Clellan

Speedlite

ZR-45

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User's Manual

For your safety

Before using your product, please read the following safety precautions carefully and thoroughly to ensure correct and safe use and to help prevent damage to your Clellan product or injury to yourself or others.

For quick reference by those who use the product, please keep these safety instructions near the product.

In this manual, safety instructions are indicated with these symbols:

WARNING
Disregarding instructions marked with this symbol could result in personal injury, or death and property damage

CAUTION
Disregarding instructions marked with this symbol could result in property damage.

WARNINGS for Speedlite
Never attempt to disassemble or repair the flash unit by yourself, as this could result in you receiving an electric shock and could also cause the unit to malfunction; such malfunction could lead to personal injury.

If the flash unit is dropped and damaged, do not touch any exposed interior metal parts. Such parts, especially the Speedlite's capacitor and associated parts, could be in a high-charge state and if touched could cause an electric shock. Disconnect the power or remove the batteries and be sure that you do not touch any of the product's electrical components, and then bring the flash unit to your local Clellan dealer or authorized service center for repair.

If you detect heat, smoke or notice a burning smell, immediately stop operation and remove the batteries to prevent the unit from catching on fire or melting. Allow the flash unit to cool down so that you can safely touch it and remove the batteries. Then bring the unit to your local Clellan dealer or authorized service center for repair.

The flash unit should never be submerged in liquid or exposed to rain, saltwater or moisture unless it is properly protected from the liquids and moisture. Underwater use requires a certified underwater housing. If water or moisture gets inside the unit, this could cause the unit to catch on fire or cause an electric shock. In such instances you should immediately remove the batteries from the Speedlite and then bring the unit to your local Clellan dealer or authorized service center for repair.

Do not fire the flash unit directly at the driver of a moving car, as this could temporarily impair the driver's vision and cause an accident.

Do not fire the flash unit directly into the eyes of someone that is at close range, as it could damage the retinas of their eyes. Never fire the flash unit closer than 1 meter from infants.

Do not fire the unit while the flash head is touching a person or object. Such use can result in the person being burned, and/or their clothes igniting from the heat of the flash's firing.

Keep small accessories out of the reach of children to avoid the possibility of the accessory being swallowed. If an accessory is accidentally swallowed, immediately consult with a doctor.

Use only the batteries specified in this user's manual. Batteries other than those specified could leak corrosive liquids, explode or catch on fire or otherwise not perform satisfactorily.

Do not mix battery types, brands or old and new batteries, as the batteries could leak corrosive liquids, explode or catch on fire. When using more than one battery in a product, always use identical batteries that were purchased at the same time.

Non-rechargeable batteries such as manganese, alkaline-manganese and lithium batteries should never be charged in a battery charger because they could leak corrosive liquids, explode or catch on fire.

When using standard size AA or other common rechargeable batteries such as NiCd and Ni-MH battery types, or when recharging them, be sure to use only the battery charger specified by the battery maker and read the instructions thoroughly. Do not recharge these batteries with their terminals reversed in the charger or before the batteries have cooled off sufficiently because they could leak corrosive liquids, explode or catch on fire. The same caution also applies to using the rechargeable batteries that may be supplied by the photo product's manufacturer.

Do not touch the flash unit with wet hands, as this could cause an electric shock.

Keep the flash unit away from children to prevent them from putting the unit in or near their mouth, or otherwise touching a dangerous part of the product; as such contact could cause an electric shock.

Do not apply strong physical shocks to the unit, as this could cause a malfunction that could cause the unit to explode or catch on fire.

Never use active agents that contain flammable substances such as paint thinner, benzene or paint remover to clean the unit, and never store the unit in locations containing chemicals such as camphor and naphthalene, as this could damage the plastic case, cause a fire or cause an electric shock.

Remove any batteries from the unit before storing the unit for a long time to prevent the unit from catching on fire or leaking corrosive liquids.

WARNINGS for Batteries

Never heat or throw batteries into fire, as this could cause the batteries to leak corrosive liquids, generate heat or explode.

Do not short-circuit or disassemble the batteries because this could cause the batteries to leak corrosive liquids, generate heat or explode.

Do not mix battery types, brands or old and new batteries, as this could cause the batteries to leak corrosive liquids, generate heat or explode.

