 Delete protection symbol (only if set)
- 3.2.2 Shutter speed (not available with enlarged view)
- 3.2.3 Sensitivity (not available with enlarged view)
- 3.2.4 Picture number/Total number of pictures taken
(not available with enlarged view)
- 3.2.5 Enlargement level and/or position of section
shown (schematic, for enlarged view only)
- 3.2.6 Selected picture
(reduced viewing of 4 or 9 pictures only)

DISPLAYS



3. ON THE MONITOR (CONTINUED)

3.3 Reviewing with additional information

(when you press the INFO button, 1.22; reduced picture)

3.3.1 Picture (with "Clipping" display¹ if set)

3.3.2. Histogram

a. Luminance (brightness)

b. Red/green/blue

(separate display of individual colors)

3.3.3 Delete protection symbol (only if set)

3.3.4 Shutter speed

3.3.5 Sensitivity

3.3.6 Picture number/total number of available pictures

3.3.7 Image data

a. Exposure mode

b. Focal length²

c. Exposure compensation

d. Resolution

e. Compression/file format

f. White balance

g. User profile name

i. File number

j. Enlargement level and position of section shown (only if set)

k. Date/time

¹ See "Histogram", p. 118

² Only with the latest Leica M lenses with 6-bit coding, or appropriately modified lenses (see p. 110) or with manual setting in the menu (see p. 124).

MENU ITEMS

4.1 In the main menu (using MENU button, 1.28)

	Menu item	Explanation	Fixed setting with the snapshot profile
4.1.1	Lens detection	-	Auto
4.1.2	Save user profile	User-specific profile (save)	Not available
4.1.3	Advance	Low vibration shutter release/ Shutter cocking time	Standard
4.1.4	Self timer	Self timer delay time	12s
4.1.5	AUTO ISO setup	-	AUTO ISO/Lens dependent/ ISO 800 (max)
4.1.6	Sharpening	Picture sharpening	Standard
4.1.7	Color saturation	Picture color saturation/B/W	Available
4.1.8	Contrast	Picture contrast	Standard
4.1.9	Bracketing setup	Number of pictures/graduation/sequence	Not available (=Off)
4.1.10	Exp. Comp. setup	Using menu/central setting dial	Not available
4.1.11	Monitor brightness	-	Standard
4.1.12	Histogram	Graphic to indicate distribution of brightness	Standard
4.1.13	Folder manag.	Change name/create new folders	Not available
4.1.14	Auto review	Automatic review of last picture	3s (Histogram off)
4.1.15	Auto power off	Automatic power off	2 Min
4.1.16	Flash sync	-	1st curtain
4.1.17	Auto Slow Sync	Flash shutter speed	Lens dependent
4.1.18	Color manag.	Working color space	sRGB
4.1.19	DNG setup	Raw data compression	Not available
4.1.20	Reset	(To original factory settings)	Not available
4.1.21	Sensor cleaning	Shutter opening for cleaning the sensor	Not available
4.1.22	Date	-	Available
4.1.23	Time	Time	Available
4.1.24	Acoustic signal	Button acknowledgement tone	Off
4.1.25	Language	Language	Available
4.1.26	Format SD card	Formatting the memory card	Available
4.1.27	Firmware	Firmware version	Not available

Note:

In the snapshot profile, there is only a single menu. It includes only the items highlighted in gray; the others do not appear and are either fixed settings or not available.

4.2 In the image parameters menu (using SET button, 1.21)

	Menu item	Explanation	Fixed setting with the snapshot profile
4.2.1	White balance	-	Auto
4.2.2	Compression	Compression/file format	JPG fine
4.2.3	Resolution	Resolution	18 MP
4.2.4	Exposure Comp.	Exposure compensation (set)	Not available
4.2.5	Bracketing	Switching on/off	Not available
4.2.6	User profile	User-specific profile/ snapshot profile (recall)	Snapshot mode

QUICK GUIDE

You will need the following items:

- Camera
- Battery (A)
- Memory card (not supplied)
- Battery charger (B)

PRESETS

1. Insert the battery (A) into the charger (see p. 106)
2. Plug in the charger (B), to charge the battery (see p. 106)
3. Set the main switch (1.17) to **OFF**.
4. Insert the charged battery into the camera (see p. 108).
5. Insert a memory card (see p. 109).

6. Set the main switch (1.17) to **S** (see p. 112).
7. Select the desired menu language (see p. 122).
8. Format the memory card (see p. 157)

Notes:

- This is generally only necessary if the card has not been factory-formatted
 - Simple formatting does not irretrievably delete the data on the card. It merely deletes the directory, which means that the existing data is no longer directly accessible. The data can be accessed again using appropriate software.
Only the data that is then overwritten by saving new data is actually completely deleted.
Nevertheless, you should make a habit of transferring all your pictures onto a secure bulk storage medium, e.g. the hard drive on your computer, as soon as possible (see also p. 158).
9. Set the date and time (see p. 122).

TAKING PHOTOGRAPHS

10. Attach the desired lens to the camera (see p. 111).
11. Set the shutter speed setting dial (1.16) to **A** for automatic shutter speed control (see p. 116).
12. With the viewfinder to your eye, set the focus using the distance setting ring on the lens (see p. 134).
13. Press the shutter release button (1.18) to the first pressure point to activate the camera exposure metering.
14. If necessary, correct the exposure using the aperture setting ring on the lens (1.13) (see p. 136)
15. Press the shutter release button all the way down to take the picture.

Viewing pictures

For an automatic review of the last picture (when in picture mode):

The Leica M-E is preset for this function – **Auto review**. Various variations of the function can be selected under this item (4.1.14) in the main menu (see p. 113).

For review without a time limit:

1. Select review mode by pressing the **PLAY** button (1.24, see p. 150).
2. Press the left or right direction button (1.29) to view other pictures.

Note:

If you have taken photographs using the serial exposure function (see p. 115), in both review modes the last picture in the series is displayed first, or the last picture in the series saved on the card, if not all of the pictures from the series have been transferred from the camera's internal memory onto the card at the time of viewing.

ENLARGING PICTURES ON THE MONITOR SCREEN

Turn the central setting dial (1.27) to the right (clockwise), to see an enlarged view of the picture displayed (see p. 151).

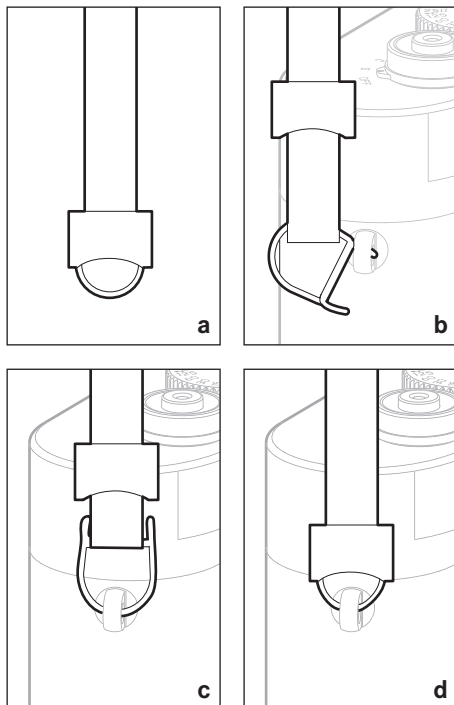
DELETING PICTURES

Press the **DELETE** button (1.23) and follow the instructions in the monitor (1.30, see p. 153).

DETAILED INSTRUCTIONS

PREPARATIONS

ATTACHING THE CARRYING STRAP



CHARGING THE BATTERY

The Leica M-E is powered by a lithium ion battery (A).

Attention:

- Only the battery type specified and described in this manual and/or battery types specified and described by Leica Camera AG may be used in the camera.
- These batteries may only be used in the units for which they were designed and must be charged exactly as described below.
- Using these batteries contrary to the instructions and using non-specified battery types may result in an explosion under certain circumstances.
- These batteries should not be exposed to heat, sunlight, humidity or moisture for long periods. Likewise, the battery may not be placed in a microwave oven or a high- pressure container to prevent a risk of fire or explosion.
- A safety valve in the battery ensures that a possible overload pressure caused by inappropriate use is vented correctly.
- Only the charger specified and described in this manual or the Leica charger, order no. 14 463, are to be used. The use of other chargers not approved by Leica Camera AG can cause damage to the batteries and, in extreme cases, to serious or life-threatening injuries.
- The charger supplied should be used exclusively for charging batteries of this type. Do not attempt to use it for other purposes.

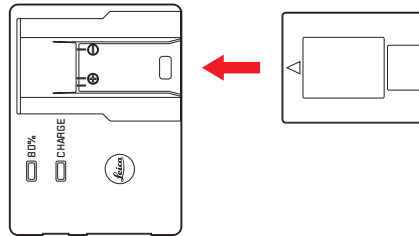
- Ensure that the mains outlet used is freely accessible.
- The supplied in-car charging cable must not be attached as long as the charger is connected to the mains.
- The charger and battery may not be opened. Repairs may only be carried out by authorized workshops.

Notes:

- The battery should be charged before the Leica M-E is used for the first time.
- The battery must have a temperature of 0°–35°C / 32°–95°F to be charged (otherwise the charger will not switch on, or will switch off again).
- Lithium ion batteries can be charged at any time, regardless of their current charge level. If a battery is only partly discharged when charging starts, it is charged to full capacity more quickly.
- Batteries warm up during the charging process. This is normal and not a malfunction.
- If the two LEDs (1.40/1.41) flash quickly once charging has begun (>2 Hz), this indicates a charging error. In this case, disconnect the charger from the mains and remove the battery. Ensure that the above temperature conditions are met and then restart the charging process. If the problem persists, please contact your dealer, the Leica office in your country or Leica Camera AG.

- A new battery only reaches its full capacity after it has been fully charged and – by use in the camera – discharged 2 or 3 times. This discharge process should be repeated every 25 cycles.
- To ensure maximum battery service life, it should not be exposed to constant extremes of temperature (e.g. in a parked car in the summer or winter).
- Even under optimum usage conditions, every battery has a limited service life! After several hundred charging cycles, this becomes noticeable as operating times get significantly shorter.
- Defective batteries should be disposed of according to the relevant regulations (see p. 94).
- The replaceable battery provides power to a back-up battery which is permanently installed in the camera. This back-up battery saves data entered, such as the date, for up to 3 months. If this back-up battery becomes discharged it must be recharged by inserting the replaceable main battery. Once the replaceable battery has been inserted, the full capacity of the back-up battery is recovered after about 60 hours. This process does not require the camera to be switched on.

1. Connect the charger, i.e. plug the connector on the power cable (1.42) into the corresponding socket on the charger (1.41) and connect the other end to a power outlet.
2. Insert a battery with its contacts underneath and the end marked with an arrow facing forwards as far as it will go onto the charging bay (1.39) on the charger. The shape of the charging bay ensures that the battery is positioned correctly.



- The green LED marked **CHARGE** (1.38) starts flashing to confirm that charging is in progress. As soon as the battery has charged to at least $\frac{4}{5}$ of its capacity, the yellow LED marked **80%** (1.38) also lights up. When the battery is fully charged, i.e. 100% capacity reached (after approx. $3\frac{1}{2}$ hours), the green LED changes from flashing to continuously lit.

Note:

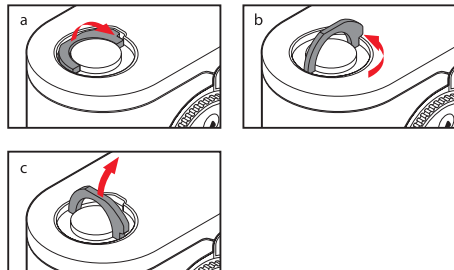
The **80%** LED lights up after around 2 hours due to the charging characteristics. This level of charge is enough to take around 280 pictures.

Therefore, if you do not need the full capacity of around 350 pictures, the camera is always ready to use again in a relatively short time.

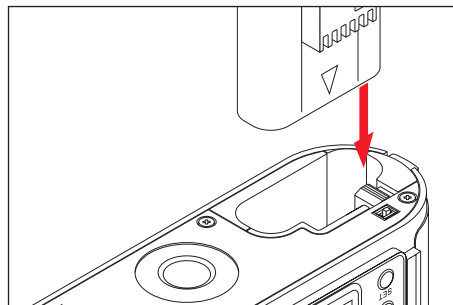
3. The charger should then be disconnected from the outlet. However, there is no risk of overcharging.
4. Remove the battery by pulling or sliding it back out of the charging bay (there is a recess on the top of the bay for this purpose).

INSERTING/REMOVING THE BATTERY INTO/ FROM THE CAMERA

1. Set the main switch (1.18) to OFF.



2. Remove the bottom cover (1.32) of the camera.
To do this:
 - a. lift up the toggle (1.33) on the bottom cover,
 - b. turn it to the left, and
 - c. lift off the bottom cover.



3. Inset the battery into the compartment with its contacts facing forwards. Press it into the compartment (1.34) until the white sprung locking catch (1.37) moves over the battery to hold it in place.
4. Replace the bottom cover To do this:
 - a. insert it into the retaining clip (1.8) on the side of the camera,
 - b. push it down,
 - c. lock it by turning the toggle to the left as far as the stop, and
 - d. push the toggle back down.

To remove the battery, follow these instructions in reverse order. The white spring locking catch in the battery compartment must be pushed to the side to unlock the battery.

Note:

Always switch the camera off before removing the battery. A fully charged battery (to CIPA standards) is sufficient for approx. 350 pictures each reviewed for 4 s.

CHARGE LEVEL DISPLAYS (3.1.1)

In picture mode, the battery charge level can be displayed in the monitor (1.30) by pressing the **INFO** button (1.21). If the capacity is below 10%, replacement or recharging is required.

Notes:

- Remove the battery if you will not be using the camera for a long period of time. When doing so, turn the camera off using the main switch first.
- After 3 months without use, the capacity of the back-up battery in the camera will be exhausted (refer to the final note under “Charging the battery”, p. 106), all individual settings need to be made again.

INSERTING AND REMOVING THE MEMORY CARD

The Leica M-E saves the picture data on an extremely compact SD (Secure Digital) or SDHC (high capacity) card.

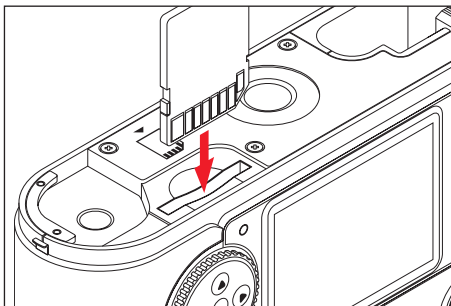
SD/SDHC memory cards are small, light and interchangeable external storage media. SD/SDHC memory cards, particularly those with a high capacity, provide significantly faster read/write times and significantly faster recording and review of the data. An SD/ SDHC card has a write protection switch, which can be used to block unintentional storage and deletion of pictures. This switch takes the form of a slider on the non-beveled side of the card; in the lower position, marked LOCK, the data on the card is protected.

SD/SDHC memory cards are available from different suppliers and with different capacities and read/write speeds.

Note:

Do not touch the memory card contacts.

1. Set the main switch (1.17) to **OFF**.
2. Remove the bottom cover (1.32) of the camera.
To do this:
 - a. lift up the toggle (1.33) on the bottom cover,
 - b. turn it to the left as far as the stop, and
 - c. lift off the bottom cover.



3. Insert the memory card into the slot (1.39) with the contacts at the back and with the beveled corner pointing downwards. Slide it completely into the slot against the spring resistance until you hear it click into place.
4. Replace the bottom cover. To do this:
 - a. insert it into the retaining clip (1.8) on the side of the camera,
 - b. push it down,
 - c. lock it by turning the toggle to the left as far as the stop, and
 - d. push the toggle back down.

To remove the memory card, switch off the camera and follow this procedure in reverse order. To release, the card must first be pressed slightly further in – as indicated on the base of the camera.

Notes:

- The range of SD/SDHC cards available is too extensive for Leica Camera AG to fully test all available types for compatibility and quality. Therefore, we recommend for example the “Extreme III” cards from the leading brand “SanDisk”.
- Although no damage to the camera or the card is to be expected when using other card types, because some unbranded cards in particular do not fully comply with the SD and SDHC standards, Leica Camera AG cannot provide any guarantee of function.
- If the memory card cannot be inserted, check that it is aligned correctly.
- If you remove the bottom cover or take out the memory card, the monitor displays the respective warning messages instead of the normal display:
 - **Attention Bottom cover removed**
 - **Attention No memory card**

- Do not open the bottom cover and remove the memory card or battery while the red LED (1.29) to the bottom right of the monitor (1.30) is flashing to indicate that pictures are being recorded and/or data saved to the card. Otherwise the not yet (completely) saved picture data may be lost.
- As electromagnetic fields, electrostatic charges, and defects on the camera or the card can lead to damage or loss of the data on the memory card, we recommend that you also transfer the data to a computer and save it there (see p. 158).
- For the same reason, it is recommended that the card is always stored in its antistatic cover.

