



使用说明书

机械钢片快门 PK 卡口系列 单镜头反光照相机



凤凰光学股份有限公司

感谢您使用凤凰牌系列产品！

凤凰光学股份有限公司是中国光学行业第一家上市公司，“凤凰”商标被国家工商管理总局商标局认定为驰名商标。本公司生产照相机、望远镜、显微镜、水准仪、光学镜头等系列产品，并于2002年5月通过ISO9001:2000质量体系论证。本公司生产的系列产品远销世界各地。

单镜头反光照相机具有镜头可换的特点，为了表述方便，本系列照相机说明书中的图文均以DC303N机身配f50mm/1.7镜头为例进行说明。不同型号照相机性能的差异，我们将在“产品规格”及相应的功能操作说明中介绍。

本产品执行标准：Q/JG005-1999《DC型35mm单镜头反光电测光照相机》

使用照相机之前，请您：

1. 详细阅读本使用说明书。
2. 对照使用说明书检查其功能。

您在使用凤凰系列照相机的过程中，如果有什么问题可随时发邮件与我们取得联系，

电子邮箱：qadept@phenixoptics.com.cn 或在工作时间致电：0793-8259531 咨询。

另外，我们设立在全国各地的销售分公司，愿意随时为您提供真诚的服务。

您的满意是我们工作的目标！

愿您的生活一天比一天精彩！

一、特别提示及主要特点

1. 特别提示

① 未安装电池或电池电力不足时:

●本系列照相机测光指示灯将不能点亮, 即不能实现测光功能。

② 进行普通拍摄(不使用多次曝光功能), 卷片时手指应避免触及多次曝光按钮, 以免产生叠片现象。

2. 主要特点

① 反光板预升功能

●自拍摄影时, 快门开启前反光板会预先上翻, 曝光结束即复位; 避免了反光板上翻的振动而引发的影像模糊。

② 景深预测(DC303KW 无此功能)

●拍摄前, 可目视判断被拍摄体前后成清晰影像的范围。

③ 多次曝光

●可在同一张胶片上实现任意多次的感光。

●为合成拍摄、分幅拍摄提供了可能。

④ 闪光同步

●设有闪光灯插座及PC插座(闪光连线插座)。

●闪光同步速度: $1/125\text{s} \sim 1\text{s}$ 。

⑤ 纵走式钢片快门

●快门速度稳定, 性能可靠, 受环境温度影响小。

⑥ 指南针功能(DC303N 无此功能)

●为爱好野外摄影的人士明辨方位提供了可能。

目 录

一、特别提示及主要特点	2
二、照相机各部分名称	3
三、镜头安装及卸下	5
镜头安装	5
镜头卸下	5
四、电池安装及电力检查	6
电池安装	6
电力检查	6
五、胶卷安装及 ISO 值设定	7
胶卷安装	7
ISO 值设定	9
六、卷片及计数	10
卷片	10
计数	10
七、取景器	11
八、对焦	12
裂像棱镜对焦	12
微棱镜、磨砂毛面对焦	13
九、快门速度与光圈	14

快门速度调节	14
光圈调节	14
十、测光	15
十一、景深及景深预测	16
景深	16
景深预测	17
十二、指南针功能	18
十三、曝光模式及拍摄	19
手动曝光	19
曝光补偿	19
拍 摄	20
自 拍	21
闪光拍摄	22
多次曝光拍摄	23
B 门拍摄	23
十四、倒片	24
十五、规格	25
十六、照相机维护	26

一、特别提示及主要特点

1. 特别提示

① 未安装电池或电池电力不足时:

●本系列照相机测光指示灯将不能点亮, 即不能实现测光功能。

② 进行普通拍摄(不使用多次曝光功能), 卷片时手指应避免触及多次曝光按钮, 以免产生叠片现象。

2. 主要特点

① 反光板预升功能

●自拍摄影时, 快门开启前反光板会预先上翻, 曝光结束即复位; 避免了反光板上翻的振动而引发的影像模糊。

② 景深预测(DC303KW 无此功能)

●拍摄前, 可目视判断被拍摄体前后成清晰影像的范围。

③ 多次曝光

●可在同一张胶片上实现任意多次的感光。

●为合成拍摄、分幅拍摄提供了可能。

④ 闪光同步

●设有闪光灯插座及PC插座(闪光连线插座)。

●闪光同步速度: $1/125\text{s} \sim 1\text{s}$ 。

⑤ 纵走式钢片快门

●快门速度稳定, 性能可靠, 受环境温度影响小。

⑥ 指南针功能(DC303N 无此功能)

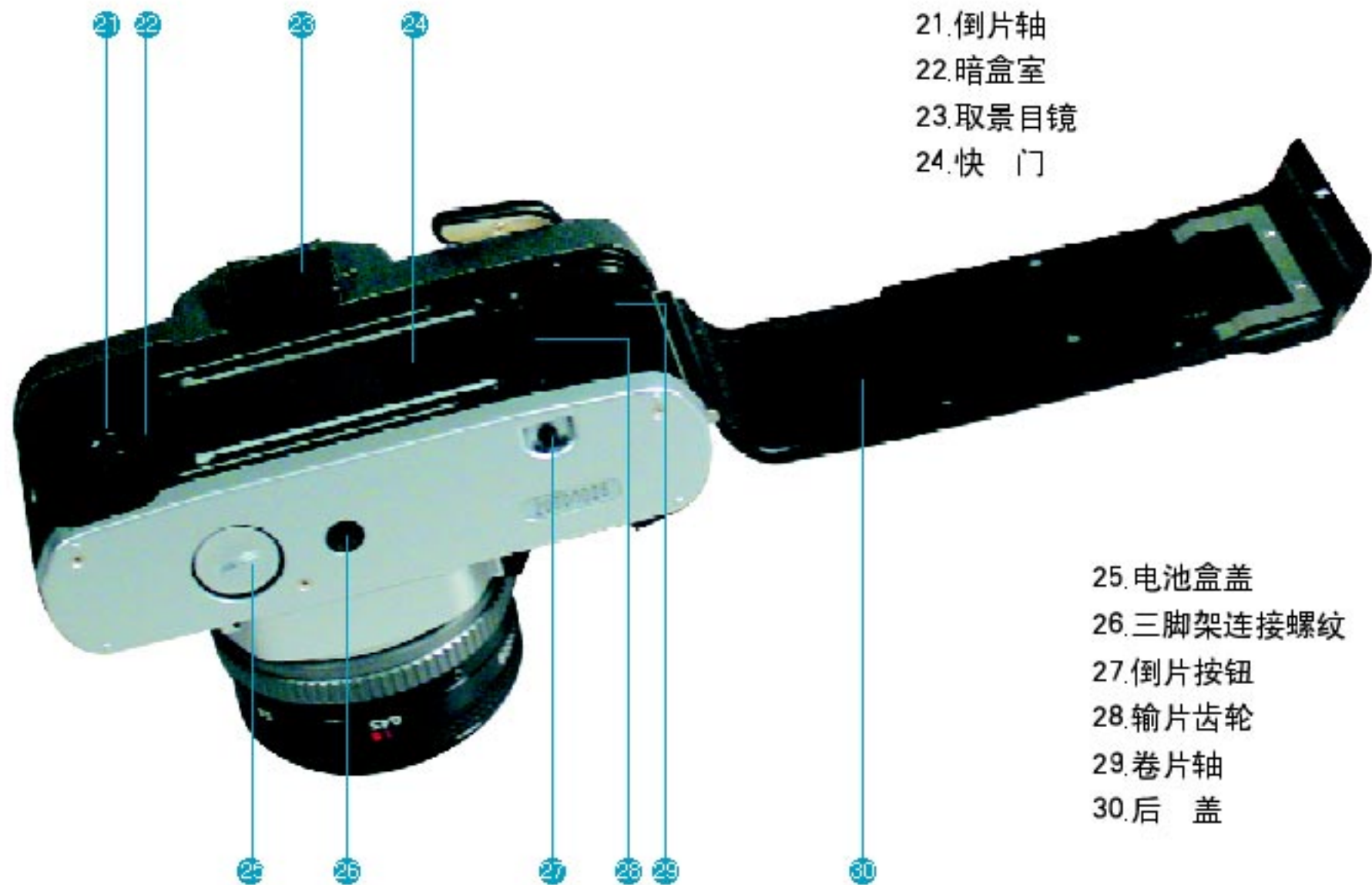
●为爱好野外摄影的人士明辨方位提供了可能。

二、照相机各部件名称



1. 计数窗
2. 卷片扳手
3. 快门释放按钮 / 快线座
4. 快门速度刻度盘
5. 快门速度 / ISO 值调节环
6. 快门速度指示线
7. X 闪光触点
8. 闪光灯插座
9. 胶片平面指示
10. 测光钮
11. 倒片手柄
12. 倒片旋钮
13. 多次曝光按钮
14. 自拍扳手
15. 镜头拆卸按钮
16. 光圈调节环
17. 景深预测推钮
18. PC 插座
19. 对焦环
20. 景深环(刻有摄影距离/光圈指示线)

二、照相机各部件名称



三、镜头安装及卸下

<镜头安装>

1. 将镜头的安装定位标志，对准照相机机身安装对位标志。
 2. 镜头安装定位面贴紧机身安装定位面。
 3. 顺时针方向旋转镜头，直至听到“叭嗒”声，说明镜头已安装到位并被锁定。
- 注 1：只有接口类型相同的镜头和机身才能配合使用，不同接口类型的机身和镜头切勿强行装配。
- 注 2：镜头装上机身后，照相机便可实现其测光及光圈联动功能。