Do not install batteries in the reverse direction as this could cause the batteries to leak corrosive liquids, generate heat or explode. Even if only one battery is installed in reverse it will cause the Speedlite to malfunction.

Be sure to use the battery charger specified by the battery maker to avoid the possibility of batteries leaking corrosive liquids, generating heat or exploding.

Do not carry or store batteries along with metallic materials such as necklaces and hair pins because such materials could cause the batteries to short-circuit, leading to battery leakage, heat generation or an explosion. In addition, specially when carrying a quantity of batteries, place them carefully in a storage case that prevents the battery terminals from touching another battery's terminals because if they touch in reverse order it could also cause the batteries to short-circuit, leading to battery leakage, heat generation or an explosion.

If corrosive liquids seep from the batteries and get in your eyes, immediately wash your eyes with running water and consult with a doctor. Your eyes could be seriously damaged if they are not treated quickly.

If corrosive liquids seep from the batteries and come in contact with your skin or clothes, wash immediately with running water. Prolonged contact could injure your skin.

Always follow the warnings and instructions printed on the batteries to avoid activities that could cause the batteries to leak corrosive liquids, generate heat or catch on fire.

Be sure to use only batteries specified in this user's manual, to avoid the possibility of batteries leaking corrosive liquids, generating heat or exploding.

Never open the casing surrounding batteries or use batteries whose casing has been breached as such batteries could leak corrosive liquids, generate heat or explode.

Keep batteries out of the reach of children to help avoid the possibility of them being swallowed. If a battery is accidentally swallowed, immediately consult with a doctor.

Batteries should not be submerged in water, exposed to rain, moisture or saltwater unless they are properly protected from the wet environment. If water or moisture gets inside the batteries, this could cause them to leak corrosive liquids or generate heat.

Do not use any battery that appears abnormal in any way, including a change in color or shape. Such batteries could leak corrosive liquids or generate heat.

Stop recharging rechargeable batteries if you notice that recharging is not completed within the specified time to help prevent the possibility of the battery leaking corrosive liquids or generating heat.

When recycling or disposing of batteries, be sure to insulate their terminals with tape. If the battery's positive and negative terminals shortcircuit after coming into contact with metallic objects, it could cause fire, heat generation or an explosion. Dispose of used batteries in accordance with local government regulations.

Non-rechargeable batteries should never be charged in a battery charger because they could leak corrosive liquids or generate heat.

Remove dead batteries from your equipment immediately, as they could leak corrosive liquids, generate heat or explode.

For your safety

Symbol for separate collection applicable in European countries. This symbol indicates that this product is to be collected separately. The following apply only to users in European countries. This product is designated for separate collection at an appropriate collection point. Do not dispose of as household waste.

For more information, contact the retailer or the local authorities in charge of waste management.

Check before Use

Included items

The ZR-45 comes with the following accessories. Check that all items are included before use.

Speedlite Stand
Soft case
Color Filter Set
Warranty card
User's manual (this manual)

Visit these sites to keep up-to-date with the latest product information, tips, answers to frequently-asked questions (FAQs), and general advice on digital imaging and photography. Additional information may be available from the Clellan representative in your area. See the URL below for contact information:

www.clellan.com

About the ZR-45

This section explains the features and key functions of the ZR-45

ZR-45 features

Features of the ZR-45

The ZR-45 is a high-performance E-TTL-compatible Speedlite with a large guide number of 45 (ISO 100/ m) (at the 105 mm zoom position in Clellan standard illumination pattern, 20°C/68°F.)

Combined with a E-TTL camera, the ZR-45 can easily perform various types of flash operations, such as E-TTL auto flash and wireless multiple flash.

FX/DX selection enables the setting of the light distribution angle in accordance with the camera's image area between FX- and DX-formats, and provides effective and high-quality lighting.

Power zoom function automatically adjusts the zoom position to match the lens focal length from 24 mm to 105 mm (in FX format)/24 mm to 105 mm (in DX format). When the built-in wide-flash adapter is used or the Clellan Diffusion Dome is attached, the zoom position is automatically set to match a wideangle lens with much shorter focal length.

Bounce flash or close-up flash photography can be easily performed.