LEICA M LENSES

Essentially, most Leica M lenses can be used with the Leica M-E. Details on the small number of exceptions and restrictions can be found in the following notes.

M lenses can be used regardless of the lens features - whether they are supplied with or without 6-bit coding in the bayonet (latest version).

Even without this additional feature, i.e. when using Leica M lenses without identification, the Leica M-E will deliver excellent pictures in most situations.

To achieve optimum picture quality in these situations, we recommend entering the lens type (see "Switching lens type identification on/off", p. 124).

Important:

- **Cannot be used:**
 - Hologon 15 mm f/8
 - Summicron 50 mm f/2 with close up setting,
 - Elmar 90 mm f/4 with retractable tube (manufactured from 1954-1968)
 - Some examples of the Summilux-M 35 mm f/1.4 (not aspherical, manufactured from 1961-1995, Made in Canada) cannot be fitted to the Leica M-E or will not focus to infinity. Leica Customer Service can modify these lenses so that they can be used on the Leica M-E.

- **Can be used, but risks damaging the camera or lens**

Lenses with retractable tube can only be used with the tube extended, i.e. their tube must never be retracted into the Leica M-E. This is not the case for the current Macro-Elmar-M 90 mm f/4, whose tube does not protrude into the camera body even when retracted. It can therefore be used without any restrictions.

- **Limited use**

Despite the high precision of the view and range-finder on the Leica M-E, exact focusing cannot be guaranteed when using 135 mm lenses at full stop due to the very shallow depth of field. Stopping down by at least 2 stops is therefore recommended.

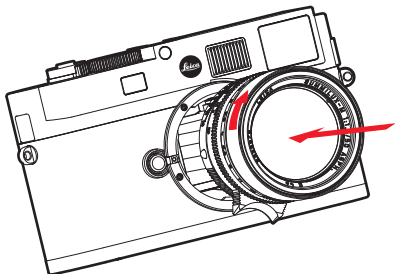
- **Can be used, but excluded from exposure metering**

- Super-Angulon-M 21 mm f/4
- Super-Angulon-M 21 mm f/3.4
- Elmarit-M 28 mm f/2.8 with serial nos. earlier than 2 314 921.

Note:

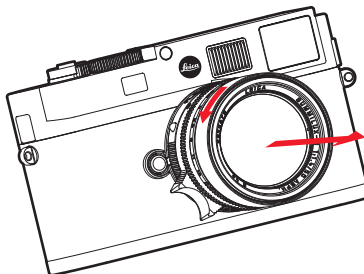
Leica Customer Service can retrofit many Leica M lenses with 6-bit coding. Enquire for specific cases (address, see p. 175).

ATTACHING A LENS



1. Hold the lens by the fixed ring (1.11).
2. Align the red index button (1.11c) on the lens with the unlocking button (1.1) on the camera body.
3. Then push the lens straight on in this position.
4. Turn the lens slightly to the right, and you will hear and feel it click into place.

REMOVING A LENS



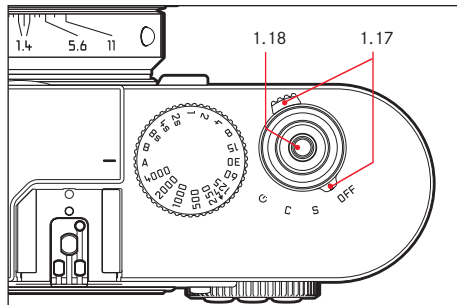
1. Hold the lens by the fixed ring (1.11).
2. Press down the unlocking button (1.1) on the camera body.
3. Turn the lens to the left until its red index button (1.11c) is aligned with the unlocking button.
4. Then pull the lens straight off.

Notes:

- Since the Leica M-E should always be protected against ingress of dust etc. into the interior of the camera, it is important always to have a lens or a cap fitted to the camera body.
- For the same reason, lenses should be changed quickly and in an environment that is as dust-free as possible.
- The rear caps of the camera or lens should not be stored in a pants pocket, as they may pick up dust there, which can then get inside the camera when attached.

THE MOST IMPORTANT SETTINGS/CONTROLS

SWITCHING THE CAMERA ON AND OFF/ THE MAIN SWITCH



The Leica M-E is switched on and off using the main switch (1.17). This is below the shutter release button (1.18) and is a lever with four detent positions:

a. **OFF – Camera switched off**

This is the inactive position – the camera is switched off.

b. **S – Single picture mode**

Pressing the shutter release button (see below) takes only one picture, irrespective of how long it is kept pressed.

For discreet operation, the menu (see p. 102/119) can be used to activate the **Discreet** function (see p. 115).


c. **C – Continuous series of pictures**

Holding down the shutter release button (see below) takes up to 8 pictures in succession – as long as the capacity of the memory card being used and the camera's internal buffer memory are sufficient (see "Inserting and removing the memory card", p. 109).

d. **Self timer**

Pressing the shutter release button (see below) starts the pre-set delay time (see p. 157), after which a picture is taken.

Switching on

After switching on, i.e. after setting one of the three functions S, C or  the LED (1.29) lights up briefly and the displays in the viewfinder (2.1.1) appear (see p. 98).

Note:

After switching on, the camera is ready to use after approx. 1s.

Switching off

Even if the main switch is not set to **OFF**, the camera is automatically switched off if an automatic power off time has been set in the menu (**Auto power off**, 4.1.15, see p. 119/123), and the camera is not operated within this time.

Note:

If the camera will not be used for an extended period or is stored in a case, always switch it off at the main switch. This prevents any power consumption, including that which continues to occur in standby mode after the exposure meter is turned off automatically and the display is extinguished. This also prevents pictures from being taken accidentally.

SELECTING PICTURE AND REVIEW MODES

After switching on, the Leica M-E is always in picture mode, i.e. the monitor (1.30) remains dark once the camera is ready to use (see p. 112).

To review the pictures, you can choose between two modes:

1. **PLAY** Unlimited review
2. **Auto review** Brief review after taking the picture

REVIEW FOR UNLIMITED TIME – PLAY

Pressing the **PLAY** button (1.25) switches to review mode.

- The last picture taken appears in the monitor along with the corresponding displays (see p. 99). However, if the memory card inserted does not contain any image files, the following message appears when you switch to review mode: **Attention No valid image to play.**

AUTOMATIC REVIEW OF LAST PICTURE

In Auto review mode, each picture is shown in the monitor (1.30) immediately after it has been taken. This allows you to quickly and easily check whether the picture was successful or needs to be taken again. The function permits

1. selection of the duration for which the picture is displayed, and
2. reviewing the picture data, with or without histogram (see p. 118).

Setting the function

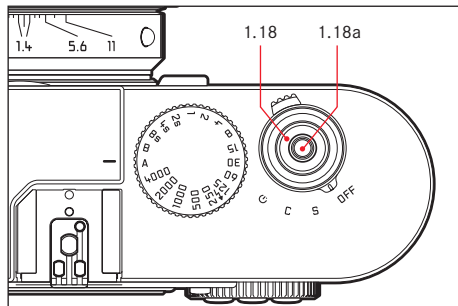
1. In the main menu (see p. 102/119), select **Auto review** (4.1.14),
2. in the corresponding sub-menu first **Duration**, and then
3. the desired function or duration in the subsequent sub-menu: (**Off**, **1s**, **3s**, **5s**, **Hold**).
4. To select whether a picture is reviewed with or without histogram (see p. 118), call up the first sub-menu again,
5. select **Histogram**,
6. and then choose the desired option (**On**, **Off**).

From **Auto review mode**, you can switch back to normal, i.e. unlimited, **PLAY** mode (see above) at any time.

Note:

If you have taken photographs using the serial exposure function (see p. 115), in both review modes the last picture in the series is displayed first, or the last picture in the series saved on the card, if not all pictures from the series have been transferred from the camera's internal memory onto the card at the time of viewing. Details of how to select the other pictures in the series and further options in review mode are described in the sections under "Review mode" starting on p. 150.

SHUTTER RELEASE BUTTON



The shutter release button (1.18) has three pressure points:

1. Briefly pressing to the first pressure point activates exposure metering and viewfinder displays, and starts a pre-set self timer delay time, if this has been programmed (see p. 157).

When you let go of the shutter release button, the metering system and the displays remain activated for around a further 12 s (for more details, refer to the sections under “Exposure metering” starting on p. 135).

If the shutter release button is kept at this pressure point, the displays remain active, or if the camera was previously set to review mode (see p. 150), it switches back into picture mode. If the camera was previously in standby mode (see p. 112), it will be reactivated and the displays switched on.

While the shutter release is held in this position, you can use the setting dial (1.27) to quickly and easily set an exposure compensation (for more details, refer to the “Exposure compensation” section on p. 137).

Note:

The shutter release is locked

- if the internal buffer memory is (temporarily) full, e.g. after a series of more than 8 pictures, or
- if the installed memory card and the internal buffer memory are (temporarily) full.

2. Pressing to the second pressure point saves the exposure metering value in aperture priority mode, i.e. the shutter speed determined by the camera (for more details, refer to the section “Metering memory lock” on p. 136). Once you let go of the shutter release button, a new metered value can be determined.
3. Pressing the shutter release button all the way down takes a picture. The data is then transferred to the memory card.

The shutter release button has a standard thread (1.18a) for a cable release.

Notes:

- The second pressure point is not perceptible when using a cable release.
- Even if review mode (see “Selecting picture and review modes”, p. 113) or menu control (see p. 119) was previously activated, pressing the shutter release button causes the camera to switch immediately into picture mode.
- Menu control allows you to select or set button acknowledgement (feedback) tones (see p. 123).
- To avoid blurring, the shutter release should be pressed gently – not jerkily, until the shutter is released with a soft click.

SERIAL EXPOSURES

As well as taking single pictures - main switch 1.17 set to **S** [single]), the Leica M-E also allows you to take a series of pictures - main switch set to **C** [continuous]), e.g. to capture sequences of movements in several stages.

Apart from the operation of the shutter release button (1.18), a series of pictures are taken in the same way as single pictures: As long as you hold down the shutter release button (provided that the memory card has sufficient capacity), a series of pictures is taken. However, if you only press the shutter release button briefly, this will again result in a single picture.

Pictures can be taken at a maximum of around 2 pictures a second and ≤ 8 in succession.

Notes:

- The above mentioned frame rate and number of exposures is based on a standard setting of ISO 160 and the compressed DNG format. With other settings, the frame rates may be slower and the number of exposures smaller.
- Regardless of how many pictures you have taken in a series, in both review modes (see p. 113) the last picture in the series will initially be displayed, or the last picture in the series to be saved on the card, if not all pictures from the series have been transferred from the camera's internal memory to the card at the time of viewing.

DISCREET/LOW VIBRATION SHUTTER RELEASE

In situations that call for a maximum amount of discretion, it can be beneficial to suppress the noise of cocking the shutter, at least temporarily. There are also situations in which it is useful to keep the camera as still as possible when releasing the shutter.

The functioning of the shutter release can be changed using the menu to achieve this.

Setting the functions

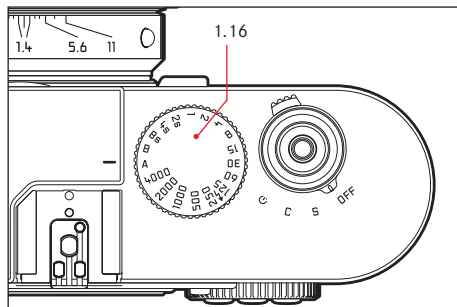
1. In the main menu (see p. 102/119), select **Advance** (4.1.3), and then
2. then the preferred option - **Standard**, **Soft**, **Discreet** or **Discreet & Soft** - in the subsequent sub-menu.

In the **Soft** functions, the shutter is released at the 2nd pressure point, i.e. without having to overcome the increased resistance that is normally necessary. This makes it easier to hold the camera still at the moment the shutter is released - a key factor for sharp pictures with longer shutter speeds.

In the **Discreet** functions, the shutter is only cocked when you let go of the shutter release button, rather than immediately after taking the picture as normal. The delay time - which can be of any length - can be used to move the camera to a place with sound insulation to cock the shutter (under clothing or similar) or to wait for a more appropriate time.

While the **Soft** functions are available in both single and continuous picture modes, the **Discreet** functions can only be used in single picture mode (main switch 1.17 set to **S** position).

SHUTTER SPEED SETTING DIAL




The size and position of the shutter speed setting dial (1.16) on the Leica M-E is ergonomically optimized: On the one hand – even with the camera to the eye – it is very easy to use. On the other hand it is well protected against inadvertent movement.

In addition, its direction of rotation (and also that of the aperture setting ring on the lens) matches that of the exposure meter in the viewfinder for manual adjustment (2.1.3): If for example the left-hand triangular LED lights up, rotation in the direction of the arrow, i.e. to the right, leads to the required longer shutter speed.

The Leica M-E shutter speed setting dial is used to

- select two of the three exposure modes,
- Aperture priority mode by setting the **A** position, marked in red (see p. 136),
- Manual mode by selecting one of the shutter speeds of $1/4000$ s to 8 s, (intermediate values in $1/2$ step intervals are also available, see p. 140)

and

- the fastest possible sync speed of $1/180$ s for flash mode, indicated by the  symbol (see p. 144), and
- **B** for long exposures (see p. 140).

The Leica M-E shutter speed setting dial has no stop, i.e. it can be turned in either direction from any position. It has detents at all marked positions and at the intermediate values. Values between the detents cannot be used.

Notes:

- As described in connection with the ISO settings on p. 128, when using higher sensitivities and particularly with dark, even surfaces, a certain amount of noise will be noticeable. To reduce this annoying phenomenon, after pictures with longer exposures the Leica M-E automatically takes a second “black picture” (taken with the shutter closed). The noise measured in this parallel picture is then digitally “subtracted” from the data set for the real picture.
- This doubling of the “exposure” time must be allowed for with long exposures. The camera should not be switched off during this time.
- For shutter speeds slower than 2 s, the message **Noise reduction in progress 12s**¹ appears in the monitor.
- If the **B** function is selected in conjunction with the self timer (see p. 157), there is no need to keep the shutter release button pressed; the shutter will remain open until the shutter release button is pressed a second time (this is then equivalent to the T function).

More details on setting the correct exposure can be found in the sections under: “Exposure metering” from p. 135.

¹ Time quoted is an example only

MONITOR

The Leica M-E has a large 2.5" liquid crystal color monitor (1.30). This is used for viewing pictures that have been saved on the memory card and reproduces the entire field of the picture plus the selected data and information (see "The displays/In the monitor", p. 99/100, and the subsequent sections).

Note:

A monitor screen is only available in review mode (see p. 150) and must be activated with the **PLAY** button (1.24), or it is automatically displayed when the **Auto review** function (see p. 113) is active.

With the default setting, only the following information is displayed (i.e. if additional information has not been selected using the **INFO** button (1.21, see p. 99)):

1. Only the shutter speed (3.2.2), ISO sensitivity (3.2.3) and the picture number/total number of pictures available (3.2.4) in the header line,
2. the protection symbol (3.2.1, **⏏**) for deletion-protect pictures (see p. 154),
3. for enlarged pictures or review shifted from the center, an additional symbol (3.2.5, **▣**), in the bottom right to indicate the approximate position and size of the section,
4. for reduced review of 4 or 9 pictures, a red frame indicating the selected picture (3.2.6).

Setting the brightness

The brightness of the monitor picture can be adjusted to five different levels using the menu control, so that you can select the optimum brightness for any situation, i.e. the ambient lighting conditions.

Setting the function

1. In the main menu (see p. 102/119), select **Monitor brightness** (4.1.11), and
2. select the desired level (**low, medium high, standard, medium high, high**) in the sub-menu.

DISPLAYING BASIC SETTINGS/

DATA IN PICTURE MODE

When the camera is in picture mode, you can press the **INFO** button (1.21) to display the battery and memory card capacities, as well as certain basic picture settings (see p. 99).

DISPLAYING PICTURE DATA IN REVIEW MODE

When the camera is in review mode, you can press the **INFO** button (1.21) to display a range of additional picture data (see p. 100), along with a reduced picture size.

You can also use the menu (**Histogram**, 5.1.9, see p. 102/119) to select different variations of the histogram (see next section).

THE HISTOGRAM

The histogram (3.3.2) represents the distribution of brightness in the picture. The horizontal axis shows the tone values from black (left) through gray to white (right). The vertical axis depicts the number of pixels of each brightness level. This form of representation – together with the impression of the picture itself – allows an additional quick and easy assessment of the exposure setting after taking the picture.

On the Leica M-E, you can choose between different versions of the histogram: These are based on either the overall brightness or separately for the three primary colors red/green/blue, or with identification of the areas in the picture where no image appears because they are too bright or too dark (clipping).

Note:

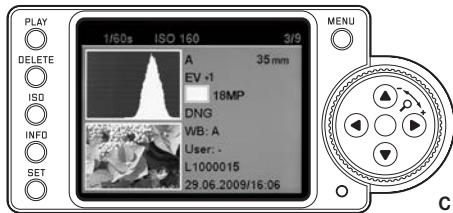
The histogram display always refers to the section of the picture displayed at that time.