<镜头卸下>

1. 掀下镜头拆卸按钮(15)。
2. 逆时针方向旋转镜头，直至旋转力明显减小。
3. 卸下镜头。



四、电池安装及电力检查

电池安装不正确或电池电力不足时，照相机测光系统将无法正常工作。

<电池安装>

1. 用硬币或其它类似物逆时针方向旋转并取下电池盒盖(25)。
2. 将2枚1.5V LR44 钮扣电池依电池盒盖上“+”、“-”指示方向，依次放入电池盒盖内(电池“+”极朝上)。
3. 按顺时针方向将装有电池的电池盒盖旋入机身。

<电池电力检查>

电池安装后，需按下述步骤进行电池电力检查：

1. 将快门速度调节环(5)调节至任意档，镜头光圈置于任意档。

2. 对准某一景物观察。

3. 按下快门释放按钮(3)约“1/3”行程或按下测光钮(10)进行测光，取景器内若有测光指示灯稳定点亮显示，表示电力正常。

注1：更换电池时，两节电池必须一起更换。

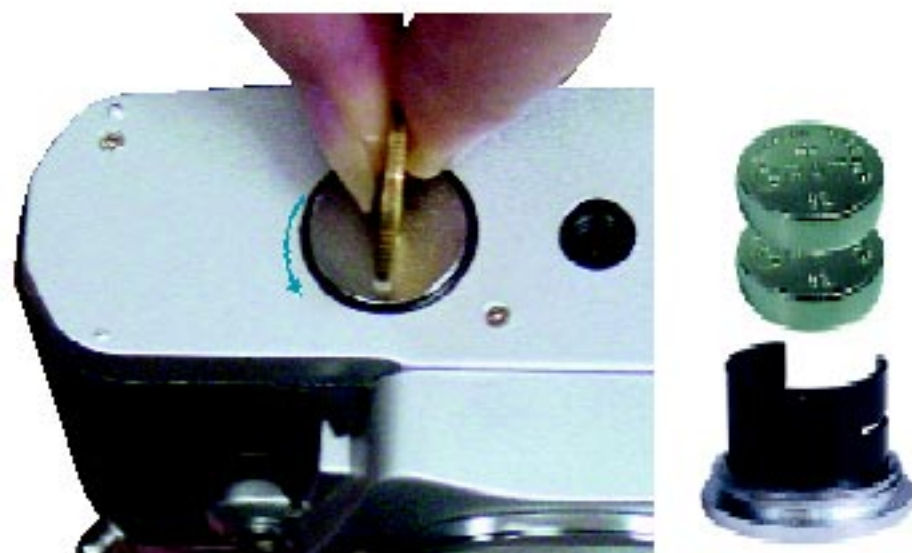
注2：装上电池后测光，若取景器内无显示，请按上述说明重新安装电池。

注3：外出旅游时，请您带上备用电池。

注4：温度较低时，电池电力将丧失。请将电池恢复常温后使用。

注5：电池应置于小孩够不着的地方，以免发生危险。

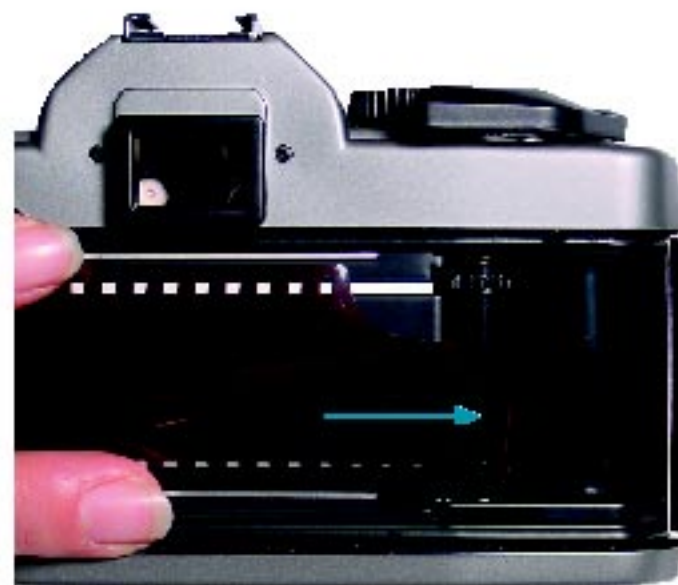
注6：DC303KW 无测光钮



五、胶卷安装及 ISO 值设定

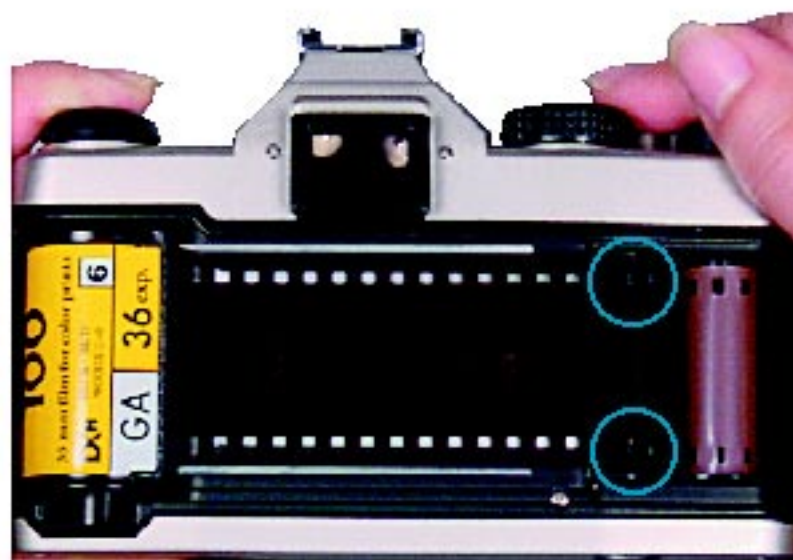
<胶卷安装>

1. 稍用力向上提拉倒片旋钮(11)至照相机后盖(30)开启。
2. 将未感光的135胶卷(凸轴朝下)置于照相机暗盒室(22)内,将倒片旋钮向下压,使倒片轴(21)槽嵌入胶卷片轴(使倒片旋钮复位)。
3. 将胶卷片头拉出,插入卷片轴(29)槽内,并使片头齿孔嵌入卷片轴齿内。
4. 左手轻压胶片,右手扳动卷片扳手(2)到底,确认胶片孔嵌入输片齿轮(28)齿内后,按下快门释放按钮到底。



五、胶卷安装及 ISO 值设定

5. 关闭照相机后盖至听到“叭嗒”声。
 6. 扳起倒片手柄(12)并按其箭头标示的方向旋转,至旋转力明显增加时,将倒片手柄复位。
 7. 再次扳动卷片扳手到底,观察倒片旋钮是否随之转动;按下快门释放按钮到底。
 8. 重复操作7,直至计数窗(1)显示“1”时,方可拍摄。
- 注1: 扳动卷片扳手时,若倒片旋钮没有随之转动,则表明胶卷未装好;需按上述步骤重新安装。
- 注2: 切勿在阳光直射的环境下安装胶卷。



五、胶卷安装及 ISO 值设定

<ISO 值设定>

照相机 ISO 设定值与实际使用的胶卷 ISO (感光度) 值的一致性, 是确保测光结果正确的前提。胶卷的 ISO 值标识于胶卷包装盒及胶卷暗盒上。

1. 一手握持照相机, 一手轻拎 ISO 值调节环(5)并转动, 使照相机 ISO 标识值(ISO 指示线对准值)与胶卷 ISO 值一致。
2. 松开 ISO 值调节环, 目测确认 ISO 值调节环是否复位。

注: 胶卷感光度有“25”、…“100”、“200”、……“3200”。ISO 值增加一倍, 表明其感光速度增加一倍。



六、卷片及计数

<卷 片>

卷片操作可同时实现照相机快门上弦及输片两种功能(多次曝光操作除外)。扳动卷片扳手到底即可完成卷片操作。

注1: 当胶卷片尾不足一画幅时, 将出现卷片扳手既不能扳到底也不能复位的现象。此时, 切勿强行扳动卷片扳手。必须先完成倒片, 再将卷片扳手扳到底, 卷片扳手将自动复位; 然后, 再按下快门释放按钮使快门开启(释放)。

注2: 卷片时, 若未将卷片扳手扳到底, 也将出现卷片扳手停留在中间位置的现象。此时, 卷片扳手会出现明显晃动; 您只需将卷片扳手扳到底即可。

<计 数>

计数器与卷片机构联动, 采用顺加式计数方式。计数窗显示值表示胶卷所处的画幅数。

1. 计数窗显示值依次为“S●●1●●4●6……36●”, 其中“●”表示比前一格大“1”的数。
2. 每完成一次卷片, 计数窗显示值将增加一格。
3. 当计数窗显示值为“1”时, 方可拍摄。
4. 开启后盖后, 计数器即复位, 计数窗显示“S”。