Custom functions are provided to allow for various settings.

Compatible cameras

The ZR-45 has been optimized for use with E-TTL compatible SLR cameras.

E-TTL mode

Advanced Wireless Lighting

With Advanced Wireless Lighting, wireless multiple flash operation in the TTL (E-TTL) mode can be accomplished with ETTL-compatible digital SLRs. In this mode, you can divide the slave flash units into three groups and control the flash output independently for each group, expanding your range of creative multiple-flash shooting techniques

High-Speed Sync

High-Speed flash synchronization at a compatible camera's highest shutter speed is possible. This is useful when you want to use a wider aperture to achieve shallow depth of field to blur the background

AF-Assist illuminator

In autofocus operation, the ZR-45 emits AF-Assist illumination, which matches the wider AF area of ETTL-compatible cameras. With cameras supporting this function, autofocus photography in dim lighting is possible even when the camera's focus point (focus area) is changed

Main functions

E-TTL mode

The camera controls the ZR-45's flash output level by measuring the light reflected from the subject when the ZR-45 fires a series of monitor pre-flashes.

Manual flash mode

By setting the aperture and the flash output level, you can manually set the exposure and the distance to the subject.

Bounce flash

By tilting or rotating the flash head, you can bounce the light off a ceiling or wall to make use of reflected light.

Using color filters

Three color filters can be added to create special effect.

Flash output level compensation/Exposure compensation

Flash output level compensation is performed by modifying the flash output level for the flash illuminated subject only. Exposure compensation is performed by intentionally modifying the correct exposure to modify both the subject and background exposure.

2.4 GHz Wireless multiple flash

In this mode, you can divide the slave flash units into four groups and set the flash mode and flash output level compensation values separately for each group as well as the master flash unit.

Functions that are set on the camera

The ZR-45 automatically fires at faster shutter speeds than the camera's sync shutter speed.

2nd Curtain flash sync

2nd curtain flash sync creates a picture in which the blur of a moving subject appears behind the subject and not in front. In this mode, the flash fires just before the rear curtain starts to close.

Support functions

Power zoom function

Automatically adjusts the zoom position to match the lens focal length.

Setting the ISO sensitivity

The ISO sensitivity is automatically set based on information from the camera.

AF-Assist illuminator

This enables you to perform autofocus flash photography when there is not enough light for normal autofocus operation.

Test firing

You can verify whether the subject will receive the correct exposure by test firing the ZR-45.

FX/DX selection

The ZR-45 automatically selects the suitable light distribution angle, in accordance with the camera's image area (between FX-format (36 x 24) and DX-format (24 x 16)).

Custom setting

Various settings can be made while checking the status on the LCD panel.

Reset setting

This function resets various settings to their default values.

LCD panel illumination setting

This function sets the LCD panel illumination to on or off.

LCD panel contrast setting

This function adjusts the contrast of the LCD panel.

Standby function

This function automatically puts the ZR-45 in standby mode to conserve battery power.

Thermal Cut-out

This function protects the ZR-45 from high operating temperatures. If the temperature of the unit rises to a certain level, the ZR-45 will switch to protective shutdown mode.

Operation

Basic operation

This section covers basic procedures in E-TTL mode in combination with a CLS-compatible camera. E-TTL mode enables you to easily take flash photography with well balanced lighting.

STEP 1   Inserting the batteries

STEP 2   Slide the battery chamber lid
                open.

STEP 3   Insert the batteries following the
                [+] and [-] marks as shown.

STEP 4   Close the battery chamber lid.

Suitable batteries

Insert four AA-type penlight batteries of any of the following types:Alkaline (1.5 V), Ni-MH (Nickel Metal Hydride) (1.2 V)

When replacing batteries, use fresh batteries of the same brand.

For more on batteries, refer to "Batteries" and "Notes on batteries."

Attaching the ZR-45 to the camera

1   Make sure the power switch of ZR-45 and the camera body are turned off.

2   Rotate the mounting foot lock ring to the left.

3   Slide the ZR-45's mounting foot into the camera's accessory shoe.

4   Turn the lock ring to right to tighten the flash unit

Detaching the ZR-45 from the camera

1   Turn the lock ring to the left.

2   Slide the ZR-45's mounting foot from the camera's accessory shoe.

Adjusting the flash head

Adjust the flash head to the horizontal / front position.