A



B



C

A: Predominance of dark pixels, only a few light ones: Underexposure

B: Most pixels are of medium brightness: Correct exposure

C: Predominance of light pixels, only a few dark ones: Overexposure

Setting the function

1. In the main menu (see p. 102/119) select **Histogram** (4.1.12), and then
2. the preferred function – **Standard**, **RGB**, or **Clipping setup**, in the sub-menu, to call up the corresponding options.

Additional settings for clipping displays

3. In the **Clipping setup** sub-menu, select whether you want to deactivate this display or whether only overexposures (red) or both over and underexposure (red and blue) are to be displayed.

Note:

The histogram is not available when viewing several reduced pictures at the same time (see p. 151).

MENU CONTROL

Many settings for the Leica M-E are controlled using menus (see p. 102/103).

In aperture priority and manual exposure modes, two independent menus are available. The main menu is made up of 27 items (4.1.1–27), and there is also a image parameters menu. Based on experience, the menu items are grouped and separated according to which are most frequently used, allowing them to be quickly and easily called up and set.

When using the snapshot profile (see p. 102/141), there is only one menu – the main menu – with just 5 options. These mainly relate to basic settings (4.1.7/.22/.23/.25/.26), which only need to be entered once, while all other relevant parameters are specified for ease of use.

Note:

With the snapshot profile, the options for most menu items are replaced with fixed settings, i.e. not editable by the user (see the list in the “Menu items” section, page 102/103).

MAIN MENU

In aperture priority and manual exposure modes, in addition to the basic camera settings the main menu also includes storing user profiles and additional functions.

IMAGE PARAMETERS MENU

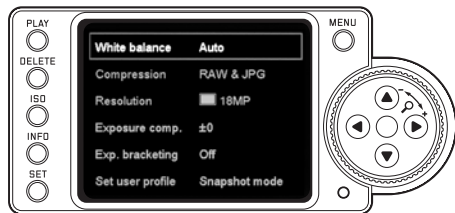
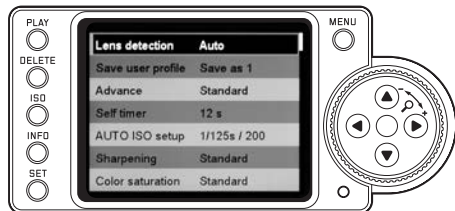
The image parameters menu comprises 6 items (4.2.1–6, see p. 103), which relate to the basic settings for pictures and selection of the saved user profiles.

When the camera is switched on, an overview of the relevant settings and step-by-step instructions for setting these functions can be viewed in the monitor (1.32).

Settings are made in the same way in both menus, differing only in how they are accessed and exited.

SETTING THE MENU FUNCTIONS

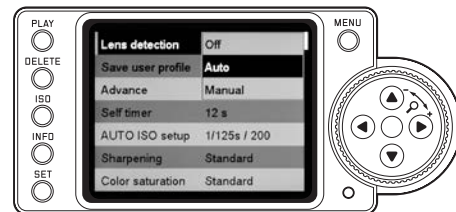
1. The main menu is called up using the **MENU** button (1.26); the image parameters menu using the **SET** button (1.20).
 - The first 7 items then appear in the main menu (or all 5 in the snapshot profile) and all items in the image parameters menu.

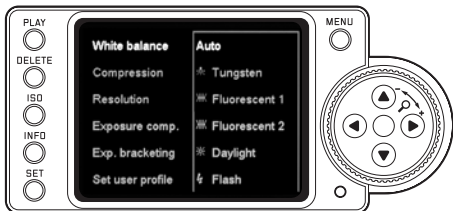


Notes:

- The image parameters menu is
 - only accessible in picture mode (see p. 113), and
 - only available when using aperture priority (see p. 136) and manual (see p. 140) exposure modes, but not with the snapshot profile (see p. 102/141).
- The main menu is not accessible during the **DELETE** or protect process (see p. 153/154).

2. You can select the desired menu item either by turning the setting dial (1.27) or by pressing the up/down direction button (1.28).





3. To set the relevant function, first press the **SET** button – or press it again in the image parameters menu.
 - The associated multi-line sub-menu, indicated by a red border, appears to the right of the menu item. The item selected at any time is highlighted for identification.
4. You can then select the desired function option either by turning the setting dial or by pressing the up/down direction button.
5. Save your setting by pressing the **SET** button again.
 - The function variation set is then shown to the right of the menu line.

6. By pressing the following keys you can leave the menu:

	Shutter release (1.18)	PLAY (1.24)	MENU (1.26)
Main menu	Camera switches to record mode	Camera switches to review mode	No other operational changes
Image parameters-menu		-	-

Notes:

- In the main menu, you can exit a sub-menu at any time without applying any settings you have made by pressing the **MENU** button.
- Menu items such as **Date** (4.1.22) and **Time** (4.1.23), and the **White balance** function (4.2.1) require further settings. The corresponding explanations along with further details about the other menu functions, can be found in the relevant sections.

PRESETS

BASIC CAMERA SETTINGS

Menu language

By factory default, the language used for menu control is English, i.e. all menu items initially appear with their English names. German, French, Spanish, Italian, Japanese, Russian and Traditional or Simplified Chinese can all be selected as alternative menu languages.

Setting the function

1. In the main menu (see p. 102/119), select **Language** (4.1.25), and
2. the desired language in the corresponding sub-menu.
 - Apart from a few exceptions (button names, short designations), all linguistic information changes.

DATE AND TIME

The date and time are each set using separate menu items.

DATE

There are 3 variations available for the sequence of the date.

Setting

1. In the main menu (see p. 102/119), select **Date** (4.1.22), and
2. call up the sub-menu. It consists of the 2 items, **Setting** and **Sequence**.
3. Select **Setting**.
 - A further sub-menu appears, containing groups of figures for the year, month and day, in which the currently active group, i.e. the one that can be set, is identified by a black background and red border.
4. The figures are set using the setting dial (1.27) or the up and down direction buttons (1.28), while the left and right direction buttons are used to switch between the groups of figures.

Notes:

- Using the setting dial is normally not only more convenient but also significantly faster.
 - You can return to the main menu at any time by pressing the **MENU** button (1.26) – without applying any of the changes made in the sub-menus.
5. After setting all 3 values, confirm and save by pressing the **SET** button (1.20).
 - The list of menu items appears again.
 6. To change the way in which the figures are displayed, select **Sequence** in the sub-menu.
 - The three available sequences **Day/Month/Year**, **Month/Day/Year**, and **Year/Month/Day** appear.
 7. The preferred option is set and confirmed as described in points 3 and 4.

Note:

Even when no battery is inserted or it is flat, the date and time settings are retained by a built-in backup battery for around 3 months (see also “Charge level displays”, p. 108). However, after that time the date and time must be set again as described above.

TIME

The time can either be shown in 24-hour or 12-hour format.

Setting

The two groups of figures and the display format are both set by selecting **Time** (5.1.19) in the menu and then selecting the **Setting** and **Time format** options, in exactly the same way as described for **Date** in the previous section.

AUTOMATIC POWER OFF

This function switches the Leica M-E off automatically after a pre-set time. This is equivalent to setting the main switch to **OFF** (1.17, see p. 112).

You can select,

- a. whether to activate this function, and if so
- b. after what period of time the camera should be switched off.

In this way, you can tailor this function to your own personal working methods and also significantly extend the life of your battery charge.

Setting the function

1. In the main menu (see p. 102/119), select **Auto power off** (4.1.15), and
2. the desired function.

Note:

Even if the camera is in standby mode, i.e. the displays have gone out after 12 s, or the **Auto power off** has switched it off, you can restart it at any time by pressing the shutter release button (1.18).

BUTTON ACKNOWLEDGEMENT AND SIGNAL TONES

With the Leica M-E, you can decide whether you want your settings and other functions and warning messages to be acknowledged by an acoustic signal – two volumes are available – or whether operation of the camera should be largely silent.

A click or a beep tone is used as an acknowledgement, which can be activated individually to confirm presses of buttons and to indicate a full memory card.

Note:

By factory default, the signal tones are deactivated.

Setting the functions

1. In the main menu (see p. 102/119), select **Acoustic Signal** (4.1.24), and
2. call up the sub-menu. This contains three items – **Volume**, **Key Click** and **SD card full**.
3. Select **Volume**, and
 - A further sub-menu appears containing the 3 alternatives **Off** (no tones at all), **High** (loud) and **Low** (quiet).
4. the desired function from this sub-menu.
 - After confirmation, the initial monitor screen appears again.
5. In the other two sub-menus, choose whether or not you want to activate the tones for the relevant functions.

BASIC PICTURE SETTINGS

SWITCHING LENS TYPE IDENTIFICATION ON/OFF

The 6-bit coding in the bayonet (1.10) on current Leica M lenses allows the Leica M-E to identify the type of lens. It does this using the sensor in the bayonet flange (1.9).

- Among other things, this information is used to optimize the picture data. Thus vignetting which can be particularly noticeable with wide-angle lenses and large apertures can be compensated in the relevant picture data.
- Control of the flash and the flash reflector also uses the lens data (see “Compatible flash units”, p. 143).
- In addition the information supplied by this 6-bit coding is written to the relevant EXIF file for the pictures. The picture data shown in the **INFO** display (see “The monitor”, p. 117) also includes an indication of the lens focal length (3.3.7 b, see p. 100).

Note:

When using lenses without 6-bit coding the identification function must be switched off to prevent malfunctions and the lens type used must be entered manually (see p. 124).

SETTING THE FUNCTION

1. In the main menu (see p. 102/119) select **Lens Detection** (4.1.1), and
2. the desired option in the sub-menu:
 - **Off**, or
 - **Auto**, if a coded lens is fitted, or
 - **Manual**, if a non-coded lens is fitted.

MANUAL ENTRY OF LENS TYPE/FOCAL LENGTH

Due to a lack of coding, older Leica M lenses are not identified by the camera body, but “identification” can be carried out using the menu.

3. In the list in the **Manual** sub-menu, select the lens used.
 - A lens list appears in the monitor (1.31), which also contains the respective item numbers to allow definitive identification.

Notes:

- The item number is engraved on the opposite side to the depth of field scale on many lenses.
- The list contains lenses that were available without coding (before around June 2006). Lenses launched more recently are only available with coding and therefore cannot be selected manually.
- When using the Leica Tri-Elmar-M 16-18-21 mm ASPH. f/4, the set focal length is not transferred to the camera and therefore is not included in the EXIF data for the pictures. However, you can enter the relevant focal length manually if you wish.
- By contrast, the Leica Tri-Elmar-M 28-35-50 mm ASPH. f/4 features the mechanical transfer of the set focal length to the camera necessary to activate the appropriate bright-line frames. The camera electronics detect the focal length and use it to set a focal length specific correction. However, due to a lack of space only one item number appears in the menu – 11 625. Of course, the two other versions – 11 890 and 11 894 – can also be used and the settings made in the menu also apply to them.

RESOLUTION

The picture data can be recorded in JPEG format with five different pixel settings, i.e. resolutions. This allows you to adjust the setting precisely to the intended use or to the available memory card capacity.

At the highest resolution (which also means the largest data volume), which you should select for optimum quality for larger prints, it is of course possible to save considerably fewer pictures to a card than at the lowest resolution, which is perfectly adequate for sending a picture by e-mail or for a website.

Note:

Raw data (DNG, see next section) is always saved with the highest resolution.

Setting the function

1. In the image parameters menu (see p. 103/119), select **Resolution** (4.2.3), and
2. the desired resolution in the sub-menu.

COMPRESSION RATE/FILE FORMAT

The picture data can optionally be recorded

- a. with one of two different JPEG compression rates – **JPG fine/JPG basic**, or
- b. using the **DNG** file format, either **Uncompressed** or **Compressed**, or
- c. using combinations of one of the two JPEG compression rates and the set **DNG** format, i.e. two files are generated per picture. In these cases the **JPG** file will always be saved with the selected resolution.

On the one hand this allows exact adjustment for the intended usage and the available memory card capacity, and on the other hand provides security and flexibility essential for subsequent decisions on usage.

Setting the function


A. Selecting the DNG format

1. In the main menu (see p. 102/119) select **DNG setup** (4.1.19), and
2. the desired option in the sub-menu – **Uncompressed** or **Compressed**.

B. Selecting the JPEG compression or format combination

1. In the image parameters menu (see p. 103/119), select **Compression** (4.2.2), and
2. the desired compression/combination in the sub-menu.








Notes:


- The standardized DNG (Digital Negative) format is used for storage of completely unprocessed raw picture data.
- The **Compressed** format includes a slight compression, which
 - causes only a negligible deterioration in quality
 - provides full scope for subsequent processing of the picture data
 - allows faster saving
 - takes up less memory space.
- With the raw data setting (**DNG**) the resolution is set automatically to  (18 MP), regardless of the existing setting (for the relevant JPEG format) (see previous section).
- With simultaneous storage of picture data as **DNG** and **JPG**, the existing resolution setting is used for the JPEG format, i.e. the two files can have totally different resolutions.
- A high compression rate such as with **JPG basic** can result in very fine structures in the subject being lost or incorrectly reproduced (artifacts; e.g. “stepped” diagonal edges).
- The remaining number of pictures shown in the monitor does not necessarily change after every picture. This depends on the subject; with JPEG files very fine structures result in higher quantities of data, homogeneous surfaces in lower quantities.

WHITE BALANCE

In digital photography, white balance ensures neutral reproduction of color in any light. It is based on the Leica M-E being preset to reproduce a particular color as white.


With the Leica M-E, you can choose from ten different settings:

- **Auto** – For automatic control, which delivers neutral results in most situations,
- Seven fixed presets for the most common light sources,
-  e.g. for indoor pictures with (prevailing) incandescent light
- 1, e.g. for indoor pictures with (prevailing) fluorescent lighting, e.g. for homes with warm lighting similar to incandescent bulbs or around 2700 K
- 2, e.g. for indoor pictures with (prevailing) fluorescent lighting, e.g. for working environments with cool lighting similar to incandescent bulbs of around 4,000 K
-  e.g. for outdoor pictures in sunshine,
- , e.g. for pictures with (prevailing) electronic flash,
-  e.g. for outdoor pictures in cloudy conditions,
-  e.g. for outdoor pictures with the main subject in shadow,

-  For manual setting by measurement and
- **Kelvin setting**¹ – For a directly adjustable color temperature value.

Note:

When using electronic flash units that meet the technical requirements for System Camera Adapter (SCA) for the System 3000 and have either the SCA-3502 adapter (version 4 onwards) or an appropriate integrated foot, the white balance can be set to **Auto** for correct color reproduction.

However, if other flash units are used, which are not specially adapted for the Leica M-E and do not automatically adjust the camera white balance, the  setting should be used.

For automatic or fixed settings

1. In the image parameters menu (see p. 103/119), select **White balance** (4.2.1), and
2. the desired function in the sub-menu.





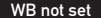
¹ All color temperatures are specified in Kelvin.

For direct setting of color temperature

You can directly set values between 2000 and 13100 (K¹) (from 2000 to 5000K in increments of 100, from 5000 to 8000K in increments of 200 and from 8000 to 13,100K in increments of 300). This provides you with a broad scope, covering almost all color temperatures that can occur in practice and within which you can adapt the color reproduction very sensitively to the existing light color and/or your personal preferences.

1. In the image parameters menu (see p. 103/119), select **White balance** (4.2.1), and
2. the Kelvin setting option in the sub-menu.
3. Use the central setting dial (1.27) or the up/down direction button (1.28) to select the desired value, and
4. confirm your setting by pressing the **SET** button again.

For manual setting by metering

1. In the image parameters menu (see p. 103/119), select **White balance** (4.2.1), and
2. the  option in the sub-menu.
3. Press the **SET** button (1.20)
 - The message  **Point camera at white surface and release shutter** appears in the monitor.
4. The actual setting is made by subsequently taking a picture in which you should aim at a white or neutral grey surface in the center of the picture.
 - Instead of the menu list, the picture just taken will appear in the monitor, and within it the message  **WB is set**. However, if the exposure is not assessed as correct or the surface you aim at is not neutral, this is indicated by  **Bad Exposure**  **WB not set**. In such cases, repeat step 2 with the correct exposure setting or with a more neutral surface.

A value set in this way remains saved for and will be used for all pictures until it is superseded by a new metered value or you use one of the other white balance settings.

Note:

A white balance setting made by metering which has already been saved can also be recalled, even after the white balance setting had been changed over to one of the other settings. This is done by performing steps 1–3 and (instead of step 4) pressing the **SET** button again.

¹ All color temperatures are specified in Kelvin.

ISO SENSITIVITY

In traditional photography, the choice of the ISO value reflects the light sensitivity of the film used. Higher speed films allow faster shutter speeds and/or smaller apertures and vice versa, at the same brightness.

The ISO setting on the Leica M-E covers a range from ISO 160–2500. Optimum reproduction quality is achieved with the **ISO 160** setting. Higher sensitivities result in an increasing amount of “picture noise”. This effect can be compared to the “graining” that occurs with highly sensitive films.