注1: 胶卷实际所能拍摄的画幅数可能超过胶卷标识的张数。

注2: 按下多次曝光按钮时卷片, 计数窗显示值无变化。



七、取景器

<取 景 器>

取景器的主要功能是取景、测距。此外，本照相机取景器内还可显示测光结果。

拍摄前，观察被摄主体及其景物进行构图，以确保照片画面符合您的审美要求。

1. 通过取景目镜(23)观察被摄主体及其景物，进行构图。
2. 取景视场框限制区域内的景物将出现在您拍摄的照片中。

注 1：实际拍摄范围大于取景范围。

注 2：逆光拍摄取景时，有时会看见太阳光或光圈(阑)影像；这些影像都将成像在胶片上。为了避免这种现象，您只需稍稍改变拍摄角度即可。



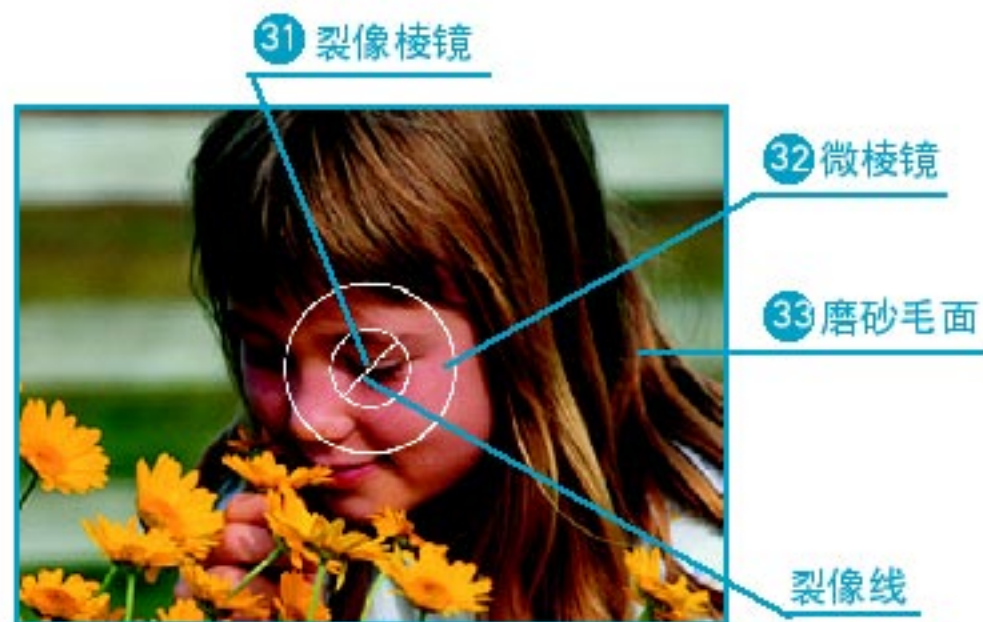
八、对 焦

<对 焦>

对焦(调节摄影距离)是为了使被摄主体能清晰地成像在胶片上。本照相机具有三种对焦方式:裂像棱镜(31)对焦、微棱镜(32)对焦和磨砂毛面(33)对焦。摄影者通常采用方便、快捷、精度高的裂像棱镜对焦方式。

<裂像棱镜对焦>

1. 通过取景器目镜观察被摄主体,使裂像棱镜对准被拍摄主体轮廓分明的部位(如人体的鼻子、衣袖等)。
2. 对焦目标通过裂像棱镜可呈两个影像:裂像线下部为不动影像,上部为随对焦环转动而移动的影像。
3. 转动对焦环(19),使两个裂像逐渐靠近,直至精确重合对焦目标呈唯一影像;此时,对焦完成。摄影距离/景深指示线(20)指示的距离是指被拍摄主体到胶片平面的距离。



八、对 焦

<微棱镜、磨砂毛面对焦>

1. 当对焦不正确时，被摄主体通过微棱镜部分所成的像呈模糊波纹状，且不透亮，通过磨砂毛面所成的像也必然是模糊不清的。

2. 当对焦正确时，被摄主体通过微棱镜成像将透亮、清晰；通过磨砂毛面所成的像将是唯一最清晰的影像。

注1：对焦(眼睛须垂直目镜观察)时，可同时选用两种或三种对焦方式。

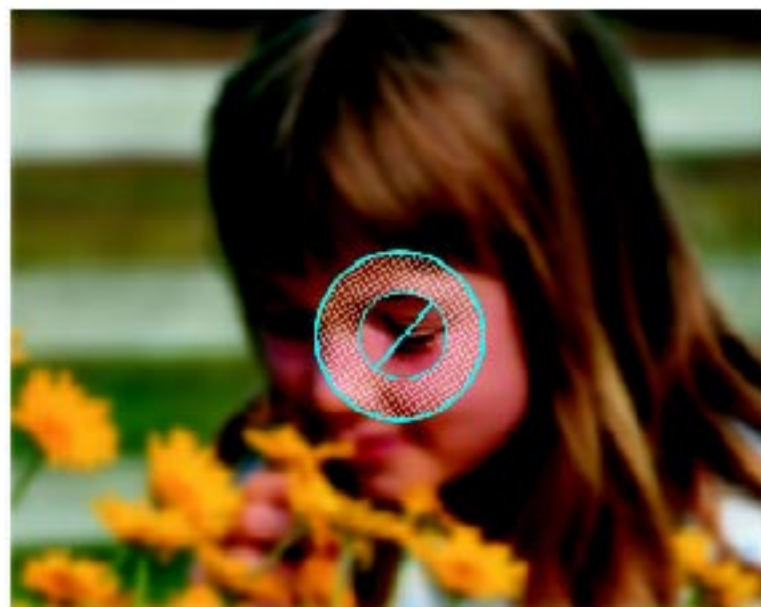
注2：使用裂像棱镜对焦，有时会出现裂像棱镜半暗现象。这不是照相机质量问题，您只需略为调整眼睛的观察位置(视点)，这种现象便会消失。

注3：用微棱镜对焦时，当对焦目标亮度较低或与背景有明显亮度差时，即使对焦准确，其影像也将呈模糊波纹状。

注4：当被摄主体轮廓不明显时，可采用微棱镜对焦；当中心亮度较低时，可利用边缘磨砂毛面对焦。



对焦正确



对焦不正确

九、快门速度(曝光时间)与光圈

<快门速度刻度环>

旋转快门速度调节环(5)可实现快门速度调节、ISO 值调节、B 门拍摄模式设置等功能。

快门速度刻度盘(4)上字符及含义见下表

字符	含义	功 能
2000~1	快门速度 标记值	1. 实现 $1/2000\text{s} \sim 1\text{s}$ 范围内设定的快门有效曝光时间。 2. 快门速度标记值 $\leq$ “125”(快门有效曝光时间 $\geq 1/125\text{s}$) 时, 可实现 X 闪光同步。
B	B 门	手控曝光时间



<快门速度调节>

快门是控制胶片曝光时间的机构, 快门速度刻度盘上的快门速度标记值为快门速度(s)的倒数。快门速度标记值由小向大每变化一档(如从125至250), 曝光量将减小一半; 由大到小每变化一档(如从125至60), 曝光量将增加一倍。

转动快门速度调节环, 将您设置的快门速度标记值对准机身顶盖上的快门速度指示线(6)。

<光圈调节>

光圈调节环(16)上的标记值表示光圈数(镜头相对孔径的倒数)。光圈数越大, 通光口径(光圈)越小。转动光圈调节环, 可改变镜头的光圈数。光圈数由小到大每变化一档, 曝光量减少一半; 光圈数由大到小每变化一档, 曝光量增加一倍。

转动光圈调节环, 将您欲选用的光圈数对准景深环(20)上的光圈指示线。

注1: 光圈可整档调节, 也可半档调节。

注2: 光圈不仅与曝光量有关, 也与景深有关(详见景深与景深预测说明)。



十、测 光

<测光>

测光是为实现胶片适宜曝光而进行的操作：本照相机采用 SPD 感光元件测光。

1. 根据拍摄需要，预先设定光圈。
2. 旋转快门速度调节环，使“2000”~“1”某档字符对准快门速度指示线。
3. 轻缓按下快门释放按钮约“1/3”行程或按下测光钮(10)测光。

注 1：测光时，眼睛应挡住取景目镜，以防止外界光线从取景目镜进入取景器后影响测光结果的正确性。

注 2：DC303KW 无测光钮



【曝光适宜】 取景框内绿色(●)LED灯单独点亮时，表示曝光适宜。若红色的(+)或(-)LED灯与绿灯同时点亮，表示曝光量稍过曝或稍欠曝。显示曝光适宜或稍过曝均可拍摄。若需改变胶片曝光量，可调节快门速度或光圈数即可。

【过 曝】 取景框内只有红色(+)LED 点亮时，表示此时拍摄会产生胶片过曝现象。这时需将光圈向其标示值较大的方向或将快门速度调节环向其标识值较大的方向调节，直至测光时显示曝光适宜或稍过曝。

【欠 曝】 取景框内只有红色(-)LED 点亮时，表示此时拍摄将出现胶片欠曝现象。这时需将光圈向其标示值较小的方向或将快门速度调节环向其标识值较小的方向调节，直至测光显示曝光适宜或稍过曝。

				
红色 +	红色 + 绿色 ●	绿色 ●	绿色 ● 红色 -	红色 -
过曝	稍过曝	曝光适宜	稍欠曝	欠曝

十一、景深及景深预测功能

<景 深>

对焦于被摄主体时，其前后一定范围内的景物也能清晰成像，这个范围称为“景深”。

影响景深的主要因素有摄影距离、镜头焦距、光圈数。它们对景深的影响关系如下：

1. 光圈数越大(光圈越小)，景深越大；
2. 摄影距离越长，景深越大；
3. 焦距越短，景深越大；
4. 后景深大于前景深。

景深范围可从镜头的景深环上读出。如图：使用 f50mm 镜头，摄影距离 5m，光圈数为 F16，通过景深环上对应光圈数的刻线，可判读出景深范围约为 2.7m ~ ∞。