Control buttons

The basic control of ZR-45 functions is as follows:

1   Select function to be changed and press the button that controls the function.

2   Change the setting by rotating the selector dial.

3   Press the [OK] button to confirm setting.

Batteries

Refer to the following table to determine when to replace or recharge batteries according to how long the ready-light takes to come on.

Alkaline   20 seconds or more

Ni-MH   10 seconds or more

If batteries are weak, the flash head zooms back and forth even when the ZR-45 is turned on, making a distinctive sound. In this case, replace the batteries even if an external power source is used.

 Low battery power indicator

When battery power is low, the icon shown at the left appears on the LCD and the ZR-45 stops working.

Minimum recycling time and number of fl ashes for each type of batteries

For minimum recycling time and number of flashes for each battery type, refer to "Specifications"

Standby function to conserve battery power

If the ZR-45 and the camera are not used for more than a specified time, the Standby function is automatically activated to conserve battery power. The Standby function activates when the camera's exposure meter is turned off (default setting).

The lead time before the Standby function is activated can be adjusted by custom setting.

Flash modes and functions

Explanation of the ZR-45's flash modes and functions.

This section explains ZR-45 flash modes and functions in combination with CLS compatible cameras and CPU lenses. Functions and LCD displays vary when other types of cameras are used.

E-TTL mode

Information obtained by monitor pre-flashes and exposure control information is integrated by the camera to automatically adjust flash output levels.

TTL is recommended for standard shooting situations.

To take pictures using ZR-45 set in E-TTL mode, see "Basic operation".

Adjust the flash output level automatically for a well-balanced exposure of the main subject and background.

The main subject is correctly exposed regardless of background brightness. This is useful when you want to highlight the main subject.

Setting the E-TTL mode

In E-TTL mode, immediately before the flash fires, the ZR-45 fires a series of imperceptible pre-flashes to analyze the information of the subject.

ZR-45 flash shooting distance range

The flash shooting distance range is indicated by numbers and a bar chart on the LCD. Set the shooting distance within this range. The range varies depending on ISO sensitivity, camera's image area setting, illumination pattern, angle of coverage and aperture. For more information, see "Specifications".

Auto setting of ISO sensitivity, aperture and focal length

When using with a ETTL-compatible camera and a CPU lens, ZR-45's ISO sensitivity, aperture and focal length are automatically set according to camera setting. For more information about the ISO sensitivity range, see the camera's user's manual.

E-TTL mode

When insufficient light for correct exposure is indicated

When the ZR-45 fires at full flash output level, ready-lights on the ZR-45 and in the camera's viewfinder blink for approx. three seconds after shooting. In this case, underexposure may occur. To compensate the exposure, use a wider aperture or move closer to the subject and reshoot.

The underexposure value (-0.3 to -3.0 EV) is displayed on the ZR-45's LCD panel for approx. three seconds while the above ready-lights blink.

Pressing Function button 2 recalls display of underexposure value in TTL mode.

Changing camera's metering mode

When camera's metering mode is changed to spot metering while E-TTL Automatic Balanced Fill-Flash is selected, the TTL mode automatically changes to the standard E-TTL mode. In such case, the TTL mode automatically changes to the E-TTL Automatic Balanced Fill-Flash, after changing camera's metering mode to Multi-pattern or Center-weighted.

Insufficient light for correct exposure

When the ZR-45 fires at full flash output level, ready-lights on the ZR-45 and in the camera's viewfinder blink for approx. three seconds after shooting.

In this case, underexposure may occur. To compensate the exposure, use a wider aperture or move closer to the subject and reshoot.

Checking the correct exposure before shooting

1   Confirm the test firing indicator appears on the LCD.

2   Make the necessary settings on the ZR-45 and camera and press the test firing button to fire the flash. Ready-lights blinking after shooting may indicate insufficient light for correct exposure. In this case, set a wider aperture on the camera or lens, or move closer to the subject.

Manual mode

In Manual flash mode, you select the aperture and flash output level. In this way, you can control the exposure and flash shooting distance when shooting subjects where the correct exposure is difficult to obtain in the TTL or Non-TTL auto flash mode. The flash output level can be set from M1/1 (full output) to M1/128 to match your creative preferences.