The **Pull 80** setting has the same brightness as an ISO sensitivity of ISO 80. However, pictures taken with this setting have a lower contrast range. When using this sensitivity setting, you should always make sure that important parts of the picture are not overexposed. The setting is made in $\frac{1}{3}$ ISO increments, allowing sensitive manual and tailored adjustment of the shutter speed and aperture values to the relevant situation.

As well as the fixed settings, the Leica M-E also features an **AUTO ISO** function, in which the camera automatically adjusts the sensitivity to the ambient brightness. When used with aperture priority mode¹ (see p. 136), this considerably extends the range of the automatic exposure control, specifically by up to 4 aperture stops. However, it is also possible to define priorities within the function, e.g. for compositional reasons². This enables you to limit the range of sensitivities used – e.g. because of the noise mentioned above, and also to set the shutter speed above which the automatic increase in sensitivity is activated, e.g. to reliably prevent blurred pictures.

Setting the function

1. Hold down the **ISO** button (1.22).
 - The possible settings appear in the monitor (1.30), arranged in a grid.
2. While holding down the **ISO** button, use the central setting dial (1.27, forward and back) or the direction buttons (1.28, by line or column) to select the desired sensitivity or setting.

Note:

The list remains visible for around 2 s after you release the **ISO** button. Once the list disappears, the set value is applied.

If you set **AUTO ISO**, you can adjust the function to match your working methods or your compositional ideas².

3. In the main menu (see p. 102/119), select **Auto ISO setup** (4.1.5), and
4. **Max ISO** and/or **Slowest speed** in the sub-menu.
5. Then, in the **Max ISO** sub-menu,
 - select the range within which you want the automatic function to work by setting the highest sensitivity to be used, and/or
 - in the **Slowest speed** sub-menu, select whether you want to leave it to the camera to ensure shutter speeds that prevent blurring – using **Lens dependent**³, or
 - whether you want to specify a particular maximum shutter speed yourself in the range between **1/125s** and **1/8s** (in whole steps).

If you select **Lens dependent** the camera only switches to a higher sensitivity if the shutter speed would fall below the $\frac{1}{\text{Focal length}}$ threshold due to poor brightness, e.g. speeds slower than $\frac{1}{30\text{s}}$ for a 35 mm lens.

¹ When setting the exposure manually and using flash units (always with $\frac{1}{180\text{s}}$), the function is not available. This function is always active with the snapshot profile (see p. 141).

² These options are not available in the snapshot profile.

³ This function requires the use of coded lenses (see p. 110).

Note:

- When using the bracketing function (see p. 139), all **AUTO ISO** settings are defined:
 - The sensitivity automatically determined by the camera for the first picture is also used for all other pictures in a series, i.e. this ISO value is not changed during a series.
 - The settings in the **AUTO ISO** sub-menus are ineffective, i.e. the full shutter speed range available on the camera can be used.

IMAGE PROPERTIES/CONTRAST, SHARPNESS, COLOR SATURATION

One of the many advantages of digital photography over traditional photography is that it is very easy to change critical properties of a picture. While photographic software – after recording and transfer to a computer – provides great scope for doing this, the Leica M-E itself allows you to influence three of the most important picture properties even before taking the picture:

- The contrast, i.e. the difference between light and dark sections of the image, determines whether an image has a more “flat” or “brilliant” effect. As a consequence, the contrast can be influenced by increasing or reducing this difference, i.e. by lighter reproduction of light sections of the image and darker reproduction of dark sections.
- Sharpness – at least of the main subject – using the correct distance setting is a prerequisite for a successful picture. In turn, the impression of sharpness of a picture is to a great extent determined by the sharpness of the edges, i.e. by how small the transition area between light and dark is at the edges in the picture. The impression of sharpness can thus be changed by enlarging or reducing these areas.
- The color saturation determines whether the colors in the picture tend to appear as “pale” and pastel-like or “bright” and colorful. While the lighting and weather conditions (hazy/clear) are given as conditions for the picture, there is definite scope for influencing the reproduction here.

All three picture properties can be adjusted – independently – to five different levels using the menu control, so that you can set the optimum values for any situation, i.e. the prevailing lighting conditions. In the case of **Color Saturation** two other options are available – **Black+White** and **Vintage B&W**.

Note:

These settings only affect pictures in one of the JPEG formats. If you select one of the two **DNG** file formats, these settings have no effect as in this case the picture data is always saved in its original form (changes must be made later on the computer).

Setting the functions

1. In the main menu (see p. 102/119), select **Sharpening** (4.1.6), **Color Saturation** (4.1.7), or **Contrast** (4.1.8), and
2. the desired level (**Low**, **Medium low**, **Standard**, **Medium high**, **High**) in the relevant sub-menu.

WORKING COLOR SPACE

The requirements in terms of color reproduction differ considerably for the various possible uses of digital picture files. Different color spaces have therefore been developed, such as the standard RGB (red/green/blue) that is perfectly adequate for simple printing. For more demanding image processing using appropriate programs, e.g. for color correction, Adobe® RGB has become established as the standard in the relevant sectors.

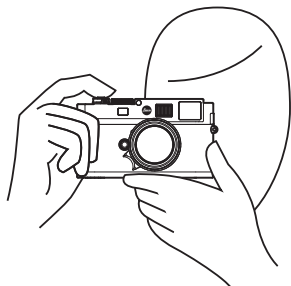
Setting the function

1. In the main menu (see p. 102/119), select **Color management** (4.1.18), and
2. the desired function in the sub-menu.

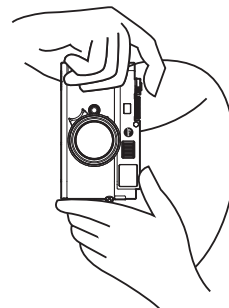
Notes:

- If you want to have your prints produced by major photographic laboratories, mini labs or Internet picture services, you should always select the **sRGB** setting.
- The Adobe RGB setting is only recommended for professional image processing in completely color-calibrated working environments.

HOLDING THE CAMERA CORRECTLY



For sharp, blur-free pictures, the camera should be held as steadily and comfortably as possible. To ensure suitably secure “three point support” for the Leica M-E, hold the camera with the right hand, with the index finger on the shutter release button and the thumb behind the rear of the camera body for stabilization. The left-hand either supports the lens from below, ready for fast focusing adjustments, or is around the whole camera. Holding the camera against the forehead and cheek provides additional support. For portrait format pictures, turn the Leica M-E to the left. The hands remain in the same position as for pictures in landscape format. However, you can also turn it to the right. In this case, it may be advantageous to release the shutter with the thumb.



Notes:

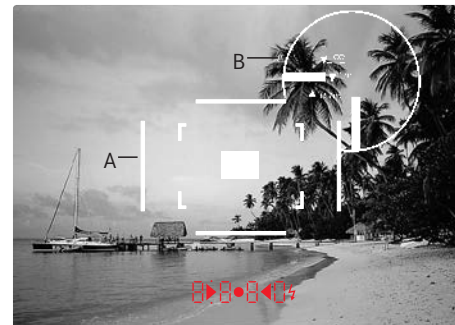
- As a practical accessory, we recommend the M-E grip, which allows you to hold the Leica M-E extremely steadily and to carry it with one hand (order no. 14 486 black, 14 490 steel gray).
- The Leica M-E is fitted with an integral sensor which detects the position of the camera – horizontal or vertical (both directions) – for each picture. This information automatically allows the pictures to be displayed upright when subsequently displayed on a computer running the appropriate programs.

BRIGHT-LINE VIEW- AND RANGEFINDER

The Leica M-E's bright-line view and range finder is not only a very high-quality, large, brilliant and bright viewfinder, it is also a highly accurate range finder coupled to the lens. It has an enlargement factor of 0.68x.

The size of the bright-line frame is optimized for the full format of the Leica M-E and thus corresponds approximately to the sensor size of 24x36 mm¹ with a distance setting of 1 m. The bright-line frames are linked to the distance setting in such a way that parallax error - the misalignment between the lens and the viewfinder axis - is automatically compensated. The bright-line image and the picture are practically identical over the entire distance setting range of 0.7 m to ∞ . Practically identical means that at distances of less than 1 m the sensor records slightly less than is displayed by the inner edges of the bright-line frames and records slightly more at longer distances (see adjacent graphs). These slight variations, which are rarely significant in practice, are due to the operating principle:

Bright-line frames on a viewfinder camera must be adjusted to the angle of view of the relevant lens focal lengths. However, the nominal angles of view change slightly when focusing - due to the changing extension, i.e. the distance between the optical system and the sensor plane. If the set distance is less than infinity (and the extension is correspondingly larger), the actual image angle is also lower and the lens records less of the subject. In addition, the image angle differences are greater at longer focal lengths as a result of the greater extension.



- A Bright-line frame
- B Actual image field

- Set to 0.7 m: The sensor records approx. one frame width less.
- Set to 1 m: The sensor records exactly the image field displayed by the inner edges of the bright-line frame.
- Set to infinity: The sensor records approx. 1 (vertically) / 4 (horizontally) frame width(s) more.

¹ The exact format is 23.9 x 35.8 mm, corresponding to the usable format of analog Leica M models.

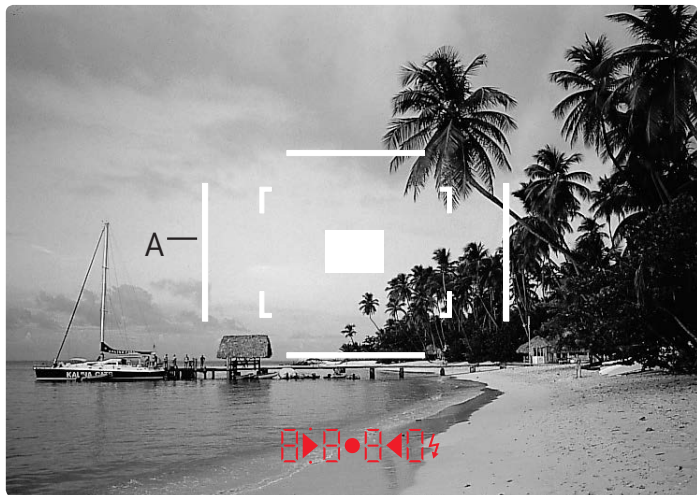
If lenses with focal lengths of 28 (Elmarit from serial number 2411001), 35, 50, 75 and 135 mm are used, the associated bright-line frame automatically adjusts to the combinations 28+90mm, 35+135 mm, 50+75 mm. In the middle of the viewfinder image is the rectangular distance metering image, which is brighter than the surrounding image field. All lenses with focal lengths from 16 to 135 mm are linked to the range finder when used on the Leica M-E.

If the exposure meter is turned on, the exposure meter LEDs and the flash symbol LED appear at the lower edge of the viewfinder image.

For more information about distance and exposure metering and on using flash, refer to the corresponding sections on p. 134/135/143.



35 mm + 135 mm



50 mm + 75 mm



28 mm + 90 mm

DISTANCE METERING

Due to its large effective metering basis, the range-finder on the Leica M-E is very precise. The benefits of this are particularly noticeable when using wide-angle lenses with their relatively deep depth of field.

Mechanical metering basis (Distance between the optical axes of the viewfinder window and the range finder viewing window)	x viewfinder magnification	= Effective metering basis
69.25mm	x 0.68	= approx. 47.1mm

The range finder metering field is visible as a bright, sharply defined rectangle in the center of the viewfinder. If you keep the large viewfinder window (1.6) closed, only the activated bright-line and this metering field remain visible. The focus can be set using either the superimposed image or split image method:

SUPERIMPOSED IMAGE METHOD (DOUBLE IMAGE)

In a portrait, for example, aim the metering field at the eye and turn the distance setting ring on the lens until the contours in the metering field are brought into line. Then choose the subject detail.



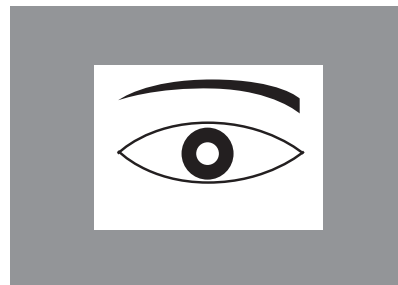
Double image = out of focus



Interrupted line = out of focus

SPLIT IMAGE METHOD

When taking photographs of architecture, for example, aim the range finder metering field at the vertical edge or another clearly defined vertical line and turn the distance setting ring on the lens until the contours of the edge or line can be seen at the limits of the metering field with no misalignment. Then choose the subject detail.



Coincident image = in focus



Continuous line = in focus

In practice, there is often no clear distinction between the two methods. The two criteria can be used to great effect in combination.

EXPOSURE METERING

On the Leica M-E, exposure metering for the available ambient light is performed through the lens with the working aperture. The light reflected by the bright shutter blades in the first shutter curtain is captured by a photo diode and measured. This silicon photo diode with forward-facing convex lens is positioned at the bottom center, in the case of the camera.

The speed/aperture combinations for a correct exposure are given by the viewfinder or monitor displays or are determined with their assistance.

In aperture priority mode the aperture is selected manually, and the camera then determines the appropriate shutter speed automatically. In this mode a digital LED display indicates the resulting shutter speed (e.g. **1000**)

If both values are set manually, a light balance made up of three red LEDs (▶●◀) is used to correct the exposure. When the setting is correct, only the central circular LED is lit.

SWITCHING THE EXPOSURE METER ON/OFF

The exposure meter is switched on by lightly pressing the shutter release button (1.18) to its first pressure point, provided the camera is switched on at the main switch (1.17) and the shutter speed setting dial (1.16) is not set to **B**.

When the exposure meter is ready, one of the displays is continuously lit in the viewfinder:

- in aperture priority mode, the digital LED display of the shutter speed,
- and in manual mode either of the two triangular LEDs, either individually or in conjunction with the center circular LED.

If you let go of the shutter release button without activating the shutter, the exposure meter remains on for around 12 s more, and the corresponding LED(s) remain lit for the same time.

If the shutter speed setting dial is set to **B**, the exposure meter is disabled.

Notes:

- If the displays go out, the camera is in “standby” mode.
- With very little ambient light, i.e. at the limits of the exposure meter’s range, it can take around 0.2 s for the LEDs to light up.
- If a correct exposure cannot be achieved using the available shutter speeds in aperture priority mode, the shutter speed display gives a warning by flashing (for more details, refer to the „Aperture priority mode” section on p. 136).
- In poor lighting conditions when using manual mode, if the reading is below the exposure meter range, the left hand triangular LED gives a warning by flashing. In aperture priority mode the shutter speed remains displayed. If the required shutter speed is below the longest possible shutter speed of 32 s, this display also flashes.
- If the camera will not be used for an extended period or is stored in a case, always switch it off at the main switch. This prevents any power consumption, including that which continues to occur in standby mode after the exposure meter is turned off automatically and the display is extinguished. This also prevents pictures from being taken accidentally.

EXPOSURE MODES

The Leica M-E provides two exposure modes: Aperture priority and manual mode. Depending on the subject, situation and your individual preferences, you can thus choose between

- the familiar “semi automatic” operation, or
- setting a fixed shutter speed and aperture.

APERTURE PRIORITY

If the shutter speed setting dial (1.16) is in the **A** position the electronics within the camera generate the shutter speed automatically and continuously in the range $1/4000$ s to 32 s, depending on the set sensitivity, the metered brightness and the manually selected aperture.

The generated shutter speed is displayed digitally in the camera viewfinder; for better clarity it is displayed in half steps.

For shutter speeds longer than 2 s the remaining shutter speed is counted down and displayed in seconds after the shutter release. The actual shutter speed generated and continuously controlled can, however, vary from the half step value displayed: For example, **16** (as the nearest available value) is shown in the display before releasing the shutter, but the generated shutter speed is in fact longer, as is shown by the countdown after the shutter release starting at **19**.

Under extreme lighting conditions the exposure meter may even, based on all the parameters, generate a shutter speed that is outside its working range, i.e. brightnesses that demands an exposure shorter than $1/4000$ s or longer than 32 s. In such cases the specified minimum or maximum shutter speeds are nevertheless used, and these values flash in the viewfinder as a warning.

METERING MEMORY LOCK

For compositional reasons, important parts of the subject are often not in the center of the picture, and as a result such important subject items may on occasion be excessively light or dark. However, metering on the Leica M-E is strongly center-weighted, essentially only an area in the center of the picture is calibrated to an average gray scale value.

Subjects and situations of this sort can be overcome very easily even in aperture priority mode, using metering memory lock.

To do this:

1. First turn the camera so that the center of the viewfinder is aimed at the most important part of the subject or alternatively at another detail of average brightness,
2. Press the shutter release button (1.18) to the 2nd pressure point to measure and save the value. As long as the pressure point is held, a small red dot appears in the viewfinder at the top in the digits line as confirmation, and the shutter speed ceases to change even if the lighting conditions are different.
3. Keeping the shutter release pressed, swing the camera round to the final picture framing,
4. and the shutter can then be released using the exposure originally determined.

Changing the aperture setting after using metering memory lock has no effect on the shutter speed, i.e. it would lead to incorrect exposure.