F1.7



F16

十一、景深及景深预测功能

<景深预测>

单镜头反光照相机为便于取景、对焦，将镜头置于最大通光口径状态；因此不能预先观察到在设定光圈下被摄主体前后景物成像的清晰范围。

完成取景、对焦后，推启景深预测推钮(17)，光圈即收缩到预定的口径。此时，取景视场亮度可能变暗，景深范围内的景物则由模糊变清晰。

注：使用景深预测功能观察到的清晰景物将同样清晰地成像于胶片上。



十二、指南针功能

DC303KW 和 DC303NW 照相机上装有指南针。

指南针有四个字符，分别是：“E”、“S”、“W”、“N”，分别表示“东”、“南”、“西”、“北”四个方向。

1. 稳定握持照相机并使指南针字符所在的平面呈水平方向(与水平方向倾角应 $\leq 5^\circ$)
2. 此时，指南针红色箭头所指示的方向就是地磁场南极方向，即地球北极方向；当指南针指针带色标标志的一端未指向字符“N”时，请转动照相机并使其指向“N”，再判明此时方位。

注 1：切勿将照相机置于强磁场或强电场的环境下，以免指南针被磁化而失效。

十三、曝光模式及拍摄

本系列照相机除具有手动曝光拍摄模式外，还具有多次曝光、B 门及闪光拍摄等功能；也可进行曝光补偿拍摄。

<手动曝光>

本系列照相机具有手动控制测光功能。可根据测光结果，调整快门速度及光圈实现曝光控制。

1. 根据拍摄需要，预先设定光圈。
2. 旋转快门速度调节环，选择“1”~“2000”任意一档快门速度。
3. 完成取景、对焦操作后对被拍摄主体测光。
4. 根据测光结果，调整快门速度及光圈实现手动曝光控制。

<曝光补偿>

被摄主体与背景亮度反差较大时，可能出现画面曝光不适宜的现象。应根据测光结果，通过改变光圈或快门速度实现曝光补偿功能，调整画面的曝光量，改变其反差，从而使照片柔和。曝光补偿也可应用于有特殊拍摄效果要求的情况。

注1：进行逆光拍摄时，宜通过减慢快门速度或加大光圈对画面进行正补偿，以减小画面反差；曝光补偿值由被摄主体与背景的亮度反差大小决定。

注2：被摄体局部很亮而整体很暗时，宜通过加快快门速度或减小光圈对画面进行负补偿。

十三、曝光模式及拍摄

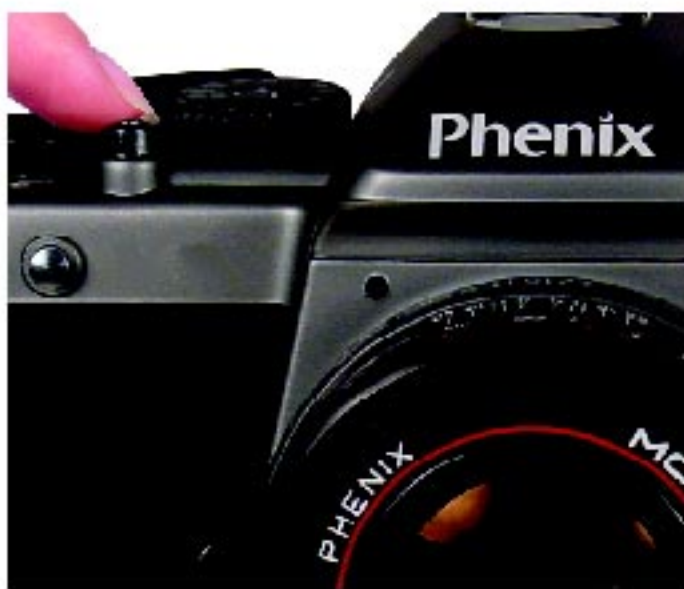
<拍 摄>

拍摄是将您所选择的景物成像在胶片上的操作。

1. 设定光圈和快门速度。
2. 卷片、取景、对焦后测光。
3. 测光结束后，按下快门释放按钮到底，完成一次拍摄。

注1：当快门速度标记值 $\leq$ “30”时，宜将照相机固定在三脚架上拍摄。

注2：拍摄时，切勿用手挡住镜头，以免破坏画面的完整性。



十三、曝光模式及拍摄

<自 拍>

如果摄影者欲将自己拍摄在画面中，可使用自拍功能。本系列照相机为机械自拍方式，自拍延时约为10s。

1. 照相机置于三脚架上，并用联接螺钉紧固。
2. 卷片并将自拍扳手(14)按图示方向拨启到底。
3. 设定光圈和快门速度、取景、对焦后测光。
4. 测光完成后，按下快门释放按钮到底自拍开始启动，经约10s后，快门释放，完成一次自拍。在此时间间隔内，摄影者应迅速回到预定的位置。

注1：使用自拍功能时，应先卷片使快门上弦后，再将自拍机构上弦。

注2：设置自拍功能后，中途无法取消。

注3：本系列照相机使用自拍功能按下快门释放按钮时，反光板即刻上翻，避免了反光板翻起时的振动可能造成的影像模糊。



十三、曝光模式及拍摄

<闪光拍摄>

本照相机采用 X 闪光前帘同步触发方式，配合外接闪光灯，可进行闪光拍摄。

本照相机设有闪光灯插座(8)及PC插座(18)——闪光连线插座，可同时外接两个闪光触发方式相同的闪光灯。通过闪光同步线连接的闪光灯可调节其照射角度，使拍摄效果更符合您的要求。

1. 将闪光灯联接插脚从后盖方向推入照相机闪光灯插座。
2. 将快门速度刻度盘置于 $\leq 1/25$ 的某档值。
3. 根据闪光指数(GN)选择镜头光圈数(F)及摄影距离(L)。

三者相互关系为： $GN(m) = F \times L(m)$ 。

4. 开启闪光灯开关，闪光灯开始充电；待充电指示灯完全点亮约 7s 后卷片、取景、对焦，按下快门释放按钮到底，闪光灯触发，完成一次闪光同步拍摄。

注 1：当快门速度标记值为 250、500、1000、2000 时，闪光触发与快门速度不同步。

注 2：如用手握持相机进行闪光拍照，最好将快门速度标记值设定为“1/25”。

注 3：闪光指数实际值通常比标称值约负 0.5EV，建议根据算出的 F 数，加大半档光圈。

注 4：切勿同时使用两个闪光触发方式不同的闪光灯。

例：实际算出的光圈数为 F8，拍摄时，宜将光圈调至 F8~F5.6 之间的定位档。



十三、曝光模式及拍摄

<多次曝光摄影>

本照相机具有多次曝光功能，在同一画幅内可实现任意多次感光。利用该功能可进行合成拍摄，与分幅器配合使用可进行分幅拍摄。

第一次拍摄(曝光)完成后，按下多次曝光按钮(13)到底并维持；将卷片扳手扳到底后，方可松开多次曝光按钮。此时，快门已上弦而未卷片(画幅位置没有移动)，即可进行第二次拍摄(曝光)。

注1：进行分幅拍摄时，请按分幅器说明书的相关说明进行。

注2：进行多次曝光摄影时，照相机必须固定在三脚架上。

操作时，应避免相机移动或抖动。

多次曝光按钮



<B 门拍摄>

拍摄时，如果您需使用超过1秒的快门速度，请使用B门功能。

1. 将照相机置于三脚架上并固定。
2. 将快门速度刻度盘置于B档。
3. 完成卷片、取景、对焦等操作。
4. 轻缓按下快门释放按钮到底，此时快门开启；当快门开启时间达到您设定要求时，松开快门释放按钮，即完成B门拍摄。

注：利用快线进行拍摄时，须将快线接头旋入照相机快线座(3)中并旋紧。



十四、倒片

<倒片>

当胶卷拍摄完毕或中途欲取出胶卷时，请进行倒片操作：

1. 掀下倒片按钮(27)到底；
2. 扳起倒片手柄(12)，按倒片手柄上箭头指示方向旋转；
3. 倒片力明显减弱时，表明胶片已全部回卷至胶卷暗盒内。
4. 将倒片手柄复位，向上提拉倒片旋钮至后盖开启；
5. 取出胶卷。

注：当照相机长期不使用时，应将电池取出。



十五、规格

规格	产品型号	DC303N	DC303NW	DC303KW
型 式		35mm 单镜头反光照相机		
画幅尺寸		24mm × 36mm		
卡口型式		PK 卡口		
快门型式		纵走式机械钢片快门		
快门速度		B 门、1 ~ 1/2000s(共 13 档)		
自拍机构		机械式，延时约 10s		
闪光同步		X 触点，最高同步速度(时间) 1/125s，1/125s 以下也同步		
闪光灯热靴插座		有		
多次曝光机构		有		
测光方式		TTL 中央重点平均测光		
测光元件		SPD 感光元件		
测光联动范围		EV5 ~ EV17(ISO100/21°，F1.7)		
感光度调节范围		ISO25 ~ ISO3200		
电池		两枚 1.5V 碱性电池(LR44) 或 1.55V 氧化银电池(SR44)		
取景器		取景视场率 92%，取景倍率 0.91×(f50mm 镜头，物距 “∞” 时)		
对焦屏		裂像棱镜、微棱镜、磨砂毛面；菲涅尔环带		
景深预测		有		无
卷片		扳手式卷片(卷片角 130°，预备角 20°)		
倒片		手柄式倒片		
计数器		顺加式计数器		
机身尺寸		138mm × 85mm × 90mm		
机身重量		445g		
闪光灯 PC 插座		有		
指南针功能		无	有	
测光钮		有		无