Underexposure is not indicated in Manual mode.

Setting Manual mode

1   Press the [MODE] button.

2   Rotate selector dial to indicate

3   Press the [OK] button to confirm the setting.

Taking a picture in Manual mode

1   Set the camera's exposure mode to "A" (Aperture-Priority Auto) or "M" (Manual).

2   Determine the flash output level and aperture to match the flash shooting distance.

* Flash output level and aperture should be calculated using the calculation formula.

3   Press the Function button 1.

4   Set the flash output level by rotating the selector dial.

5   Press the [OK] button.

6   Set the aperture on the camera.

* The aperture on the ZR-45 cannot be set directly. The shooting distance indicated matches the selected flash output level and aperture.

7   Compose the picture, confirm that the ready-light is on, then shoot.

Manual mode

Setting the flash output level

Press the Function button 1, and then rotate the selector dial to change the flash output level.

When you rotate the selector dial clockwise, the indicated denominator decreases (flash output level increases).

        1/128 1/128 (+ 0.3) 1/128 (+ 0.7) 1/64
        1/1 1/2 1/64 (+ 0.7) 1/64 (+ 0.3)
        1/1 1/128 1/4 (– 0.7) 1/4 (– 0.3) 1/4
        1/2 1/2 (– 0.3) 1/2 (– 0.7)
        1/1 1/2 1/64 1/128

When you rotate the selector dial counterclockwise, the indicated denominator increases (flash output level decreases)

        1/1 1/128 1/4 (– 0.7) 1/4 (– 0.3) 1/4
        1/2 1/2 (– 0.3) 1/2 (– 0.7)

The flash output level changes in ±1/3 steps except between 1/1 and 1/2. 1/32 (-0.3) and 1/64 (+0.7) represent the same flash output level.

In default setting, flash output level compensation between 1/1 and 1/2 is ±1 step. This step can be changed to ±1/3 using custom setting (kC-22). With some cameras, and when using faster shutter speeds with a flash output level greater than M1/2, actual flash output may decrease to M1/2 level.

Bounce flash operation

You can tilt or rotate the ZR-45's flash head to bounce the light off the ceiling or walls, providing more natural-looking pictures of people with softer shadows. Also, you can soften the shadows even more by using the Clellan Diffusion Dome

For more details and comparative example photos, see the separate booklet,
"A collection of example photos"

Setting the flash head

Tilt or rotate the ZR-45's flash head by holding down the flash head

The ZR-45's flash head tilts up 90° and rotates horizontally 180° to the left and right.

Set the flash head at a click stop at the angles shown.

Setting flash head tilting/rotating angles, and choosing the reflecting surface.

Good results are generally obtained most simply when the flash head is tilted up and you use the ceiling as a reflecting surface.

Rotate the flash head horizontally to get the same effect when you hold the camera in the vertical position.

Take care not to let light from the flash unit illuminate the subject directly.

The effective distance between the flash head and the reflecting surface is approx. 1 m (3.3 ft.) to 2 m (6.6 ft.) depending on the shooting conditions.

In color photography, select white or highly reflective surfaces to bounce the light off of. Otherwise, your pictures will come out with an unnatural color cast similar to that of the reflecting surface.

Bounce flash operation

1   Setting the camera's exposure mode and metering system.

           Set the exposure mode to Aperture-Priority Auto (A) or Manual (M).

2   Setting the ZR-45's flash mode

           Set the flash mode to E-TTL, Auto Aperture, or Non-TTL auto.

3   Setting the camera's aperture.

           In bounce flash, use an aperture 2 to 3 stops wider than with normal flash photography, and adjust it according to the results.

           In Non-TTL auto flash, set the same aperture on the ZR-45 as is set on the camera.

           In Manual exposure mode, set the shutter speed.

4   Adjust the flash head and shoot.

Setting the aperture in bounce fl ash operation

In bounce flash, there is a light loss of 2 to 3 stops when compared with normal flash photography (with flash head adjusted to horizontal/front). Therefore, you should use a two- or three-step wider aperture (small f-number), and adjust it according to the results.