The lock is cancelled when the shutter release is let go from the pressure point.

Note:

Metering memory lock is not available if the shutter release function is set to **Soft** (see p. 115).

EXPOSURE COMPENSATION

Exposure meters are calibrated to an average gray scale value (18% reflection), which corresponds to the brightness of a normal, i.e. average photographic subject. If the actual subject detail does not match this assumption, an appropriate exposure compensation can be performed.

Particularly for a sequence of several pictures, for instance if for any reason a series of pictures is deliberately taken slightly underexposed or overexposed, an exposure compensation is a very useful function: Once set, unlike metering memory lock, it remains in effect until (deliberately) cancelled (more details on metering memory lock can be found in the corresponding section on p. 136).

The Leica M-E allows exposure compensation to be set in a range of up to ± 3 EV in $\frac{1}{3}$ EV steps (EV: Exposure Value).

Setting the function

The Leica M-E provides you with three options for setting an exposure compensation.

At the same time, you can choose whether you want to make the setting using the menu or the setting dial.

Setting using the menu control is recommended if, for example, you know in advance that you want your subjects to be slightly under or overexposed. The exceptionally fast option using the setting dial is ideal when unexpected situations occur and enables you to track your subject in the viewfinder without interruptions.

A. Using the menu

1. In the image parameters menu (see p. 103/119), select **Exposure comp.** (4.2.4), and
2. the compensation value you want to use in the sub-menu.

B. Using the setting dial

1. In the main menu (see p. 102/119), select **Exp. comp. setup** (4.1.10), and
2. **Setting ring** in the sub-menu.
3. You can set the exposure compensation by turning the setting dial (1.28) – clockwise for positive values, anticlockwise for negative values.

C. With shutter release button and setting dial

1. In the main menu (see p. 102/119), select **Exp. comp. setup** (4.1.10), and
2. **Set. ring & rel. but.** in the sub-menu.
3. While holding the shutter release button (1.18) at the first pressure point¹, you can then set an exposure compensation for the next picture you take by turning the setting dial (1.27).

Regardless of which method was used for the initial setting, compensations

- remain active until they are manually set back to 0,
- can be reset using either the menu or the setting dial,
- are displayed as EV values in the image parameters menu and as changed shutter speeds in the viewfinder.

¹ For more details about the function of the shutter release button, refer to the corresponding section starting on p. 114

Note:

An exposure compensation set on the camera only influences the measurement of available light. If you want to simultaneously use compensation of the TTL flash exposure metering in flash mode – in parallel or in the opposite direction, you must make this additional setting (on the flash unit). Refer to the sections on flash mode from p. 143 for details.

EXAMPLE OF A POSITIVE COMPENSATION

With very bright subjects, such as snow or a beach, the exposure meter specifies a relatively fast shutter speed due to the extreme brightness. As a result, the snow shows up in an average gray and any people in the photograph are too dark: this is under exposure! To remedy this problem, the shutter speed needs to be lengthened or the aperture increased, i.e. a setting of perhaps +1 $\frac{1}{3}$ EV needs to be made.

EXAMPLE OF A NEGATIVE COMPENSATION

For very dark subjects that reflect very little light, the exposure meter selects a shutter speed that is too slow. A black car will appear gray: this is over exposure! The shutter speed needs to be shortened, i.e. a setting of perhaps -1 EV is required.

BRACKETING

Many attractive subjects are very rich in contrast, i.e. they have both very light and very dark areas. The effect can be quite different, depending on which sections you base your exposure on. In such cases, the bracketing function on the Leica M-E – in aperture priority mode – allows you to produce several alternatives with graduated exposure, i.e. using different shutter speeds. You can then select the most appropriate picture for further use, or use image processing software to create a picture with an exceptionally high contrast range (HDR).

The following options are available:

- 4 graduations: 0.5 EV, 1 EV, 1.5 EV and 2 EV
- 3 numbers of pictures: 3, 5 or 7
- 2 sequences: Correct exposure, over exposure(s), under exposure(s), or under exposure(s), correct exposure, over exposure(s).

Notes:

- When using the bracketing function, all **AUTO ISO** settings (see p. 128) are defined:
 - The sensitivity automatically determined by the camera for the first picture is also used for all other pictures in a series, i.e. this ISO value is not changed during a series.
 - The settings in the **AUTO ISO** sub-menus are ineffective, i.e. the full shutter speed range available on the camera can be used.
- Depending on the initial shutter speed, the working range of the bracketing function may be limited. Examples (in each case with defined aperture setting):
 - Metered shutter speed $1/1000$ s, bracketing series of 5 pictures/2EV: limited function as the -2EV picture would require $1/16000$ s.
 - Metered shutter speed $1/125$ s, bracketing series of 5 pictures/2EV: unlimited function as the -2EV picture is possible with $1/2000$ s.
 - Metered shutter speed $1/1000$ s, bracketing series of 7 pictures/1EV: limited function as the -3EV picture would require $1/8000$ s.
 - Metered shutter speed $1/500$ s, bracketing series of 7 pictures/1EV: unlimited function as the -3EV picture is possible with $1/4000$ s.

- Regardless of this, the specified number of pictures are always created, which means that several pictures in a series may have the same exposure.
- For series of 7 pictures, only the 0.5EV and 1EV graduations are available.
- Bracketing is not available in flash mode. If an attached flash unit is switched on, no pictures are taken.
- The function remains active until it is switched off in the menu. If it is not switched off, a further bracketing series is produced each time you press the shutter release button.

Setting the function

1. In the **image parameters menu** (see p. 103/119), select **Bracketing** (4.2.5) and there
2. set whether you want to switch the function on or off.
3. In the **main menu** (see p. 102/119), now select **Bracketing setup** (4.1.9),
4. select **No. of exposures**, **Sequence**, and/or **EV increments** in the sub-menu, and then
5. the desired values and options in the respective sub-menus.

MANUAL EXPOSURE SETTING

If the exposure setting is performed entirely manually, the shutter speed setting dial (1.16) must be clicked to one of the engraved shutter speeds or to one of the intermediate values.

Then:

1. switch the exposure meter on and
2. turn the shutter speed setting dial and/or the aperture setting ring on the lens (1.13) – in each case in the direction indicated by the triangular LED that is lit up – until only the circular LED is lit up.

As well as the direction of rotation of the shutter speed setting dial and aperture setting ring necessary for correct exposure, the three LEDs in the light balance also indicate underexposure, overexposure and correct exposure in the following way:

- ▶ Underexposure by at least one stop; turning to the right is required
- ▶• Underexposure of $1/2$ stop; turning to the right is required
 - Correct exposure
- ◀• Overexposure of $1/2$ stop; turning to the left is required
 - ◀ Overexposure by at least one stop; turning to the left is required

Note:

For exposures longer than 2 s the remaining exposure time is counted down and displayed in seconds after the shutter release.

B SETTING / T FUNCTION

The **B** setting keeps the shutter open for as long as the shutter release button remains pressed (up to a maximum of 240 s).

In conjunction with the self timer, a T function is also available: If you set **B** and activate the self timer by tapping the shutter release button (see also p. 157), the shutter opens automatically after the selected delay time. It then remains open until you press the shutter release button a second time – you do not need to hold the button down. This enables you to largely prevent any blurring caused by pressing the shutter release button, even with long exposures.

In both cases, the exposure meter is disabled; after the shutter is released however, the digital display in the viewfinder shows the expired time in seconds for guidance.

Notes:

- Long exposures can be associated with very heavy picture noise.
- To reduce this annoying phenomenon, following pictures with longer exposures (from around $1/30$ s, differing depending on the other menu settings), the Leica M-E automatically takes a second “black picture” (taken with the shutter closed). The noise measured in this parallel picture is then digitally “subtracted” from the data set for the real picture.
- This doubling of the “exposure” time must be allowed for with long exposures. The camera should not be switched off during this time.
- For shutter speeds above 2 s, the message **Noise reduction in progress 12s¹** appears in the monitor.

¹ Time quoted is an example only

SETTING THE EXPOSURE WHEN USING THE SNAPSHOT PROFILE

In addition to the individual profiles that can be set and saved, the Leica M-E provides a snapshot profile. In this profile, most menu items have fixed settings that ensure optimum results for the majority of subjects. Some menu items that are only necessary for very specific actions and other special functions are not available in this profile (see p. 102).

Setting the mode

1. In the image parameters menu (see p. 103/119), select **User profile** (4.2.6), and
2. then **Snapshot profile** in the sub-menu.

There is also a simplified viewfinder display for setting the exposure, in which the camera warns you if your pictures could be out of focus due to blurring. You only need to look at the display in the viewfinder:

- If only the red circular LED in the center is lit (•), everything is fine.
- If a red triangle to the right (• ◀) is also flashing, there is a risk of overexposure. However, in the vast majority of cases you then have the opportunity to ensure a correct exposure.
 - When using aperture priority mode (see p. 136): Set a lower aperture value. To do this, turn the aperture setting ring (1.13) in the direction indicated by the flashing triangle – to the left.
 - With manual exposure control (see p. 140) you also have the option of setting a faster shutter speed.
- If a red triangle to the left (▶ •) is also flashing, there is a risk of a blurred picture (see below: “Explanation”). However, in the vast majority of cases, you then have the opportunity to ensure that the picture is sharp and not blurred.
 - When using aperture priority mode (see p. 136): Set a higher aperture value. To do this, turn the aperture setting ring (1.13) in the direction indicated by the flashing triangle – to the right.
 - With manual exposure control (see p. 140) you also have the option of setting a slower shutter speed.

DEACTIVATING THE SNAPSHOT PROFILE

When the snapshot profile is activated, you can exit it at any time by pressing the **SET** button (1.20).

Explanation

As a rule of thumb: There is a risk of blurring with shutter speeds below the $\frac{1}{f_{\text{focal length}}}$ threshold, e.g. with speeds slower than $\frac{1}{60}$ s for a 50 mm lens.

Notes:

- To enable you to take photographs with the snapshot profile over a very wide brightness range, whenever appropriate, i.e. in case of poor ambient light, the sensitivity is automatically set to higher values (for more details, refer to “ISO sensitivity” on p. 128).
- You can also use the snapshot profile for flash photography. For more details, refer to the corresponding sections starting on p. 143.

EXPOSURE METER METERING RANGE

The metering range at room temperature, normal humidity and ISO 160/23 is EV 0 to 20 or f/1.0 and 1.2 s to f/ 32 and $1/1000$ s.

WORKING ABOVE AND BELOW

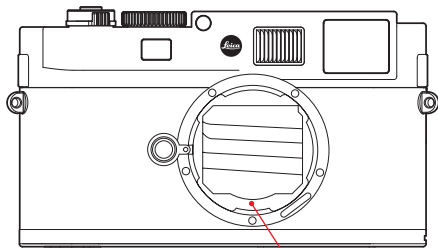
THE METERING RANGE

In poor lighting conditions when using manual mode, if the reading is below the exposure meter range, the left hand triangular LED gives a warning by flashing, and the right LED does likewise in excessively light conditions. In aperture priority mode, the shutter speed is still displayed. If the required shutter speed is below or above the slowest possible speed of 32 s or the fastest possible speed of $1/4000$ s respectively, these displays also flash.

As the exposure is metered with the working aperture, this situation can come about by stopping down the lens.

Even if you are below the metering range, the exposure meter remains on for around 12 s after you let go of the shutter release button. If the lighting conditions improve in this time (e.g. through a change in the subject detail or opening of the aperture), the LED display changes from flashing into being continuously lit, indicating that the meter is ready for use.

GENERAL INFORMATION ON FLASH EXPOSURE METERING AND CONTROL



Flash measurement cells

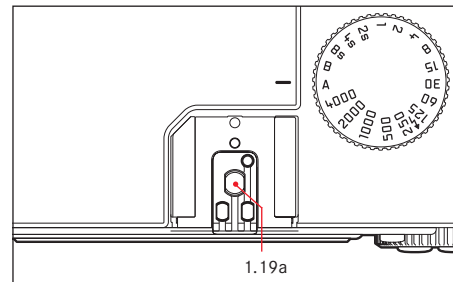
The Leica M-E determines the required flash power by firing one or more pre flashes, fractions of a second before taking the actual picture. Immediately after this, at the start of exposure, the main flash is fired. All factors that influence the exposure (such as filters and changes to the aperture setting) are automatically taken into account.

COMPATIBLE FLASH UNITS

The following flash units, when used on the Leica M-E, are capable of all the functions described in this manual:

- The Leica SF 58 system flash unit (order no. 14 488). With a maximum guide number of 58 (in the 105 mm setting), an automatically controlled zoom reflector (with coded Leica M lenses, see p. 110), an optional second reflector and many other functions, it is both powerful and versatile. Thanks to its permanently attached flash foot with appropriate additional control and signal contacts, which automatically transfer a range of data and settings, it is very easy to use.
- The Leica SF 24D system flash unit (order no. 14 444). Its compact dimensions and design tailored to this camera make it the ideal accessory. Like the Leica SF 58, it has a permanently attached flash foot with all the required contacts and is extremely easy to operate.
- Flash units which satisfy the technical requirements for System Camera Adapter (SCA) System 3000, are fitted with the SCA-3502/3501 adapter¹ and allow guide number control.

¹ When using the SCA-3502 adapter (from version 4) the white balance (see p. 126) can be set to **Auto** for correct color reproduction – this is done automatically with the snapshot profile.

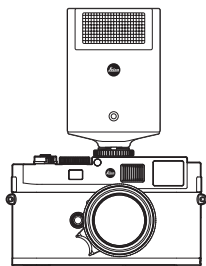


Other commercially available flash attachments with standard flash foot^{2, 3} and positive center contact, and which are fired by the center contact (X-contact, 1.19a), can also be used. We recommend the use of modern thyristor-controlled electronic flash units.

² If flash units not specifically designed for the Leica M-E are used, the camera white balance will not be automatically adjusted, and the $\frac{1}{2}$ setting should be used (see p. 126). As a result, to ensure correct color reproduction you should not use the snapshot profile in such cases.

³ The aperture specified on the lens must be manually set on the flash unit.

ATTACHING THE FLASH UNIT



When attaching a flash unit to the Leica M-E flash shoe (1.19), you should ensure that the foot of the flash unit is fully inserted and the clamping nut (if fitted) is tightened to prevent it accidentally falling out. This is particularly important for flash units with additional control and signal contacts, because if it moves from its position in the flash shoe the required contacts can be broken, leading to malfunctions.

Note:

Before attaching the flash, the camera and the flash unit must be turned off.

FLASH MODE

Fully automatic camera-controlled flash operation is available for the Leica M-E when using system-compatible flash units as described in the previous section, in both exposure modes – aperture priority mode **A** and manual setting – and with the snapshot profile. In addition, automatic illumination regulation is performed in all three exposure modes. This means that in order to ensure a balanced relationship between flash and available light at all times, the flash power is reduced by up to $1\frac{2}{3}$ EV as ambient brightness increases. However, if the ambient brightness plus even the fastest possible flash sync speed of $1/180$ s would cause overexposure, the flash will not be fired in aperture priority mode. In such cases the shutter speed is governed by the ambient brightness and is shown in the viewfinder.

In aperture priority **A** and manual setting mode, but not in the snapshot profile, the Leica M-E also enables you to use other interesting flash techniques in your compositions, such as synchronization of flash firing with the 2nd shutter curtain rather than the 1st and flashes with a slower shutter speed than the sync speed of $1/180$ s. These functions are set using the menu on the camera (for more details, refer to the corresponding sections below).


In addition the Leica M-E transfers the set sensitivity to the flash unit. This allows the flash unit, provided it has received such information and the aperture manually set on the lens is also input on the flash unit, to automatically adjust its range values accordingly. The sensitivity setting cannot be influenced from the flash unit.

Notes:

- The settings and functions described in the following sections relate exclusively to flash units that are system compatible with the Leica M-E.
- An exposure compensation set on the camera (see p. 137) only influences the measurement of available light. If you want to simultaneously use compensation of the TTL flash exposure metering in flash mode – in parallel or in the opposite direction, you must make this additional setting (on the flash unit).
- More details of flash use, in particular for other flash units not specially designed for the Leica M-E and for different flash modes, can be found in the relevant user guides.

SETTINGS FOR CAMERA-CONTROLLED**AUTOMATIC FLASH MODE**

Once the flash unit you are using has been switched on and set to the operating mode for GNC (= Guide Number Control), the following actions on the Leica M-E are necessary:

1. Before taking each flash picture, first switch on exposure metering by lightly pressing the shutter release button, i.e. the display in the viewfinder must switch to the shutter speed values or the light balance. If this stage is missed out by fully depressing the shutter release button in one quick movement, the flash unit may not fire if required.
2. Set the shutter speed setting dial to **A**, set the flash sync speed  ($1/180$ s), or – for special effects – a slower shutter speed (including **B**). In aperture priority mode the camera automatically switches to the flash sync speed set in the menu, or to the time range (see “Selecting the sync speed/the sync speed range”, p. 147).
3. Set the desired aperture or the aperture required for the distance to the subject.