十六、照相机维护

- 操作时应用力适度。若操作时感到所受阻力剧增，机构很可能出现故障，此时用力过大、过猛，极易损坏构件。
- 应尽量避免在阳光下长时间曝晒或在高温(45℃以上)条件下使用照相机。在低温(-20℃以下)环境中使用时，应尽量使照相机在保温状态下工作。
- 温度剧变会使湿气凝结，导致镜头表面产生雾霜、照相机内部产生水分。当进入温差悬殊的环境使用时(如严冬之室内、外)，应待片刻，使其适应新的环境温度后，再从摄影包中取出。
- 照相机在海、河、山区，雨、雾、雪天及风沙、粉尘的环境使用后，应及时擦拭、去潮，尤其应将海风、汗水沾污的盐分去净。
- 清除灰尘一般采用清洁的软毛刷掸拂和柔软布擦拭，以及用吹气球吹拂。受光窗内和机身内腔可利用吹气球捏扁后自行复原产生的吸力来吸取灰尘。切不可用嘴吹拂或呵气。
- 雨雾潮湿环境和清水擦拭导致的水分，可采用将照相机置于干燥通风处或用风扇轻轻吹拂的方法去潮，切不可采用太阳曝晒或加热烘烤。
- 照相机存放前应擦拭干净、吹干去潮。
- 照相机较长时间不使用时，经上弦的快门必须释放，电池取出。
- 照相机应存放在干燥、清洁、阴凉、通风，且无有害气体侵蚀的场所；存放处应避免受潮、受热、受压；且不宜与易吸附水分的物品(棉、毛织物，书籍等)和易挥发物质(樟脑精、化妆品、药品等)一起存放，以免构件锈蚀失灵、镜片腐蚀长霉。
- 不要将照相机放置在诸如电视、收音机等有强烈磁场的物体旁边。

Thank you for selecting a Phenix product.

Phenix Optical Company Limited is the first company marketing in the stock exchange in the optical industry of China; the PHENIX was entitled the famous trademark in China In May of 2002, Phenix Optical Company has been award Quality Management System ISO9001: 2000 Certificate. The main products include cameras, telescopes, microscopes, water levels, and optical lenses, etc. which sold all over the world.

This single-lens reflex camera can match different lens with PK bayonet. This series camera instruction is demonstrated by DC888ND camera matching a standard lens (f50mm /1.7). For differences styles and functions in the different cameras, we have respective illumination about the specification and operation measures.

Product standard: Q/JG005-1999<DC Type 35mm Single-lens Reflex Electronic Metering Camera >
Before using this camera, please:

1. Read through this instruction carefully.
2. Check its functions referring to this instruction.

You can send us Email every time when you have questions during using the camera.

Email: qadept@phenixoptics.com.cn Telephone: 0793-8259531 (on work days).

In addition, our sales companies set up all over the country can service you every time.

Hope your life will be better and better.

Contents

1. Special Mention and Main Characters	29	9. Shutter Speed and Aperture	41
2. Nomenclature	30	Setting the Shutter Speed	41
3. Mounting and Detaching a Lens	32	Setting the Aperture	41
Mounting a lens	32	10. Metering	42
Detaching the lens	32	11. Depth-of-field and Depth-of-field Preview	43
4. Installing the Batteries and Checking the Batteries Level	33	Depth-of-field	43
Installing the Batteries	33	Depth-of-field Preview	44
Checking the Batteries Level	33	12. Compass Function	45
5. Installing the Film and Setting the ISO Film Speed	34	13. Exposure Mode and Taking Pictures	46
Installing the Film	34	Exposure Mode	46
Setting the ISO Film Speed	36	Exposure Compensation	46
6. Winding and Exposure Counter	37	Taking Pictures	47
Winding	37	Self-timer	48
Exposure Counter	37	Flash Photography	49
7. Viewfinder	38	Multiple Exposures	50
8. Focusing the Lens	39	Bulb Exposure Photography	50
Focusing with the Split-image	39	14. Film Rewinding	51
Focusing with the Micro-prism Collar and Matte Screen	40	15. Specifications	52
		16. Camera Care	53

1.Special Mention and Main Characters

1. Special Mention and Main Characters

(i) Special Mention

- Without the batteries or low batteries power:

The camera's metering indicator will not light up, namely the metering function is unusable.

- When take a single frame photo, do not touch the Multi-exposure Button during advancing the film, which can make a overlapping image.

(ii) Main Characters

- Reflector Pre-up Function

When using the self-timer, the reflector will pre-up before the shutter released, and return to its original position after the shutter released, which avoids taking a blurred photo because of the quiver of the reflector uplifting.

- Depth of Field Preview (DC303KW has not this function)

Before shooting, you can estimate the range of focus in front of and behind the subject in which objects appear sharp.

- Multi-exposure

A single frame can be expose multiple times;

You can take frame picture with a separator.

- Flash Synchronization

There are cable release socket and PC socket in the camera;

Flash Syn. Time: from 1/125sec. to 1sec.

- Vertical-travel mechanical metal shutter

The shutter has stable speed, accurate capability in deferent temperature situation.

- Compass Function

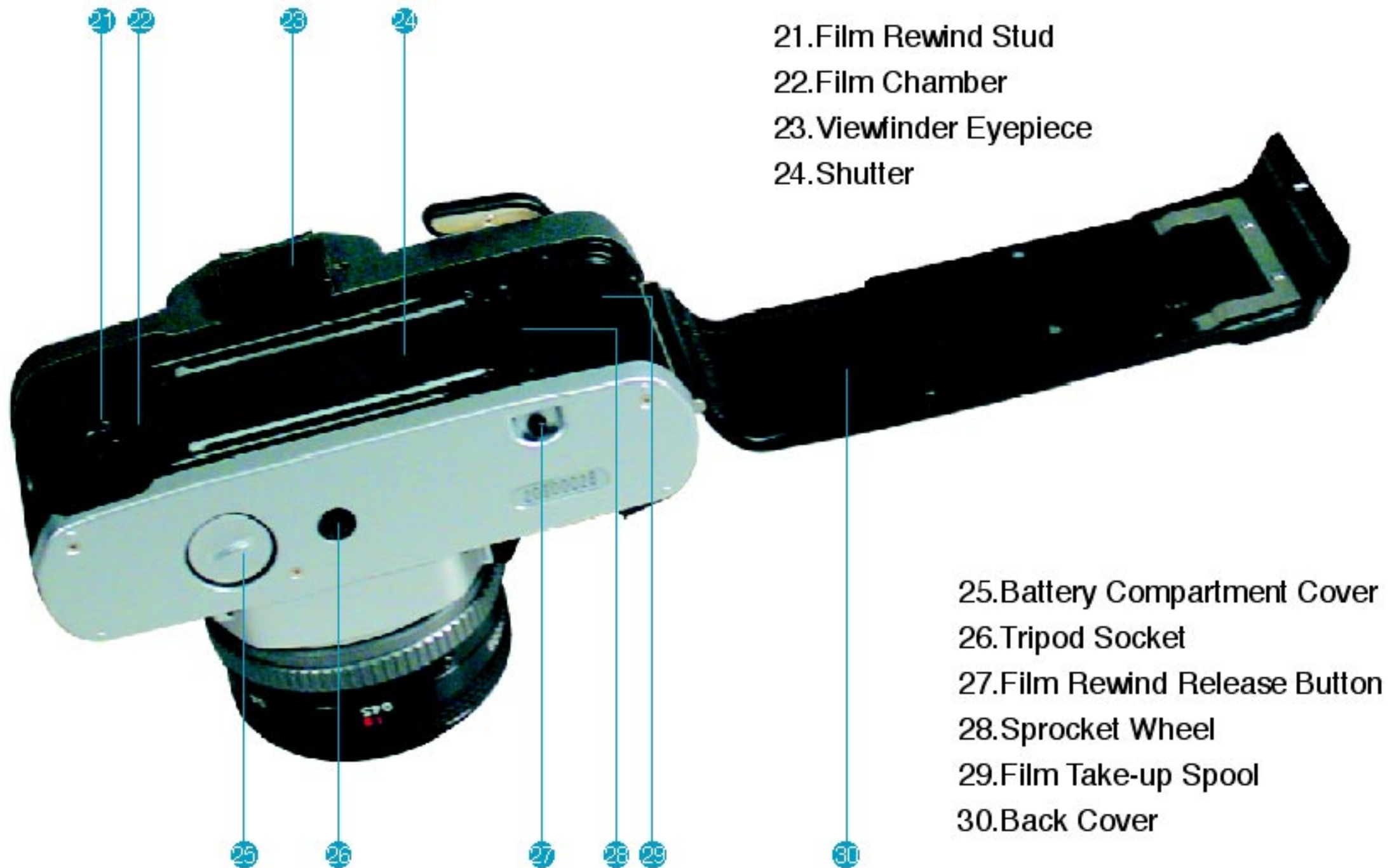
In open country, the photography fans can distinguish themselves azimuth using the compass function. (DC303N has not this function.)