When the flash head is adjusted to other than the horizontal/front position, the flash shooting distance range indicator on the ZR-45 disappears. To ensure correct exposure, first confirm the flash shooting distance range and aperture with the flash head in the normal position. Next, set this aperture on the camera.

Using the built-in bounce card

In bounce flash photography, use the ZR-45's built-in bounce card to create a highlight in the subject's eyes, making the eyes look more vibrant and avoiding illuminating the front of the subject.

Tilt the flash head up 90° to use this feature most effectively.

Setting the built-in bounce card

Pull out the bounce card and the wide-flash adapter and, while holding the bounce card, slide the wide-flash adapter back into place inside the flash head.

To insert the bounce card, pull out the wide-flash card again and slide both cards together back into place.

 Shooting with the Clellan color filter set

By attaching the provided Clellan Diffusion Dome over the flash head, you can diffuse the light even more when doing bounce flash, creating extremely soft light with virtually no shadows.

With the camera in either the horizontal or vertical position, you get the same effect. Good results are generally obtained when the flash head is tilted up 60°. When the Clellan Diffusion Dome is attached and when the camera's image area is set to FX format, the zoom position is automatically set at 12 mm, 14 mm or 17 mm, and 8 mm, 10 mm or 11 mm while setting the camera's image area to DX format.

Attaching the Clellan color filter set

Attach the Clellan color filter set as shown in the illustration with the Clellan logo facing up.

Notes when using the Clellan color filter set. The distance between the camera and subject differs from the center of the frame to the periphery, so the peripheral area might not be sufficiently lit in some cases.

Setting the built-in wide-flash adapter

1   Slowly pull out the wide-flash adapter all the way, and position it over the flash head.

2   Then slide the bounce card back into place inside the flash head.

When the built-in wide-flash adapter is attached and when the camera's image area is set to FX format, the zoom position is automatically set at 12 mm, 14 mm or 17 mm, and 8 mm, 10 mm or 11 mm while setting the camera's image area to DX format.

To set the zoom position manually, go to custom setting and set "Zoom position setting if the built-in wide-flash adapter is broken off accidentally" to [ON] (manual setting is available).

To put the built-in wide-flash adapter back into place, lift it and push it into the flash head as far as it will go.

Flash photography with color filters

Three types of color filters for changing the color of the light from the flash are available.

For more details on photo examples with color balanced using color filters, visit www.clellan.com

Flash output level compensation and exposure compensation

Making flash output level compensation

You can make exposure compensation for the flash illuminated subject only without affecting the background exposure by modifying the ZR-45's flash output level.

As a basic guide, some plus compensation may be necessary to make the main subject brighter, and some minus compensation to make it darker. Flash output level compensation is possible in E-TTL auto flash.

1   Press the Function button 1 to highlight the Flash output level compensation value

2   Turn the selector dial to set desired flash output level compensation value.
                The compensation value can be set in 1/3 steps from +3.0 to -3.0 EV.

3   Press the [OK] button.

Canceling flash output level compensation

To cancel, turn the selector dial to return the compensation value to "0".

The flash output level compensation cannot be canceled by turning the ZR-45 off.

For cameras with a built-in flash featuring the exposure compensation function.

You can also set the flash output level on the camera. For details, see your camera user's manual.

If you compensate the flash output level on both the camera and the ZR-45, the exposure is modified by the sum total of both compensation values.

In this case, the ZR-45's LCD panel shows only the compensation value set on the ZR-45.

Making exposure compensation

Exposure compensation allows you to make both the subject and background brighter or darker by intentionally modifying the correct flash exposure. This is useful when a subject of extremely high or low reflectivity is included in the scene or when you want to create flash photographs to match your creative preferences.

Some plus compensation may be necessary when the background includes a highly reflective surface. Likewise, some minus compensation may be required when the background is dark or includes subjects of low reflectivity.

Using the Speedlite Stand

Use the provided Speedlite Stand for stable placement of the slave flash units.

Attach the ZR-45 to the Speedlite Stand in the same way that you attach it to the camera's accessory shoe. The same is true when detaching it from the camera.

Wireless multiple flash shooting

Confirming shooting situations in wireless multiple flash operation.