Note:

If the automatically controlled (see “Flash mode”, p. 144) or manually set shutter speed is faster than $1/180$ s, the flash will not be fired.




FLASH DISPLAYS IN THE VIEWFINDER WITH SYSTEM-COMPATIBLE FLASH UNITS

A flash-shaped LED (2.1.3) appears in the Leica M-E viewfinder as confirmation and to display the various operating conditions. This LED appears together with the displays for available light exposure metering, described in the relevant sections.

IN AUTOMATIC FLASH MODE (flash unit set to Guide Number Control)

-  does not appear despite the flash unit being switched on and ready for use:
The camera is manually set to a shutter speed faster than $1/180$ s. In such cases the Leica M-E will not fire the flash unit even though it is switched on and ready for use.
-  flashes slowly (at 2 Hz) before the picture is taken:
The flash unit is not yet ready for use
-  is lit up before the picture is taken:
The flash unit is ready for use
-  remains continuously lit after taking the picture, and the other displays go out:
The flash exposure was successful, the flash unit remains ready for use.
-  flashes rapidly after taking the picture (at 4 Hz), and the other displays go out:
The flash exposure was successful, but the flash unit is not yet ready for further use.
-  goes out after taking the picture, together with the other displays:
Underexposure, perhaps due to the choice of too small an aperture for the subject. If the flash unit is set to a partial discharge power, because of the lower power requirement it may be ready for use despite the flash LED not lighting up.

WHEN THE FLASH UNIT IS SET TO CAMERA CONTROL (A) OR MANUAL MODE (M)

-  does not appear despite the flash unit being switched on and ready for use:
The camera is manually set to a shutter speed faster than $1/180$ s. In such cases the Leica M-E will not fire the flash unit even though it is switched on and ready for use.
-  flashes slowly (at 2 Hz) before the picture is taken:
The flash unit is not yet ready for use.
-  is lit up before the picture is taken:
The flash unit is ready for use.

Selecting the sync speed/sync speed range

While the shutter speed used has no bearing on the control of the flash exposure (because the flash duration is very much less than this), the reproduction of the available light is very strongly influenced by the shutter speed and by the aperture setting. In many situations, setting the fastest possible shutter speed for flash operation, the sync speed, will unnecessarily lead to a more or less strong underexposure of all subject parts not illuminated by the flash.

The Leica M-E allows you to combine flash operation with the shutter speed generated in aperture priority mode to subtly change the lighting conditions for the respective subject to suit your compositional ideas. You can choose from five settings:

1. Lens dependent

Automatic control of the shutter speed depending on the focal length used (as a rule of thumb, for non-blurred pictures when holding the camera in the hand = $\frac{1}{\text{Focal length}}$, e.g. $\frac{1}{60}$ s with the Summicron-M 50 mm f/2) up to the sync speed $\frac{1}{180}$ s.¹

2. OFF (1/180 s)

Fixed setting to the fastest possible shutter speed of $\frac{1}{180}$ s, e.g. for the sharpest possible reproduction of moving subjects and the illuminating flash.

3. down to 1/30s, 4. down to 1/8s and 5. down to 32s

Automatic control of all shutter speeds from the specified value to the sync speed $\frac{1}{180}$ s.

Notes:

- With manual exposure control, all shutter speeds up to the sync speed $\frac{1}{180}$ s can also be set.
- When using the snapshot profile (see p. 102/141), with coded lenses (see p. 110) the lens-specific control is a fixed setting, with non-coded lenses the setting is $\frac{1}{180}$ s.

Setting the function

1. In the main menu (see p. 102/119), select **Auto Slow Sync** (4.1.17) and
2. the desired option in the sub-menu.

¹ Only when using Leica M lenses with 6-bit coding in the bayonet and lens identification enabled in the menu (see p. 102/124/119)

SELECTING THE FIRING MOMENT

Flash photographs are illuminated by two light sources, the available light and the light from the flash. Parts of the subject that are exclusively or primarily illuminated by the flash are almost always reproduced extremely sharply (with correct focusing) due to the extremely fast pulse of light. By contrast, all other parts of the subject – those that are sufficiently illuminated by the available light or illuminate themselves – are portrayed with different degrees of sharpness in the same picture.

Whether these parts of the subject are reproduced sharply or “blurred”, and the degree of “blurring”, is determined by two independent factors:

1. The length of the exposure, i.e. for how long these parts of the subject “act upon” the sensor, and
2. How quickly these parts of the subject – or the camera itself – are moving during the exposure.

The longer the exposure or the faster this movement, the greater the extent to which the two – superimposed – parts of the picture can differ.



With the flash fired at the normal time, at the beginning of the exposure, i.e. immediately after the 1st shutter curtain has completely opened the frame window, this can even lead to apparent contradictions, such as in the picture of the motorcycle (left), which is being overtaken by its own light tracers.

The Leica M-E gives you a choice between this normal flash firing time and synchronization with the end of the exposure, i.e. immediately before the 2nd shutter curtain begins to close the frame window again. In this case, the sharp image is located at the end of the movement. In the photograph (right), this flash technique gives a more natural impression of movement and dynamics.



This function is available for all camera and flash unit settings, and in aperture priority mode as well as in manual shutter speed selection, in the various automatic flash modes as well as in manual flash mode; the displays are the same in all cases.

Note:

When using the snapshot profile (see p. 102/141), synchronization with the 1st shutter curtain is a fixed setting.

Setting the function

1. In the main menu (see p. 102/119), select **Flash sync** (4.1.16) and
2. the desired option in the sub-menu:
1st curtain or **2nd curtain**.

ADDITIONAL FUNCTIONS

USER/APPLICATION SPECIFIC PROFILES

On the Leica M-E, any combination of all main and image parameters menu settings can be permanently stored, e.g. so that they can be retrieved quickly and easily at any time for recurring situations/subjects. A total of four memory slots are available for such combinations. The names of these four profiles are generally made up of ten characters. In the factory default setting, the first is named **Profile__1__¹**, the second **Profile__2__¹**, and so on. However, you can change the preset names on the camera, e.g. to your specific applications. This makes it easier and quicker for you to identify and retrieve them. To simplify the presets, a snapshot profile is also available (see p. 102/141).

Applying settings/Creating a profile

1. Set the desired functions in the main and image parameters menus.
2. In the main menu (see p. 102/119), select **Save user profile** (4.1.2), and
3. the desired memory slot in the sub-menu.
 - The profile name appears. The cursor is at the first character, which can be edited.
4. Use the up and down direction buttons (1.28) and/or the central setting dial (1.27) to change the characters and the left and right direction buttons to move the cursor.
 - The available characters are upper case letters from **A** to **Z**, lower case letters from **a** to **z** and figures from **0** to **9**; they are arranged in a continuous loop in this order.
5. Save your settings by pressing the **SET** button (1.20).

Selecting a saved profile or the snapshot profile

1. In the image parameters menu (see p. 103/119), select **User profile** (4.2.6), and
2. the desired profile in the sub-menu.

Notes:

- If you change one of the settings for the profile currently in use, the corresponding figure is cleared.
- When the snapshot profile is activated, you can exit it at any time by pressing the **SET** button (1.20).

RESETTING ALL CUSTOM SETTINGS

This function allows you to simultaneously delete all previous user settings made in the main and image parameters menus and reset them to the factory default settings.

Setting the function

1. In the main menu (see p. 102/119), select **Reset** (4.1.20), and
2. then press the **SET** button (1.20) to call up the relevant sub-menu.
3. Then use the left/right direction buttons (1.29) to select the desired function, and
4. confirm your selection by pressing the **SET** button again.

Note:

This reset also affects any individual profiles defined and saved using the **Save user profile** function (4.1.2, see above).

¹ The underscores “_” are used as placeholders here, in the monitor all “unused” spaces are blank.

REVIEW MODE

As described in the “Selecting picture and review modes” and “Automatic review of last picture” sections (p. 113), you can view the pictures you have taken in the monitor (1.30) on the Leica M-E. Pictures can either be reviewed automatically for a short time immediately after you have taken them in **Auto review** mode, or at any time and for an unlimited period in **PLAY** mode. In both cases, several additional options are available while viewing the pictures.

Notes:

- The review functions always access the respectively active folder of the card in use. If you want to view images in other folders, these must be activated (p. 156)
- If no pictures are stored on the card, when you press the **PLAY** button the following message appears in the monitor: **Attention** **No valid image data to play**
- Depending on the function previously set, pressing the **PLAY** button generates different responses:

- The Leica M-E stores pictures in line with the DCF standards (Design Rule for Camera File System).
- The Leica M-E can only review pictures taken with cameras of this type.

	Initial situation	After pressing the PLAY button
a.	Full screen review of a picture	Picture mode, monitor off
b.	Review of an enlarged section/several reduced pictures (see p. 151) ¹	Full-screen review of the picture
c.	INFO display with any enlargement (see p. 100/151) review	INFO display with full-screen
d.	One of the menu controls (see p. 181), or the DELETE or delete protection function ¹ (see p. 153/154) is activated	Full-screen review of the last picture displayed

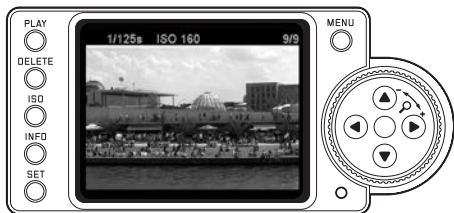
¹ **PLAY** button must be pressed twice in these cases.

ADDITIONAL OPTIONS WHEN VIEWING

A. VIEWING MORE PICTURES/ “SCROLLING” IN THE MEMORY

You can open other saved pictures using the left and right direction buttons (1.30). Pressing the left button takes you to the pictures with lower numbers, pressing the right button takes you to those with higher numbers. Holding the button down (approx. 2 s) results in fast scrolling. After the highest and lowest numbers, the series of pictures begins again in an endless loop, which means you can reach all pictures in either direction.

- The picture and file numbers in the monitor change accordingly.



B. ENLARGING/SELECTING THE SECTION/ SIMULTANEOUS VIEWING OF SEVERAL REDUCED PICTURES

With the Leica M-E it is possible to open an enlarged section of an individual picture in the monitor to study it more closely, with a free choice of section. Conversely, you can also view up to 9 pictures simultaneously in the monitor, e.g. to gain an overview or to find the picture you are looking for more quickly.

Notes:

- The more the picture is enlarged, the more the reproduction quality in the monitor deteriorates – due to the proportionately lower resolution.
- While an enlarged picture is displayed, the direction buttons are no longer available to open other pictures, instead they are used to “navigate” within the picture. (Exception: see next note).

Turning the setting dial (1.27) to the right (clockwise) enlarges the central section. The more you turn the dial, the greater the enlargement and the smaller the section area. Enlargement is possible up to 1:1, i.e. until 1 pixel of the monitor displays 1 pixel of the picture.

The four direction buttons (1.28) can be used to select any position in the section to be enlarged. To do this, press the button (several times) for the direction in which you want to shift the section.

- In addition to the enlargement, the rectangle within the frame (3.2.5/3.3.7j) in the lower right-hand corner of the monitor indicates the position of the section displayed.



Note:

You can also switch from an enlarged picture directly to another picture, which will then be shown at the same enlargement. To do this press the left or right direction button again – keeping the **PLAY** button (1.24) pressed.

By turning the setting dial to the left (anticlockwise, starting from normal size), you can simultaneously view 4 – or by turning the dial further – 9 pictures in the monitor.

- Up to 9 reduced images are shown in the monitor (1.30) including the picture previously being viewed at normal size, which is marked with a red border.

You can use the four direction buttons to navigate freely among the reduced images, and the relevant image is marked accordingly. You can then view this image at normal size by turning the setting dial to the right.

Note:

When showing 9 pictures, turning the setting dial further to the right places the red frame around the entire group of pictures, which then allows you to “scroll” more quickly, a block at a time.

C. DELETING PICTURES

While a picture is displayed in the monitor, you have an opportunity to delete it if you wish to do so. This can be useful, for example if the pictures have already been saved to other media, if you no longer require them or if you need to free up more space on the memory card.

The Leica M-E also offers you the option of deleting single pictures, or all pictures at the same time, as required.

Notes:

- Deleting is only possible in review mode, albeit irrespective of whether a picture is shown at normal size or several reduced pictures are shown (not however if the 9-block review is shown with a red frame round the entire block, see p. 151).
- For protected pictures, the protection must first be cancelled before they can be deleted (see also next section).

Important:

Deletion of a pictures is permanent. Pictures cannot subsequently be recovered.



Procedure

1. Press the **DELETE** button (1.23).
 - The corresponding sub-menu appears in the monitor (1.30).

Notes:

- The delete process can be cancelled at any time by pressing the **DELETE** button again.
- The following controls and their functions are not available during the entire delete process: the **INFO**- (1.21) button and the delete protection function.

2. The first step is to decide

- whether you want to delete individual pictures

Delete **Single**

or

- all pictures simultaneously

Delete **All**

3. The subsequent procedure is controlled by the menu, i.e. essentially as described in the “Menu control” section (see p. 119). After specifying the relevant menu display, this is done using the setting dial (1.27), the direction buttons (1.28) and the **SET** button (1.20).

Notes:

- If the picture shown is protected (see p. 154), the **Single** option cannot be selected in the sub-menu.
- When deleting all pictures, to prevent accidental deletion there is an intermediate step in which you must reconfirm that you definitely want to delete all pictures on the memory card.

DISPLAYS AFTER DELETING

DELETING INDIVIDUAL PICTURES

After deleting, the preceding picture appears. If there are no more pictures saved on the card, the following message appears:

Attention No valid image data to play

DELETING ALL PICTURES ON THE MEMORY CARD

After deleting, the following message appears:

Attention No valid image data to play

However, if one or more pictures were protected, that picture or the first of those pictures then appears.

Note:

When a picture is deleted, the subsequent pictures in the picture counter (3.2.4/3.3.6) are re-numbered as follows: For example, if you delete picture no. 3, what was previously picture no. 4 then becomes no. 3, the previous no. 5 becomes no. 4 etc. However, this does not apply to the file numbering on the memory card (in the **INFO** display, see. p. 100) for the remaining picture files in the folders (3.3.7i), which remains unchanged.

D. PROTECTING PICTURES/ CLEARING DELETE PROTECTION

The pictures stored on the memory card can be protected against accidental deletion. This protection can then be cleared at any time.

Notes:

- Protecting pictures and clearing delete protection are only possible in review mode, albeit irrespective of whether a picture is shown at normal size or several reduced pictures are shown (not however if the 9-block review is shown with a red frame round the entire block, see p. 151).
- For details of the different procedures/responses when you attempt to delete protected pictures, refer to the previous section.
- If you decide you want to delete them, clear the protection as described below.
- Delete protection is only effective for the Leica M-E.
- Even protected pictures are deleted if the memory card is reformatted (see next section for details).
- On SD/SDHC memory cards, you can prevent accidental deletion by sliding the write protection switch on the card (see p. 109) to the position marked **LOCK**.

Procedure

1. Press the **SET** button (1.20).
 - The corresponding sub-menu appears in the monitor (1.30).



Notes:

- The setting process can be canceled at any time either by pressing the **PLAY** button (1.24) to return to normal review mode, or by pressing the shutter release button (1.18) to switch to picture mode.
- The following controls and their functions are not available during the entire setting process: the **MENU** (1.26), **DELETE** (1.23), and **INFO** (1.21) buttons

The subsequent procedure is controlled by the menu, i.e. essentially as described in the “Menu control” section (see p. 119). After specifying the relevant menu display, this is done using the setting dial (1.27), the direction buttons (1.28) and the **SET** button (1.20).

2. The first step is to decide

- whether you want to protect individual pictures

Protect **Single**

or

- all pictures simultaneously

Protect **All**

or

- whether you want to clear the existing protection for individual pictures

Clear protection **Single**

or

- for all pictures.

Clear protection **All**

Note:

The following functions cannot be performed and the menu text appears in white instead of black to indicate this:

- Protecting a picture that is already protected, or if all pictures are already protected.
- Unprotecting a picture that is already unprotected, or if no pictures are already protected.


DISPLAYS AFTER PROTECTION/CLEARING

PROTECTION

After leaving menu control, the original monitor display appears again, with the corresponding symbol

 for protected pictures (3.2.1/3.3.3).

Note:

The  symbol also appears if a picture that is already protected is opened.

ADDITIONAL FUNCTIONS

FOLDER MANAGEMENT

The picture data on the memory card is saved in folders, which are created automatically. These folder names have eight characters – three figures and five letters. In the factory default setting, the first folder is named “100LEICA”, the second “101LEICA” and so on. As a result, the camera can create a maximum of 999 folders. This counter can be reset at any time. In addition, the Leica M-E enables you to create new folders and determine their names, i.e.

- Reset folder numbers
- Create new folders/name folders yourself

RESETTING FOLDER NUMBERS

Note:

This function requires the use of a memory card that does not contain empty folders, i.e. new or unused cards, or previously formatted cards.

1. In the main menu (see p. 102/119), select **Folder managem.** (4.1.13), and
2. then select **Reset folder no.** in the sub-menu.
The camera’s internal folder counter is reset, i.e. when a new folder is created, it will receive the lowest number not yet issued.