2.Nomenclatures



- 1.Frame Counter
- 2.Film Advance Lever
- 3.Shutter Release Button
- 4.Shutter Speed Dial
- 5.Shutter Speed and ISO Speed Ring
- 6.Shutter Speed Index Mark
- 7.Direct X Contact
- 8.Accessory Shoe
- 9.Film Flat Mark
- 10.Metering Button
- 11.Film Rewinding Knob
- 12.Film Rewind Crank
- 13.Multi-exposure Button
- 14.Self-timer Lever
- 15.Lens Detaching Button
- 16.Aperture Ring
- 17.Depth of Field Button
- 18.PC Socket
- 19.Focusing Ring
- 20.Depth of Field Ring
(with Distance/Depth of Field Scale)

2.Nomenclatures



3. Mounting and Detaching the Lens

< Mounting the Lens >

- (1). Align the red dot on the lens barrel the red on the mount of the camera body.
- (2). Keep the lens mounting face close to the camera body mounting face.
- (3). Rotate the lens clockwise until it locks in place with a click.

Note 1: Only the same bayonets can be matched. If the bayonets on the camera and on the lens are different, do not mount the lens.

Note 2: After mounting the lens, the camera yields the metering function automatically.

< Detaching the Lens >

- (1). Press the Lens Detaching Button(15).
- (2). Rotate the lens counter clockwise until the resistance becomes weak.
- (3). Remove the lens.



4. Installing the Batteries and Checking the Battery Level

If the batteries level is low or the batteries are loaded improperly, the metering will not work normally.

< Installing the Batteries >

- (1). Using a coin or similar object, turn the Battery Compartment Cover(25)counterclockwise and remove it.
- (2). Insert two 1.5V LR44 batteries into the battery holder with the plus (+) side facing up.
- (3). Rotate the Battery Compartment Cover clockwise into the camera body.

< Checking the Battery Level >

After loading the batteries, check the battery level as the following steps:

- (1). Set the shutter speed dial in an arbitrary position except the OFF, and set the aperture in an arbitrary position.
- (2). Shoot one object and observe it through the viewfinder.

(3). Press the Shutter Release Button (3) about one third way or press the Metering Button (10) to meter the light, if an LED turns on in the viewfinder, it means the batteries are in good condition.

Note 1: Be sure to replace the two batteries at the same time.

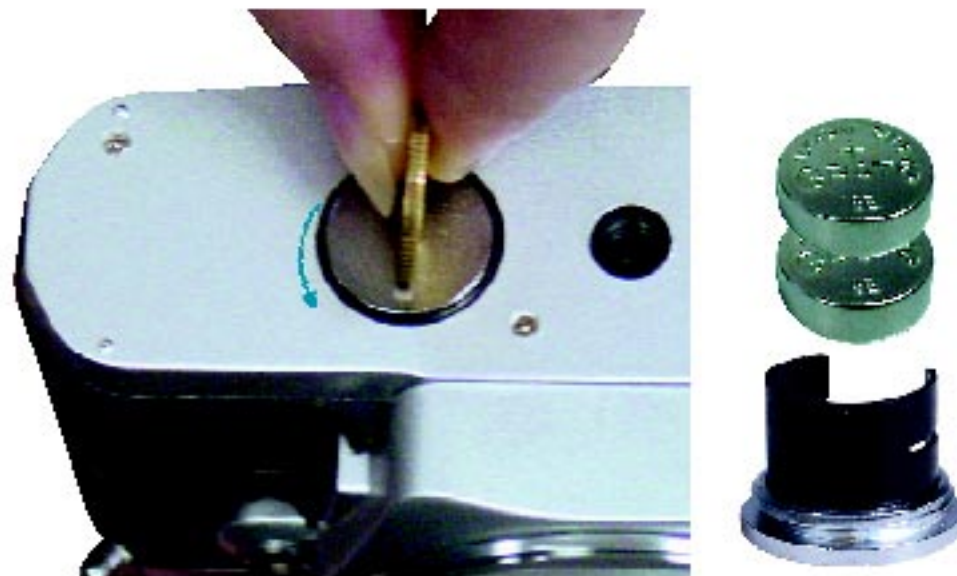
Note 2: After loading the batteries, if the LED does not turn on, please reload the batteries.

Note 3: If you are carrying your camera on a long trip, bring spare batteries with you.

Note 4: The batteries performance decreases temporarily at low temperature, please warm the batteries before shooting.

Note 5: Put the batteries at a safe place, where the children can not touch them.

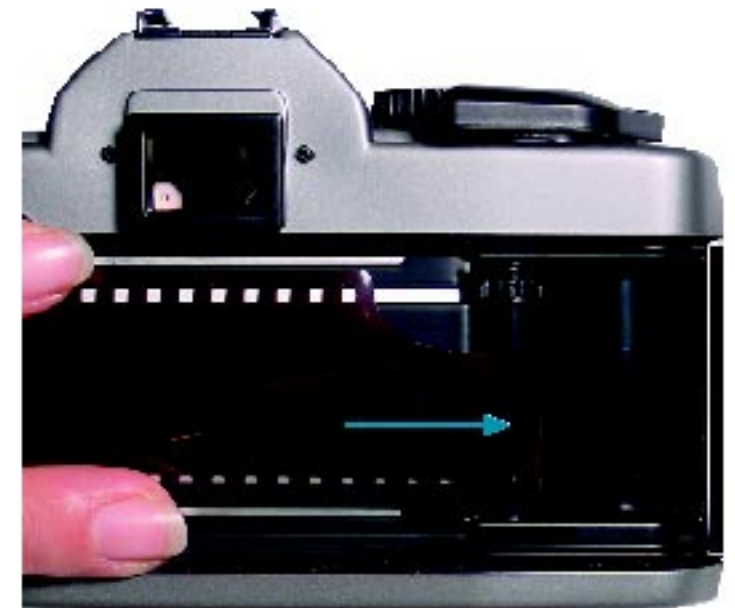
Note 6: DC303KW has no metering function button.



5. Installing the Film and Setting the ISO Film Speed

< Installing the Film >

- (1). Open the camera Back Cover (30) by pulling the Film Rewind Knob (11) all the way out.
- (2). Install the film cartridge into the Film Chamber (22), push down the Film Rewind Knob (21) until it returns to its original position.
- (3). Pull out the film tip and insert it into any one of the slots in the Film Take-up Spool (29).
- (4). Depress the film gently with your left hand, and advance the Film Advance Lever (2) completely with right hand, make sure the Sprocket Wheel (28) teeth catch the perforations, and then press the Shutter Release Button completely.



5. Installing the Film and Setting the ISO Film Speed

(5). Close the Back Cover until it locks with a click.

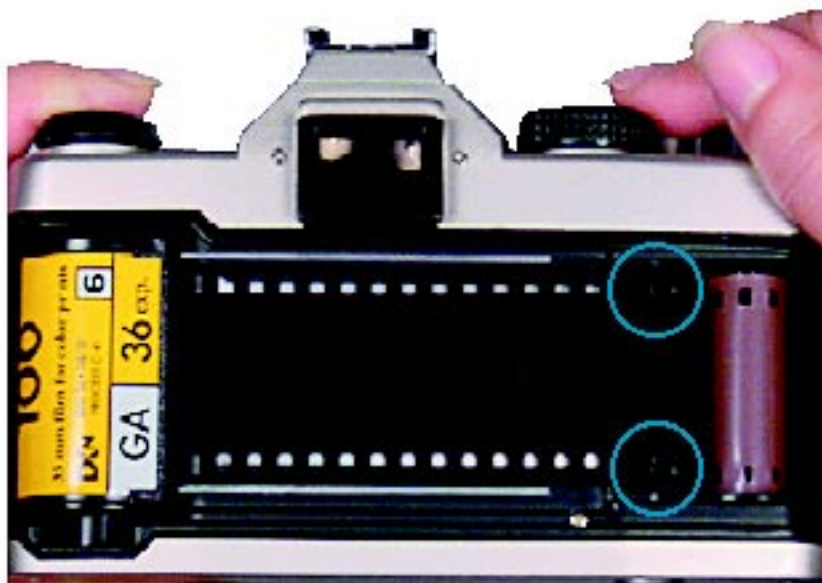
(6). Pull up the Film Rewind Crank and rotate it according to the arrow indicator, return it to its original position until feels the increase of the power.

(7). Turn the Film Advance Lever completely again and pay attention to observe the rotate of the Film Rewind Knob, press the Shutter Release Button completely.

(8). Repeat the step 7 until the Frame Counter (1) shows 1, then you can take picture.

Note 1: If the Film Rewind Knob does not rotate while you turn the Film Advance Lever, that means the film loading is improper, reload it again.

Note 2: Do not load the film in direct sunlight.



5. Installing the Film and Setting the ISO Film Speed

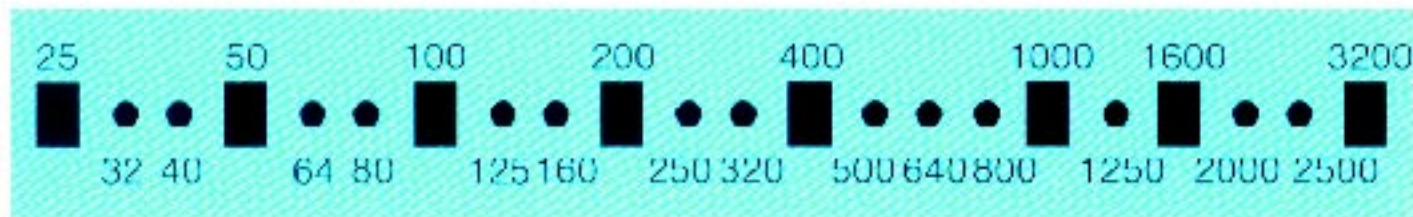
< Setting the ISO Film Speed >

To obtain correct exposure, it is important to set the film speed correctly. The speed of the film you are using is printed on the film box.