You can confirm wireless multiple flash operation by checking the ready-light on the ZR-45 or the sound monitor during and after shooting.

When the ZR-45 is used as a wireless slave flash unit, you can monitor its operation by listening to the sound monitor. This function can be activated or canceled using custom setting. This function is set to activate as the default.

To save battery power, the ready-lights on the slave flash units can be turned off in the custom setting. The rear ready-light is set to light up and the front ready-light is set to blink as the default.

Confirming flash operation using the ready-light.

Flash shooting in Advanced Wireless Lighting

When the ZR-45 is used with Canon cameras, Advanced Wireless Lighting is possible. In this mode, you can divide the slave flash units into three groups and set the flash mode and flash output level compensation values separately for each group as well as the master flash unit. This is defined as Flash

Shooting in the Advanced Wireless Lighting.

To take photos with repeating flash, see custom setting.

For more details on the example photos in Advanced Wireless Lighting, see the separate booklet, "A collection of example photos"

Mechanism of the Advanced Wireless Lighting

Slave flash units can be set up to a maximum of three groups (A, B, C).

Single or several slave flash units can be allocated for one group.

For a total of four groups including the master and other slave flash units in three groups, you can set the flash mode and flash output level compensation values separately for each group.

Select one of the four available channels through which the master and slave flash units exchange data.

If another photographer uses the same type of wireless slave flash setup close by, your slave flash units may accidentally fire in sync with that photographer's master flash unit. To avoid this, use a different channel number.

Flash shooting in Advanced Wireless Lighting

Direct the light sensor window of the slave flash units toward the master flash.

As a basic guide, the effective shooting distance between the master and slave flash units is approx. 10 m (33 ft.) or less in the front position, and approx. 7 m (23 ft.) at both sides. These ranges vary slightly depending on the ambient light.

Be sure to place all slave flash units that are set in the same group close together.

Available functions to be set on the camera

The following functions are available when used with cameras so equipped. Set these functions on the camera. They cannot be set on the ZR-45 directly.

For detailed information regarding camera functions and settings, refer to your camera user's manual.

Auto High-Speed Sync mode

High-Speed flash synchronization at a compatible camera's highest shutter speed is possible.

The Auto High-Speed Sync mode is automatically set when the shutter speed exceeds the camera's sync shutter speed.

This is useful when you want to use a wider aperture to achieve shallow depth of field to blur the background without worrying about sync shutter speed.

Auto High-Speed sync also operates in the Advanced Wireless Lighting mode. Available flash modes are E-TTL, Auto Aperture flash with monitor pre-flashes, Non-TTL auto flash with monitor pre-flashes, Distance-priority manual flash, and Manual flash when using a single flash unit.

For flash shooting distance range in the TTL auto flash mode and the guide numbers in the Auto FP High-Speed Sync mode, refer to "Specifications."

Slow-sync flash

The flash is controlled at a slow shutter speed to obtain the correct exposure for both the main subject and background in low-light situations.

Since slow shutter speeds are normally used, use of a tripod is recommended to prevent camera shake.

For more details on the example photos, see the separate booklet, "A collection of example photos".

Available functions to be set on the camera

2nd curtain sync

In normal flash photography, when shooting fast-moving subjects at slow shutter speeds, unnatural-looking pictures can occur, because the subject frozen by the flash appears behind or within the blurred movement . Rear-curtain flash sync creates a picture in which the blur of a moving subject (for example, the taillights of a car) appears behind the subject and not in front.

In front-curtain sync, the fl ash fi res immediately after the front curtain opens completely; in rear-curtain sync, the flash fires just before the rear curtain starts to close.

Since slow shutter speeds are usually used, use a tripod to prevent camera shake. This function does not operate in Repeating fl ash operation.

In multiple fl ash, the master fl ash unit can be set to either front-curtain or rear-curtain sync fl ash. However, the remote units cannot be set to rear-curtain sync flash.

Flash shooting support functions

Power zoom function

The power zoom function automatically adjusts the zoom position to match the lens focal length.

Zoom positions to be automatically adjusted differ depending on illumination pattern. For more details, refer to "Specifications."

The available zoom positions to be automatically adjusted at standard illumination pattern intensity are between 17 mm and 200 mm in FX format, and 12 mm and 200 mm in DX format, without steps.