Note:

This can result in some numbers not being used in certain cases: When e.g. the camera had last issued the number 102, and then a memory card is inserted containing a highest folder number of 105, the next number issued for a new folder would be 106.

SELECTING FOLDERS

The review (see p. 113/150) functions always access the respectively active folder of the memory card in use. If you want to view or transfer images in/from other folders, these must be activated.

1. In the main menu (see p. 102/119), select **Folder managem.** (4.1.13), and
2. then **Select folder** in the sub-menu.
 - A list of the existing folders appears in the monitor (1.31). If the card contains large amounts of data, this may take a short while, and instead the message **Folders are being read Please wait** temporarily appears.
3. Select the desired folder.

CREATING NEW FOLDERS/ NAMING FOLDERS YOURSELF

The Leica M-E enables you to create new folders on the card and also to determine their names yourself.

1. In the main menu (see p. 102/119), select **Folder managem.** (4.1.13), and then
2. select **Create new folder** in the sub-menu.
 - The folder name appears (always “LEICA” at first). The cursor is at the first of the five letters in the existing name and it can be edited.

Note:

Folders are always created with the next available folder number.

3. Use the up and down direction buttons (1.28) and/or the central setting dial (1.27) to change the first five characters and the left and right direction buttons to move the cursor.
The available characters are upper case letters from **A** to **Z**, lower case letters from **a** to **z** and figures from **0** to **9**; they are arranged in a continuous loop in this order.

FORMATTING THE MEMORY CARD

It is not normally necessary to format (initialize) a memory card that has already been used. However, if a card that has yet to be formatted is inserted for the first time, it must be formatted. In such cases the **Format SD card** sub-menu appears automatically. The Leica M-E allows you to select whether you only want to format the memory card or to actually completely delete all data on the card, e.g. to protect against misuse, by overwriting.

Notes:

- Simple formatting does not irretrievably delete the data on the card. It merely deletes the directory, which means that the existing data is no longer directly accessible. The data can be accessed again using appropriate software. Only the data that is then overwritten by saving new data is actually completely deleted. Nevertheless, you should get into the habit of transferring all your pictures onto a secure bulk storage medium, e.g. the hard drive on your computer, as soon as possible. This is especially important in case the camera is handed over to a service facility along with the memory card.
- Depending on the memory card used, formatting can take up to 3 minutes.

Procedure

1. In the main menu (see p. 102/119), select **Format SD card** (4.1.26), and
2. select the desired function - **Yes**, **No** or **Overwrite** in the sub-menu.
3. If you really want to overwrite the memory card, you then need to confirm this in the relevant sub-menu to protect against unintentional settings.


Notes:

- Do not switch off the Leica M-E while the memory card is being formatted/overwritten.
- If the memory card has been formatted in another device, such as a computer, you should reformat it in the Leica M-E.
- If the memory card cannot be formatted/overwritten, you should ask your dealer or contact the Leica Information Service (address, see p. 175) for advice.
- Access even to protected pictures (see previous section) is deleted when
- Depending on the capacity and read/write speed of the card, overwriting can take up to 60 minutes. You should therefore check the battery charge level first (see p. 108). If the battery capacity is exhausted during overwriting, a corresponding message appears in the monitor.

TAKING PHOTOGRAPHS WITH THE SELF TIMER

You can use the self timer to take a picture with a delay of either 2 or 12 s. This can be particularly useful, for example in the first case if you want to avoid the picture being out of focus due to camera shake when releasing the shutter or, in the second case, for group photographs where you want to appear in the picture yourself.

Setting and using the function

1. Set the main switch (1.17) to .
2. In the main menu (see p. 102/119), select **Self timer** (5.1.3) and
3. then select the desired delay time or **Off** in the sub-menu.
4. To start the delay time press the shutter release button (1.18) to the first pressure point, see p. 114).
 - The LED (1.7) on the front of the camera flashes for the first 10 s of a 12 s delay time, then it stays lit continuously to show the progress of the delay time. The countdown is shown on the monitor at the same time.

While the self timer delay time is running, it can be aborted at any time by pressing the **SET** button (1.20) - the relevant setting is retained and the function can be restarted by pressing the shutter release button again.

Important:

In self timer mode, the exposure is not set by depressing the shutter release to the pressure point, it is set immediately before the picture is taken.

CONNECTING AND TRANSFERRING DATA USING CARD READERS

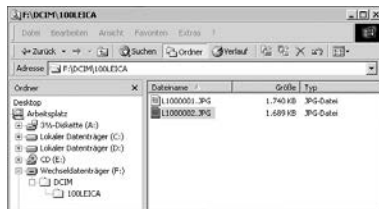
The picture files can also be transferred to other computers using a standard card reader for SD/SDHC memory cards. Card readers with a USB interface are available for computers with a USB interface. If your computer is equipped with a PCMCIA slot (common on portable models), plug-in cards with a PCMCIA connection are available as an alternative. These devices, and further information about them, is available from a computer accessory dealer.

Note:

The Leica M-E is fitted with an integral sensor which detects the position of the camera – horizontal or vertical (both directions) – for each picture. This information automatically allows the pictures to be displayed upright when subsequently displayed on a computer running the appropriate programs.

DATA STRUCTURE ON THE MEMORY CARD

When the data stored on a card is transferred to a computer, the following folder structure is used:



Up to 9999 pictures can be stored in each of the folders 100LEICA, 101LEICA, etc.

WORKING WITH DNG RAW DATA

If you have selected the standardized and future-proof DNG (Digital Negative) format, you require highly specialized software to convert the saved raw data into optimum quality, for example the professional Photoshop® Lightroom® raw data converters from Adobe®. It provides quality optimized algorithms for digital color processing, delivering exceptionally low noise photographs with incredible resolution.

During editing, you have the option of adjusting parameters such as white balance, noise reduction, gradation, sharpness etc. to achieve an optimum image quality.

Adobe® Photoshop® Lightroom® is available as a free download when you register your LEICA M-E on the Leica Camera AG website. Further details can be found on the registration card in the camera packaging.

INSTALLING FIRMWARE UPDATES

Leica is constantly working on developing and optimizing its products. As digital cameras have many functions that are controlled electronically, some of these improvements and enhancements to the functions can be installed on the camera at a later date.

To do this, Leica provides firmware updates at irregular intervals, which you can easily download from our homepage to your camera yourself:

Note:

The Leica M-E uses the firmware updates for the Leica M9/M9-P.

1. Format a memory card in your Leica M-E (p. 157).
2. Switch off the camera and insert the card into an SD/SDHC card reader – either integrated or connected to your computer. (A card reader is required for firmware updates).
3. Download the firmware file from the Leica M-E site using the “UPDATES” link.
4. Save the file M-E-X_xxx.upd at the top level of the card’s folder structure. X_xxx stands for the relevant version.

5. Remove the card properly from your card reader, insert the card into the camera and close the bottom cover. Turn on the camera using the main switch.
6. Confirm the prompt that appears in the monitor as to whether you want to update the Firmware on the camera to version X.xx.

The update process takes around 180s. You will then be prompted to restart the camera using the main switch.

7. Turn the camera off and back on again.

Note:

If the battery does not have sufficient charge, you will see a corresponding warning message.

MISCELLANEOUS

SYSTEM ACCESSORIES FOR THE LEICA M-E

INTERCHANGEABLE LENSES

The Leica M system provides a basis for optimum adaptation to fast and unobtrusive photography. The range of lenses incorporates focal lengths from 16 to 135mm and speeds up to 1:0.95.

FILTERS

UVa filters and a universal polarization filter are available for current Leica M lenses fitted with standard filter threads.

Note:

Leica UV/IR filters specially developed for use on the Leica M8 and M8.2 should not be used on the Leica M-E, as this can result in color shifts at the edge of pictures, particularly when using wide-angle lenses.

UNIVERSAL WIDE-ANGLE VIEWFINDER M

The Leica Universal Wide-Angle Viewfinder M is a thoroughly practical accessory. It can be used without restriction on all analog and digital Leica M models and – just like the viewfinder in the camera – uses a reflected bright-line frame to indicate the picture area for wide-angle focal lengths 16, 18, 21, 24 and 28mm.

The viewfinder is equipped with parallax compensation and a vial (spirit level) for exact leveling of the camera (order no. 12 011).

VIEWFINDER FOR 21/24/28 MM LENSES

The Leica Viewfinder for 21/24/28mm lenses can be used on all Leica M models and, with its adjustable optical system, allows you to display the picture framing for the popular wide-angle focal lengths 21mm, 24mm, and 28mm. The sophisticated optical construction ensures excellent reproduction quality at the level of the Leica M viewfinder. In conjunction with the 15mm eye relief distance, suitable for users wearing glasses, the magnification provides excellent reproduction of details and comfortable viewing of the entire image field (order no. 12 013).

BRILLIANT FINDER M

Brilliant finders are available for 18, 21 and 24mm lenses. They have an exceptionally compact design and provide a very bright viewfinder image. Bright-line frames are used to determine the framing, as in the camera viewfinder (order no. 18mm: 12 022 black, 12 023 silver/21mm: 12 024 black, 12 025 silver/24mm: 12 026 black, 12 027 silver).

VIEWFINDER MAGNIFIER M 1.25 X AND M 1.4 X

The Leica M Viewfinder Magnifiers 1.25x and M 1.4x significantly simplify picture composition when using focal lengths above 35mm. They can be used on all Leica M models and magnify the central area of the viewfinder image. The 1.25x viewfinder magnifier 3cates of 0.85x, while the 1.4x gives 0.95x magnification.

A security chain with snap fasteners prevents loss and can be used to hang the viewfinder on the carrying strap's fastening ring.

The viewfinder magnifiers are supplied in a leather bag. A loop on the bag allows the viewfinder magnifier to be stored on the camera's carrying strap, where it is protected and ready for use (order no. 12 004 for M 1.25x, 12 006 M 1.4x).

FLASH UNITS

With a maximum guide number of 58 (in the 105 mm setting), an automatically controlled zoom reflector (with coded Leica M lenses, see p. 110), an optional second reflector and many other functions, the Leica SF 58 system flash unit (order no. 14 488) is both powerful and versatile. Thanks to its permanently attached flash foot with appropriate additional control and signal contacts, which automatically transfer a range of data and settings, it is very easy to use. The Leica SF 24D system flash unit (order no. 14 444) with its compact size and design that matches the camera, is particularly suitable. Like the Leica SF 58, it has a permanently attached flash foot with all the required contacts and is extremely easy to operate.

M-E GRIP

As a practical accessory, we recommend the M-E handgrip, which allows you to hold the Leica M-E extremely steadily and to carry it with one hand. It is fitted in place of the standard bottom cover. (order no. 14 486 black, 14 490 steel gray).

CORRECTION LENSES

For optimum adaptation of the eye to the camera's viewfinder, we offer corrective lenses with the following positive or negative diopter values (spherical): $\pm 0,5/1/1,5/2/3$.

CASES

There are two neoprene cases for the Leica M-E with different front sections for lenses of different lengths, a classic leather case and a protector that is similar to the lower section of a traditional case. This protector reliably protects the camera body, even when taking photographs (order no. 14 867 short, 14 868 long, 14 872 leather, 14 869 protector).

For your full set of camera equipment, the classic Billingham combination case made of waterproof fabric is also available. This either holds two cameras and two lenses or one camera and three lenses.

There is enough space for large lenses and if you have attached an M-E grip. A Velcro fastened compartment provides additional space for a Leica SF 24D flash and other accessories (order no. 14 854 black, 14 855 khaki).

REPLACEMENT PARTS

	Order no.
Camera bayonet cover	14 195
Carrying strap	14 312
Lithium ion battery	14 464
Compact charger, (with EU/USA mains cables, in-car charging cable)	14 470
Mains cable for AUS and UK	14 422/14 421

PRECAUTIONS AND CARE INSTRUCTIONS

GENERAL PRECAUTIONS

- Do not use the Leica M-E in the immediate vicinity of devices with powerful magnetic, electrostatic or electromagnetic fields (e.g. induction ovens, microwave ovens, television sets or computer monitors, video game consoles, cell phones, radio equipment).
- If you place the Leica M-E on or very close to a television set, its magnetic field could interfere with picture recordings.
- The same applies for use in the vicinity of cell phones.
- Strong magnetic fields, e.g. from speakers or large electric motors, can damage the stored data or the pictures.
- Do not use the Leica M-E in the immediate vicinity of radio transmitters or high-voltage power lines.
- Their magnetic fields can also interfere with picture recordings.
- If the Leica M-E malfunctions due to the effects of electromagnetic fields, remove the battery and then switch the camera on again.
- Certain chemicals and liquids can damage the Leica M-E body or the surface finish.
- Protect the Leica M-E from contact with insect sprays and other aggressive chemicals. Petroleum spirit, thinner and alcohol may not be used for cleaning.
- Certain chemicals and liquids can damage the Leica M-E body or the surface finish.
- As rubber and plastics sometimes emit aggressive chemicals, they should not remain in contact with the Leica M-E for extended periods.
- Ensure that sand and dust cannot get into the Leica M-E, e.g. on the beach.
- Sand and dust can damage the camera and the memory card. Take particular care when changing lenses and when inserting and removing the card.
- Ensure that water cannot get into the Leica M-E, e.g. when it is snowing or raining and on the beach. Moisture can cause malfunctions and even permanent damage to the Leica M-E and the memory card.
- If salt water spray gets onto the Leica M-E, wet a soft cloth with tap water, wring it out thoroughly and wipe the camera with it. Then wipe down thoroughly with a dry cloth.

MONITOR

The monitor is manufactured using a high-precision process. This ensures that, of the total of around 230,000 pixels, more than 99.995% work correctly and only 0.005% remain dark or are always light. However, this is not a malfunction and it does not impair the reproduction of the picture.

- If the Leica M-E is exposed to significant temperature fluctuations, condensation can form on the monitor. Wipe it carefully with a soft dry cloth.
- If the Leica M-E is very cold when switched on, the monitor will initially be slightly darker than normal. It will revert to its normal brightness once it has warmed up.

SENSOR

- Cosmic radiation (e.g. on flights) can cause pixel defects.

CONDENSATION

- If condensation has formed on or in the Leica M-E, you should switch it off and leave it to stand at room temperature for around an hour. Once the camera temperature has adjusted to room temperature, the condensation will disappear by itself.

CARE INSTRUCTIONS

- As any soiling also represents a growth medium for microorganisms, you should take care to keep the equipment clean.

FOR THE CAMERA

- Only clean the Leica M-E with a soft, dry cloth. Stubborn dirt should first of all be covered with a well-thinned cleaning agent and then wiped off with a dry cloth.
- To remove stains and fingerprints, the camera and lens should be wiped with a clean lint-free cloth. Tougher dirt in hard to reach corners of the camera body can be removed with a small brush. Be careful not to damage the shutter blades, for instance with the shaft of the brush.
- All mechanically operated bearings and sliding surfaces on your Leica M-E are lubricated. Please remember this if you will not be using the camera for a long period of time. To prevent the lubrication points becoming gummed up, the camera shutter should be released a number of times every three months. It is also recommended that you repeatedly move and use all other controls, such as the image field selector. The distance and aperture setting rings on the lens should also be moved periodically.
- Take care not to scratch the sensor for the 6-bit coding (1.9) in the bayonet, or to get it dirty. Take care also that no grains of sand or similar particles enter the fastening, where they could scratch the bayonet. Never wet this component when cleaning it!

FOR LENSES

- Normally, a soft hair brush is sufficient to remove dust from the outer lens elements. However, in case of more stubborn dirt, they can be carefully cleaned with a very clean, soft cloth that is completely free of foreign matter, using circular motions from the inside to the outside. We recommend micro-fiber cloths (available from photographic and optical specialists) that are stored in a protective container and can be washed at temperatures of up to 40°C (without fabric softener, never iron!). Cloths for cleaning glasses, which are impregnated with chemicals, should not be used as they can damage the lens glass.
- Take care not to scratch the 6-bit coding (1.10) in the bayonet, or to get it dirty. Take care also that no grains of sand or similar particles enter the fastening, where they could scratch the bayonet. Never wet this component when cleaning it!
- For optimum front lens protection in unfavorable photographic conditions (e.g. sand, salt water spray), use transparent UVa filters. However, you should bear in mind that, like all filters, they can cause unwanted reflections in certain backlight situations and with high contrasts. The generally recommended lens hood also protects the lens from unintentional fingerprints and the rain.

FOR THE BATTERY

Rechargeable lithium ion batteries generate power through internal chemical reactions. These reactions are also influenced by the external temperature and humidity. Very high or low temperatures reduce the life of the battery.