(1). Hold your camera, lift up the Film Speed Ring (5) gently and turn it until the desired ISO speed comes opposite the index mark.

(2). Loosen the Film Speed Ring, be sure the Film Speed Ring returns to its original position.

Note 1: The film ISO speed can be set from 25, 100, 200, to 3200. The ISO number becomes a one-step higher, the speed will be add one multiple.



6. Winding and Frame Counter

< Winding >

The film winding and the shutter cocking can be finished at the same time while operate the Film Advance Lever. Please turn the Film Advance Lever completely.

Note 1: If the end of the film is not enough for one frame, the Film Advance Lever can not be turned completely and also can not return to its original position. Please rewind the film at first, then turn the Film Advance Lever completely, the Film Advance Lever will return its original position automatically. Press the Shutter Release Button to release the shutter.

Note 2: During advance the film, if the lever is not turned completely, the lever will stop in half way and loosen, turn the lever completely to resolve it.

< Frame Counter >

The Frame Counter uses a mechanical increasing addition mode. The numbers displayed on the Frame Counter indicate the exposure numbers of the film.

- (1). The Frame Counter displays "S●●1●●4●6.....36●" by turns, the dot "●" indicates one number that is one more than the digit in front of it.
- (2). Each time finish a winding, the digit in the Frame Counter increases by one.
- (3). When the number 1 displays on the Frame Counter, you may take picture.
- (4). The S will appear on the Frame Counter after open the Back Cover.

Note 1: Sometimes the actual exposure number of the whole film is more than the standard number marked on the film.

Note 2: The digit will not change during using multiple exposures.



7. Viewfinder

< Viewfinder >

Framing the subject and metering the distance are the main functions of the viewfinder. Also the viewfinder can show you the results of metering. Before shooting, compose ideal pictures through the viewfinder.

- (1). Observe the subjects and scenery through the Viewfinder Eyepiece (23).
- (2). The subjects in the viewfinder frame will be taken in your pictures.

Note 1: The actual shooting range is bigger than the frame in the viewfinder.

Note 2: In backlight, sometimes the shadow of sunlight will appear on the film. To avoid these phenomena, please move your shooting angle.

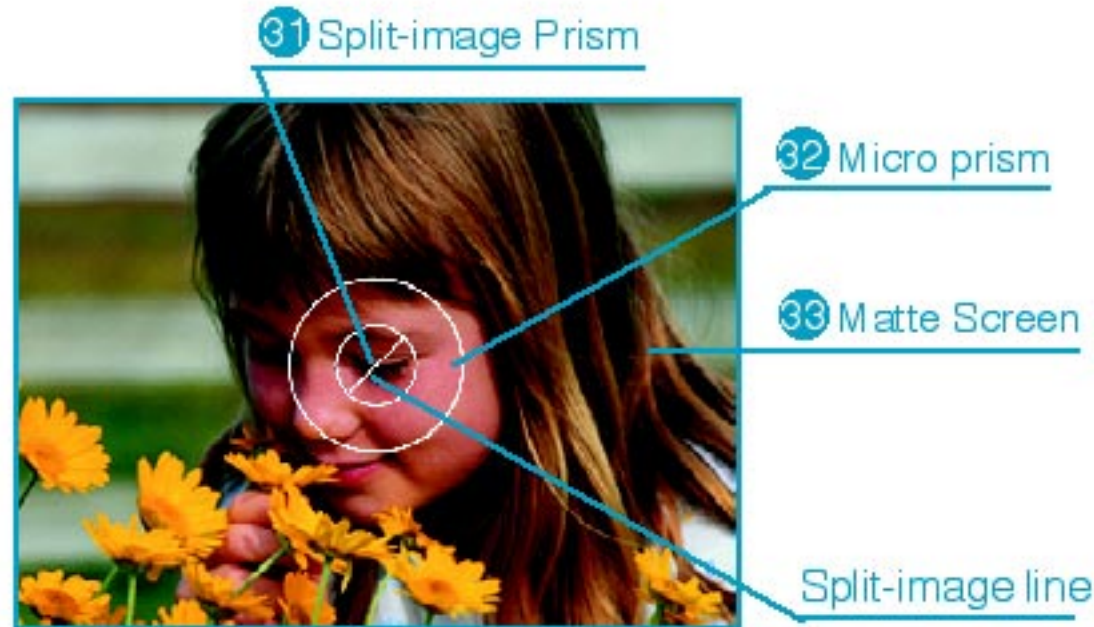


8. Focusing the Lens

In order to take clear picture on the film, focusing the lens is needed. There are three kinds of focusing modes in the camera; they are Split-image Prism(31) focusing, Micro-prism(32) focusing and Matte Screen(33) focusing. Photographers usually use the split-image focusing, because it is convenient, rapid and accurate.

< Split-image Focusing >

- (1). Observe the main subject through the viewfinder, let the split-image prism aim at the main points of the subject, e.g. nose, sleeve, etc.
- (2). The image has two segments divided by the horizontal line, one segment under the line is fixed, another moves in keeping with rotating of the focusing ring.
- (3). Rotate the Focusing Ring (19) until the two segments align (the segments become one image only), that means the focusing has been finished. The distance index on the Depth-of-field Ring (16) indicates the distance between the subject and film.



8. Focusing the Lens

< Micro-prism and Matte Screen Focusing >

(1). It is not in sharp focus if the image appears wavy on the micro-prism or blurred on the matte screen.

(2). Only if it is in sharp focus, the image appears clear and bright on the micro-prism or on the matte screen.

Note 1: You can select two or three focusing modes during focusing a subject.

Note 2: When using split-image focusing, sometimes the split-image prism is dark. There is no wrong with your camera; this phenomenon will disappear when you move your eye's viewpoint.

Note 3: When using micro-prism focusing, if the brightness of the subject is dark, even if correct focusing, the image will appear wavy on the prism.

Note 4: When the main subject is blurry, you can use micro-prism to focus the subject; when the brightness on the center of the prism is low, you can use matte screen to focus the subject.



Correct



Fault

9. Shutter Speed and Aperture

< Shutter Speed Ring >

The Shutter Speed Ring (5) includes locking the shutter (OFF setting), setting the shutter speed, setting the ISO speed and setting bulb exposure five functions. The descriptions of the scales on the dial indicate as following:

Characters	Descriptions	Functions
OFF	Locking the shutter	The shutter can not be released.
2000 to 1	Shutter speed scale	1) The effective time of exposure is from 1/2000 to 1 second. 2) When the shutter speed index is 1/125 second or slower, the camera has an X-contact flash synchronization.
B	Bulb exposure	After turning the Film Advance Lever, press and hold down the shutter button completely for the duration of the exposure; Loosen the button, the shutter be released and closed.

< Setting the Shutter Speed >

The shutter controls the time of exposure. The marks on the Shutter Speed Dial are the inverse numbers of the shutter speed. If the Shutter Speed Dial is turned to a one-step higher number (from 125 to 250, for example), the amount of exposure will be reduced by half, and vice versa.

Turn the Shutter Speed Dial until the desired shutter speed comes opposite the Shutter Speed Index Mark (6).

< Setting the Aperture >

The index on the Aperture Ring (16) indicates the aperture value. The larger the number, the smaller the aperture opening will be. Turn the Aperture Ring to change the aperture value, if the Aperture Ring is turned to a one-step higher number, the amount of exposure will be reduced by half; if it is turned to a one-step lower number, the amount of exposure will be doubled.

Turn the Aperture Ring and set the desired number comes opposite the Aperture/Distance Index.

Note 1: The aperture can be set by half step or one-step.

Note 2: The aperture has relevancy with the amount of light reaching the film, also has relevancy with the depth of field.



10. Metering Mode

< Metering Mode >

Using metering mode, the camera can set proper exposure; The SPD is used for metering in this camera

- (1). Pre-set the aperture according to your requirement.
- (2). Turn the Shutter Speed Ring to make one of the indexes from 2000 to 1 to come opposite the index mark.
- (3). Press the Shutter Release Button about one third way or press the Metering Button to meter.



Correct Exposure

Only the green circle LED turns on, the exposure is correct. If the green LED and red + or - LED turn on at the same time, it means slight overexposure or underexposure, but you can go head and shoot. You can change the amount of exposure by changing the shutter speed and aperture.

Overexposure

Only the red + LED turns on, it means your subject is too bright. You must stop down the aperture or use a faster shutter speed to turn on the green LED.

Underexposure

Only the red - LED turns on, it means your subject is too dark. Open up the aperture (set lower number) or use a slower shutter speed to turn on the green LED.

Note1: During metering, your eyes must block the viewfinder eyepiece to prevent the light into the viewfinder. Because the light which into the viewfinder will affect the result of metering.

Note2: DC303KW has no metering function button.

				
Red +	Red + Green •	Green •	Green • Red -	Red -
Over-exposure	Little Over-exposure	Correct exposure	Little Under-exposure	Under-exposure

11.Depth of Field and Depth of Field Preview

< Depth of Field >

When the lens is focused on main subject, the zone of sharpness extends over a certain distance in front of and behind the lens is focused on. The shooting distance, lens length and aperture have relevancy with the depth of field.

- (1).The smaller the aperture, the greater the depth of field.
- (2).The longer the shooting distance, the greater the depth of field.
- (3).The shorter the focal length, the greater the depth of field.
- (4).The zone of sharpness behind the point the lens is focused on is greater than that in front of it.

You can see the depth of field range from the Depth of Field Scale. For example, using a 50mm lens and have set the distance at 5m and aperture at f/16, you will see on the Depth of Field Scale that the zone of sharpness extends from about 2.7m to infinity.



F1.7



F16

11.Depth of Field and Depth of Field Preview

< Depth of Field Preview >

Convenient for framing subject and focusing, the aperture is set as big as its possible in the single-lens reflex camera. So the zone of sharpness in front of and behind the point focused can not be observed.

Compose the picture; focus the lens, then push the Depth of Field Preview Button, the aperture will shrink to the pre-set aperture position. At this time, the brightness of in the viewfinder becomes dark; the subject in the depth of field will turn blurry into clear.

Note: The sharp subject you observed through the viewfinder is also taken on the film clearly.



12. Compass Function

A compass is installed on the DC303KW camera or the DC303NW camera. The compass has E, S, W and **N** four symbols, which indicate respectively east, south, west and north, and the N is coloured in red.

1. Hold the camera firmly and make sure the symbols plane of the compass is horizontal.
2. The direction shown by the red arrow is the south polar of the earth magnetic field, namely the north polar of the earth. When the direction shown by the color arrow on the compass is not the symbol "N", please turn the camera and make the symbol "N" on the bottom flat is directed by the color arrow.

Note1: Never leave the camera in the strong magnetic field or electric field, in which the compass can be destroyed.

13.Exposure and Taking Pictures

Besides manual metering exposure, the series camera also has multi-exposure, bulb exposure and flash exposure functions; exposure compensation also can be used.

< Exposure Mode >

This camera has manual control metering exposure function. According to the result of metering, you can control the exposure value through setting the shutter speed and aperture.

- (1).Set your desired aperture at first.
- (2).Rotate the Shutter Speed Ring to select a speed from 1 to 2000.
- (3).Focus the lens, compose the picture and then make metering to the main subject.
- (4).According to the result of metering, set the shutter speed and aperture to realize manual exposure control.

< Exposure Compensation >

If there is a significant difference in brightness between the main subject and its background, you will not be able to get correct exposure in the normal metering procedure. In this case, exposure compensation is necessary by changing the aperture or shutter speed. Sometimes, in order to get special effect, exposure compensation is also be used.

Note 1: In backlight, you can make exposure compensation by reducing the shutter speed or enlarging the aperture; the value of exposure compensation is decided by brightness contrast.

Note 2: If the part of the subject is sharp, but the whole subject is very dark, please make exposure compensation by reducing the aperture or enlarging the shutter speed.

13.Exposure and Taking Pictures

< Taking Pictures >

(1).Set the aperture and shutter speed.

(2).Advance the film, focus the lens and frame your subject.

(3).After finishing metering, press the Shutter Release Button completely to finish shooting.

Note 1: When the shutter speed is slower than 1/30 second, suggest you using a tripod.

Note 2: Do not block the lens with you fingers during shooting, because the perfect picture can be destructed.

Note 3: If using the self-timer function, the reflector will pre-up while press the shutter release button, which avoids taking a blurred photo due to the quiver of the reflector uplifting.



13.Exposure and Taking Pictures

< Self-timer >

Use self-timer function, you can take yourself in the picture. The self-timer is mechanical self-timer, and it delays 10 seconds.

(1).Mount the camera on a tripod, and fix it with tripod screw.

(2).Set the self-timer by pushing the Self-timer Lever (14) all completely.

(3).Set the aperture and shutter speed, advance the film, focus the lens and compose your pictures, then make metering.

(4).After finishing metering, press the Shutter Release Button; the self-timer device works for about 10 seconds, then the shutter be released.

Note 1: When using this function, you must turn the Film Advance Lever at first, and then turn the Self-timer Lever.

Note 2: The self-timer cannot be cancelled at mid-way.



13.Exposure and Taking Pictures

< Flash Photography >

This camera has an X-contact hot shoe, so the camera can take flash photography with a flash lamp. There are accessory shoe and PC socket in the camera, so you can contact two flashes lamps of the same triggering mode at the same time. Use a flash contacted by flash sync-wire, you can adjust its angle and get a good effective picture.

- (1). Slip the flash onto the accessory shoe.
- (2). Set a shutter speed that is 1/125 second or slower.
- (3). Select the lens aperture (F) and shooting distance (L) according to flash guide number (GN). The relation is : $GN (m) = F \times L (m)$
- (4). Turn on the flash switch, the flash begins to charge; press the Shutter Release Button completely after the indicator is lighted up for 7 seconds.

Note 1 : When the shutter speed index is 250, 500, 1000 or 2000, the synchronization will not happen.

Note 2: If you want to hold your camera with your hand to take picture, please set the shutter speed at 1/125 second.

Note 3: The actual GN usually is less than standard value about -0.5EV, suggest you using half more step aperture. For example, the metering aperture is F8; the actual aperture is between F8 and F5.6.



13.Exposure and Taking Pictures

< Multiple Exposures >

This camera has multiple exposures function, a single frame can be exposed multiple times. You can take a composite picture in this function; you also can take frame picture with a separator.

After finishing a shooting, press and hold down the Multiple Exposure Button completely, turn the Film Advance Lever completely, and then you can loosen the Multiple Exposure Button. The shutter is cocked, but the film is not advanced, you can take picture again.

Note 1: When take frame picture; please refer to the separator instruction to operate.

Note 2: Using this function, please mount your camera on a tripod. Avoid moving or shaking the camera during shooting.

Multi-exposure Button



< Bulb Exposure >

If an exposure time longer than 1 second is required, set the shutter speed dial at "B".

(1).Mount and fix the camera on a tripod.

(2).Set the shutter speed dial at "B".

(3).Advance the film, compose the picture and focus the lens.

(4).Keep pressing the Shutter Release Button as long as you want, and then release the Shutter Release Button and the bulb exposure has been finished at this time.

Note: You must rotate the wire point into the shutter wire socket if you use a wire controller.



14. Film Rewinding

< Film Rewinding >

When the film is over or you want to take out the film in mid-way, please rewind the film.

(1). Press in the Rewind Release Button (27).

(2). Fold out the Film Rewind Crank (12); turn it in the direction of the arrow.

(3). Stop winding after you feel a sudden release of tension.

(4). Make the Film Rewind Crank to return its original position, and pull out the Film Rewind Knob until open the Back Cover.

(5). Remove the film.

Note: If the camera is not to be used for an extended period, remove the batteries.



15. Specifications

Specifications	Series Types	DC303N	DC303NW	DC303KW
Type		35mm single-lens reflex camera		
Picture size		24mm × 36mm		
Lens mount		PK bayonet		
Shutter type		Vertical-travel mechanical metal focal plane shutter		
Shutter speed		Bulb, 1 to 1/2000 second (13 settings)		
Self-timer		Mechanically control, about 10 seconds delay		
Flash synchronization		X-sync for 1/125 second or slower, the fastest sync-speed is 1/125 sec.		
Flash accessory shoe		YES		
Multiple exposure		YES		
Metering mode		TTL center-weighted average metering		
Photographic sensitive component		SPD (silicon photo diode)		
Metering range		EV5 ~ EV17(ISO100/210, F1.7)		
ISO setting		ISO25 to ISO3200		
Batteries		Two 1.5V alkaline batteries (LR44) or 1.55V silver oxide batteries (SR44)		
Viewfinder		Picture average 92%; Magnification 0.91 (with 50mm Lens, set at infinity)		
Focusing screen		Split-image, micro-prism collar, matte screen and Fresnel ring		
Depth of field preview		YES		NO
Winding		Film advance lever (advance angle 130°, preliminary angle 20°)		
Film rewinding		Film rewinding lever		
Frame counter		Mechanical additive counter		
Camera Body Dimensions		138mm × 85mm × 90mm		
Weight		445g		
Flash PC socket		YES		
Compass Function		NO	YES	
Metering Function button		YES		NO

16.Camera Care

- Operate the camera gently. If you feel a resistance during operating the camera, may be the camera is wrong, do not operate it violently.
- Do not leave the camera in a hot place (at 45℃ or higher temperature) for too long time. If in a cold environment, do your best to keep the camera warm.
- If the camera in an abrupt temperature environment, the frost will appears on the lens face and the moisture will be yielded in the camera. When the camera come into an abrupt temperature environment, make the camera adapt to the temperature then take out it from your photo-bag.
- If the camera has been exposed in salty, rainy, snowy or sandy place, wipe the moisture or salinity with a well-wrung damp cloth at once.
- Using a soft cloth, blower or soft fur brush remove dust and dirt on the camera.
- Use a fan or put the camera at a well-ventilated, dry place to eliminate the moisture, do not solarize it or bake it.
- Wipe the camera and blow out the moisture before storage.
- If the camera is not to be used for an extended period, release the shutter and remove the batteries.
- Store the camera in a well-ventilated, cool, clean, dry place without noxious gas. Do not put it together with volatile materials or some objects that can absorb moisture.
- Avoid storing the camera beside a TV set, radio, which have strong magnetic field.