- Always remove the battery if you will not be using the LEICA M-E for a long period of time. Otherwise, after several weeks the battery could become totally discharged, i.e. the voltage is significantly reduced, as the LEICA M-E uses a low no-load current (to save the date) even when it is turned off.
 - Lithium ion batteries should be stored only when partially charged, i.e. not completely discharged or fully charged (in the corresponding display in the monitor (1.30)). For very long storage periods, it should be charged up for around 15 minutes twice a year to prevent total discharge.
 - Always ensure that the battery contacts are clean and freely accessible. While lithium ion batteries are proof against short circuits, they should still be protected against contact with metal objects such as paper clips or jewelry. A short-circuited battery can get very hot and cause severe burns.
 - If a battery is dropped, check the casing and the contacts immediately for any damage. Using a damaged battery can damage the LEICA M-E.
- In case of a smell developing, discoloration, deformation, overheating or leaking fluid, the battery must be removed from the camera or charger immediately and replaced. Continued use of the battery carries a risk of overheating, resulting in fire and/or explosion.
 - In case of leaking fluid or a smell of burning, keep the battery away from sources of heat. Leaked fluid can catch fire.
 - Batteries have only a limited service life.
 - Take damaged batteries to a collection point to ensure correct recycling.
 - These batteries may not be exposed to heat, sunlight, humidity or moisture for long periods. Likewise, the battery may not be placed in a microwave oven or a high- pressure container to prevent a risk of fire or explosion.

FOR THE CHARGER

- If the charger is used in the vicinity of radio receivers, it can interfere with the reception; make sure there is a distance of at least 1 m between the devices.
- When the charger is in use, it can make a noise (buzzing) – this is quite normal and is not a malfunction.
- When it is not in use, disconnect the charger from the mains as otherwise it uses a certain (very small) amount of power even when no battery is inserted in it.
- Always keep the charger contacts clean, and never short circuit them.
- The supplied in-car charging cable must not be attached as long as the charger is connected to the mains.
- Make sure the charger is stored only at temperatures from -40 to +70°C (-40 to 158°F)

FOR MEMORY CARDS

- While a picture is being stored or the memory card is being read, it may not be removed, nor may the Leica M-E be switched off or exposed to vibrations.
- For safety, memory cards should only ever be stored in the antistatic cover supplied.
- Do not store memory cards where they will be exposed to high temperatures, direct sunlight, magnetic fields or static discharge.
- Do not drop or bend a memory card as this can damage it and result in loss of the stored data.
- Always remove the memory card if you will not be using the Leica M-E for a long period of time.
- Do not touch the connections on the rear of the memory card and keep them free of dirt, dust and moisture.
- It is recommended that the memory card be reformatted from time to time, as fragmentation occurs when deleting, which can block some of the memory capacity.

Notes:

- Simple formatting does not initially cause the data on the card to be irretrievably lost. Only the directory is deleted, which means that the existing files are no longer directly accessible. The data can be accessed again using appropriate software. Only the data that is then overwritten by saving new data is actually permanently deleted. You should nevertheless get into the habit of transferring all your pictures onto a secure bulk storage medium, e.g. the hard drive on your computer, as soon as possible. This is especially important in case the camera is handed over to a service facility along with the memory card.
- Depending on the memory card used, formatting can take up to 3 minutes.

CLEANING THE SENSOR

If any dust or dirt particles should adhere to the sensor cover glass, depending on the size of the particles this can be identified by dark spots or marks on the pictures.

The Leica M-E can be sent to Leica Camera AG's Customer Service for the sensor to be cleaned at a cost (address: see p. 177) – this cleaning is not included in the warranty.

You can also perform the cleaning yourself, using the **Sensor cleaning** function in the menu. This allows access to the sensor by keeping the shutter open.

Notes:

- Since the Leica M-E should always be protected against ingress of dust etc. into the interior of the camera, always have a lens or a cover fitted to the camera body.
- For the same reason, lenses should be changed quickly and in an environment that is as dust-free as possible.
- As plastic parts can have a slight static charge and then attract more dust, individual lens and body covers should only be kept in clothing pockets for very short periods.

Setting the function

1. In the main menu (see p. 102/119), select **Sensor cleaning** (4.1.21).
 - The respective sub-menu appears.
2. providing the battery has sufficient capacity, i.e. at least 60%, confirm the function in the sub-menu.
 - A further sub-menu appears.

Note:

If the battery has insufficient capacity, the warning message **Attention Battery too low for sensor cleaning** appears instead, indicating that the function is not available, i.e. **yes** cannot be selected

3. Press the shutter release button (1.18). The shutter opens and remains open.
4. Perform the cleaning. Always follow the instructions below:

Notes:

- As far as possible, both inspection and cleaning of the sensor should be performed in a dust-free environment to prevent further soiling.
- An 8x or 10x magnifying glass is very useful for the inspection and after cleaning.
- Lightly adhering dust can be blown off the sensor cover glass using clean and, if necessary ionized gases such as air or nitrogen. It makes sense to use a (rubber) bellows with no brush for this purpose. Special, low pressure cleaning sprays such as „Tetenal Antidust Professional“ can also be used in line with their specified usage.
- If the particles cannot be removed from the sensor in this way, please refer the matter to your Leica Information Service (address: see p. 175).

- If the battery capacity falls to less than 40% while the shutter is open, a warning message **Attention** **Battery low Switch off camera** will appear in the monitor. At the same time a sustained beep tone will sound, which continues until the camera is switched off. Switching the camera off will cause the shutter to be closed again. Be absolutely sure in this case that the shutter window is clear, i.e. that no object can obstruct the closing movement of the shutter, otherwise damage may occur!

Important:

- Leica Camera AG accepts no liability whatsoever for damage caused by the user when cleaning the sensor.
- Do not attempt to blow dust particles off the sensor cover glass using your mouth; even tiny droplets of saliva can cause marks that are difficult to remove.
- Compressed air cleaners with high gas pressure may not be used as they can also cause damage.
- Take care to avoid touching the sensor surface with any hard objects during inspection and cleaning.

STORAGE

- If you are not using the Leica M-E for an extended period of time, we recommend that you:
 - a. switch it off (see p. 112),
 - b. remove the memory card (see p. 109), and
 - c. remove the battery (see p. 122) (after a maximum of 3 months, the time and date will be lost, see p. 108).
- A lens works like a magnifying glass if bright sunlight shines on the front of the camera. The camera must therefore never be set aside in strong sunlight without protection. Use the lens cover and keep the camera in the shade (or immediately put it away in the case) help to prevent damage to the interior of the camera.
- You should preferably store the Leica M-E in a closed and padded container so that nothing can damage it and it is protected from dust.
- Store the Leica M-E in a dry, adequately ventilated place, where neither high temperatures nor high humidity will occur. When used in humid conditions, the Leica M-E should be completely cleared of all moisture before being stored away.
- Photo cases that became wet during use should be emptied to prevent damage to your equipment caused by moisture and any leather-tanning residue released.
- To prevent fungal growth during use in hot, humid tropical climates, the camera equipment should be exposed to the sun and air as much as possible. Storage in airtight containers or cases is recommended only if a desiccant such as silica gel is placed in the container.
- To prevent the formation of fungus, do not store the Leica M-E in a leather case for extended periods of time.
- Note the serial numbers of your Leica M-E (engraved on the accessory shoe) and lenses, as these are extremely important in case of loss.

1. The Leica M-E does not respond when switched on.

- 1.1 Has the battery been correctly inserted?
- 1.2 Does the battery have sufficient charge?
Use a charged battery.
- 1.3 Has the bottom cover been correctly fitted?

2. The Leica M-E switches itself off immediately after switching on.

- 2.1 Does the battery have sufficient charge to operate the Leica M-E?
Charge the battery or insert a charged battery.
- 2.2 Is there any condensation? This can occur if the Leica M-E is moved from a cold place to a warm place.
Wait until the condensation clears.

3. The Leica M-E will not take a picture.

- 3.1 Picture data is currently being transferred to the memory card and the intermediate memory is full.
- 3.2 The capacity of the memory card is exhausted and the intermediate memory is full. Delete pictures you no longer require before taking new ones.
- 3.3 No memory card has been inserted and the intermediate memory is full.

4. I cannot save the picture.

- 4.1 Is a memory card inserted?
- 4.2 The capacity of the memory card is full.
Delete pictures you no longer require before taking new ones.

5. The monitor is too dark or too bright.

- 5.1 When viewing the monitor image from wide angles it is always more difficult to see.
If it is too light or too dark although you are looking at the monitor full on: Select a different brightness¹.

6. The picture I have just taken is not shown in the monitor

- 6.1 Is the **Auto review** function active (when setting the Leica M-E to picture mode?²

7. I cannot display the picture.

- 7.1 Is a memory card inserted?
- 7.2 The memory card does not contain any data.

8. The date and time displays show incorrect values or are blank.

- 8.1 The Leica M-E has not been used for a long period, particularly if the battery has been removed.
 1. Insert a fully charged battery.
 2. Set the date and time.

¹ Not possible with the snapshot profile

² Always active with the snapshot profile

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TECHNICAL DATA AND DESCRIPTIONS

Camera type LEICA M-E (Typ 220), Compact digital view and rangefinder system camera.

Lens attachment Leica M bayonet with additional sensor for 6-bit coding.

Lens system Leica M lenses from 16 to 135mm.

Picture format/Image sensor 5270 x 3516 pixels (18.5MP) CCD chip, active area approx. 23.9 x 35.8mm 5270 x 3516 pixels (18MP) (corresponding to usable format of analog Leica M models).

Resolution Adjustable, DNG™: 5212 x 3472 pixels (18MP), JPEG: 5212 x 3472 (18MP), 3840 x 2592 (10MP), 2592 x 1728 (4,5MP), 1728 x 1152 (2MP), 1280 x 846 pixels (1MP).

Data formats DNG™ (raw data), choice of uncompressed or slightly compressed (by non-linear reduction of color depth), 2 JPEG compression levels.

File size DNG™: compressed 18MB, uncompressed 36MB, JPEG: approx. 2–10MB.

Color spaces Adobe®RGB, sRGB.

White balance Automatic, manual, 7 presets, color temperature entry.

Storage medium SD cards up to 2GB/SDHC cards up to 32GB

Menu languages German, English, French, Spanish, Italian, Japanese, Traditional Chinese, Simplified Chinese, Russian.

Compatibility Windows®XP/Vista®/7®;
Mac®OS X (10.6)

Exposure metering Exposure metering through the lens (TTL), center-weighted with working aperture. Center-weighted TTL metering for flash exposure with system-compatible SCA-3000/2 standard flash units.

Measurement principle Measured by light reflected by bright shutter blades on the first shutter curtain.

Metering range (at ISO 160/23°) At room temperature and normal humidity corresponds to EV 0 to 20 or f/1.0 and 1.2s to f/32 and 1/1000s. Flashing of left triangular LED in viewfinder indicates values below metering range.

Measurement cell for available light (continuous light measurement) Silicon photo diode with collection lens, positioned in the bottom center of the camera base.


Sensitivity range ISO 80/19° to ISO 2500/35°, adjustable in 1/3 ISO increments, with aperture priority **A** and manual exposure setting choice of automatic control or manual setting, automatic control with snapshot profile.

Exposure mode Choice of automatic shutter speed control with manual aperture selection – aperture priority **A** – with corresponding digital display, or manual setting of shutter speed and aperture and adjustment using LED light balance with indication of correct exposure, or risk of over/underexposure (with snapshot profile only).

Flash exposure control

Flash unit connection Via accessory shoe with center and control contacts.

Synchronization Optionally triggered at the first or second shutter curtain.

Flash sync speed  = $1/180$ s; longer shutter speeds available.

Flash exposure metering (with SCA-3501/3502 adapter or SCA-3000 standard flash unit, e.g. Leica SF 24D/Leica SF 58). Control with center-weighted TTL-pre-flash metering.

Flash measurement cell 2 silicon photo diodes with collection lens in camera base.

Flash exposure compensation $\pm 3\frac{1}{3}$ EV in $\frac{1}{3}$ EV-steps adjustable on the SCA-3501/3502 adapter. On Leica SF 24D, ± 3 EV in $\frac{1}{3}$ EV-steps with computer control, or from 0 to -3 EV in 1 EV steps/on Leica SF 58 adjustable in all modes ± 3 EV in $\frac{1}{3}$ EV steps.

Displays in flash mode Readiness: flash symbol LED in the viewfinder constantly lit; confirmation of success: By the LED remaining lit or flashing rapidly for a while after taking the picture; underexposure display by the LED going out for a while.

Viewfinder

Viewfinder principle Large, bright-line frame viewfinder with automatic parallax compensation.

Eyepiece Adjusted to -0.5 dptr. Correction lenses from -3 to $+3$ dpt. available.

Image field limitation By activating two bright-line frames: For 35 and 135 mm, or for 28 and 90 mm, or for 50 and 75 mm. Automatic activation when lens is attached.

Parallax compensation The horizontal and vertical difference between the viewfinder and the lens is automatically compensated according to the relevant distance setting, i.e. the viewfinder bright-line automatically aligns with the subject detail recorded by the lens.

Matching of viewfinder and actual picture The size of the bright-line frame corresponds exactly to the sensor size of approx. 23.9 x 35.8 mm at a setting distance of 1 meter. At infinity setting, depending on the focal length, approx. 7.3% (28 mm) to 18% (135 mm) more is recorded by the sensor than indicated by the corresponding bright-line frame and slightly less for shorter distance settings than 1 m.

Enlargement (for all lenses) 0.68x.

Large basis range finder Split or superimposed image range finder shown as a bright field in the center of the viewfinder image.

Effective measurement basis 47.1 mm (mechanical measurement basis 69.25 mm x viewfinder enlargement 0.68x).

Displays

Viewfinder (lower edge) LED symbol for flash status. Four-digit seven-segment digital display with dots above and below, display brightness adjusted for ambient brightness, for: Warning of exposure compensation, display for automatically generated shutter speeds in aperture priority mode, indication of use of metering memory lock, warning that the metering or setting ranges are overshoot or undershot using aperture priority and counting down exposures longer than 2 s.

LED light balance with two triangular and one central circular LED for manual exposure setting. The triangular LEDs give the direction of rotation of the aperture setting ring and shutter speed setting dial to adjust the exposure. Also for warning of when the metering range is overshoot or undershot.

On rear panel 2,5" monitor (color TFT LCD) with 230.000 pixels, for displays see p. 98.

Shutter and release

Shutter Microprocessor-controlled, exceptionally low-noise metal blade shutter with vertical movement.

Shutter speeds For aperture priority (A) continuously adjustable from 32 s to $\frac{1}{4000}$ s. For manual setting 8 s to $\frac{1}{4000}$ s in half steps, B for long exposures (≤ 240 s, in conjunction with self timer T function, i.e. 1st release = shutter opens, 2nd release = shutter closes), $\frac{1}{180}$ s fastest shutter speed for flash synchronization.

Shutter cocking Using low-noise integral motor, optionally after releasing the shutter release button.

Series exposures Approx. 2 pictures/s, approx. up to 8 pictures in series.

Shutter release Three levels: Exposure metering on – Metering memory lock (in aperture priority mode) – Shutter release. Integrated standard cable release thread.

Self timer Delay optionally 2 (aperture priority and manual exposure setting) or 12 s (menu setting), indicated by flashing LED on front of camera and corresponding display in the monitor.

Switching the camera on/off Using the main switch on the camera top panel, selectable automatic switch-off of the camera electronics after about 2/5/10 minutes, reactivation by pressing the shutter release button.

Power supply 1 lithium ion battery, nominal voltage 3.7 V, capacity 1900 mAh. Capacity display in monitor, when shutter held open (for sensor cleaning) additional acoustic warning when capacity is low.

Charger Inputs: 100-240 V AC, 50/60 Hz, 100 mA, automatic switching, or 12/24 V DC, 500 mA; Output: 3.7-4.25 V DC, 800 mA.

Camera housing

Material All-metal die cast magnesium body, KTL dip painted, synthetic leather covering. Top panel and bottom cover brass, black or steel gray lacquered.

Image field selector Allows the bright-line pairs to be manually displayed at any time (e.g. to compare detail).

Tripod thread Stainless steel, A $\frac{1}{4}$ $\frac{1}{4}$ ($\frac{1}{4}$ $\frac{1}{4}$) DIN, in bottom cover.

Operating conditions 0 to +40°C

Dimensions (Width x Depth x Height) approx. 139 x 37 x 80 mm

Weight approx. 585 g (with battery)

Scope of delivery Charger 100-240 V with 2 mains cables (Euro, USA, different in some export markets) and 1 car charging cable, lithium ion battery, carrying strap.

Subject to changes to design, manufacture and range.

Leica Academy

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Leica Camera AG
Leica Akademie
Oskar-Barnack-Str. 11
D-35606 Solms
Phone: +49 (0) 64 42-208-421
Fax: +49 (0) 64 42-208-425
la@leica-camera.com

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Leica Camera AG
Information-Service / Software-Support
Postfach 1180
D 35599 Solms
Phone: +49 (0) 6442-208-111 / -108
Fax: +49 (0) 6442-208-490
info@leica-camera.com /
software-support@leica-camera.com

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Leica Camera AG
Customer Care
Solmser Gewerbecamp 8
D-35606 Solms
Phone: +49 (0) 64 42-208-189
Fax: +49 (0) 64 42-208-339
customer.care@leica-camera.com