Power zoom function activated

Setting the zoom position manually

When you want to change the zoom position to one that does not match the focal length, you should adjust the zoom position manually.

Canceling the power zoom function

The power zoom function can be canceled in the custom setting. When the power zoom function is canceled.

The zoom-head can be manually adjusted, but the zoom position indicator does not change even if the lens is zoomed, a lens is changed, or the power turned on or off.

AF-Assist Illuminator

When the light is too dim for normal autofocus operation, the ZR-45's AF-Assist illuminator enables you to perform autofocus photography.

The ZR-45's AF-Assist Illuminator supports the dynamic-area AF system.

The AF-Assist Illuminator cannot be used with cameras not compatible with Canon DSLR

Notes on using the AF-Assist Illuminator

The AF-Assist Illuminator is available, if an AF lens is mounted and the camera's focus mode is set to S (Single Servo AF with focus priority), AF-A, or AF.

The effective shooting distance with the AF-Assist Illuminator is approx. 1 m to 10 m (3.3 to 33 ft.) from the center of the image with a 50mm f/1.8 lens. The shooting distance varies depending on the lens in use.

Suitable lens focal length is between 17 mm and 135 mm. Focus areas for each focal length, in which autofocusing is available, are as follows:

The AF-Assist illuminator will not light up, if the camera's autofocus is locked or the ZR-45's ready-light does not come on.

Refer to your camera user's manual for more information.

Flash shooting support functions

Setting the ISO sensitivity

The ISO sensitivity is automatically set based on the information transmitted from the camera to the Speedlite.

Setting the ISO sensitivity manually

FX/DX selection

FX : FOR FILM CAMERA

DX : FOR CANON DSLR CAMERA

CLELLAN ZR-45 SPECIFICATION

Guide Number :
45 (ISO100@105mm)

Flash coverage :

24 - 105mm (14mm with wide panel)

Mode Functions :
ETTL mode (for Canon) / TTL mode (for film camera)
Manual mode
High speed synchronization
Master & Slave mode (Wireless , 2.4GHz and Optical trigger)

Zoom Functions :
Auto Zoom (Flash coverage set automatically to match the lens focal length and image size)
Manual Zoom (Focal length : 24mm, 28mm, 35mm, 50mm, 70mm, 80mm, 105mm)
* Remarks : Flash use with Wide Panel, Zoom position will reset to 24mm and the flash coverage is 14mm

Flash Power control :
From 1/128 to 1/1 power output
* Remarks : 1/1(full), 1/2, 1/4, 1/8, 1/16, 1/32, 1/64, 1/128

High speed synchronization :
Flash can be synchronized with the camera highest shutter speed

Rear Curtain Synchronization
Yes

Wide Panel (Diffuser)
Yes

Flip-out reflector card
Yes (White)

Add-on color diffuser
4 colour selection

Bounce Functions :
Turn the flash head upward to 45° > 60° > 75° > 90°
Tilt the flash head sideway to left : 30° > 60° > 90°
Tilt the flash head sideway to right : 30° > 60° > 90° > 120° > 150° > 180°
Or mixing it upward/sideway
When the flash head stays to turning or tilting position, the zoom setting will be automatically set at 50mm

Wireless Slave Mode (4 Channels) :
Press the Main Dial button to select Wireless Function
The slave flash with synchronize to the master flash by using the Wireless 2.4G Hz

AF assist Beam :
Center 0.6m to 10m
Periphery 0.6m to 5m

Pilot Lamp :
Uses to indicate the Flash is ready to shoot
Red for Flash charging
Blue for Flash ready

Turn on the flash unit :
Switch the power switch to ON position, Pilot lamp turn on

Colour Temperature :
5600K (same as daylight)

LCD Display :
Flash with 128 x 64 pixel LCD panel
LCD with backlight (EL)

Auto Power Off Function :
Stand-by mode in 2 min
Power off in 30 minutes
To turn on the Flash again press Camera shutter button or Flash Pilot Lamp button

Power source :
4 x AA alkaline battery or Ni-MH batteries also usable
2 x 2 battery box with picture indication

Battery Life :
800 to 1500 times

Recycling Time :
8 sec., with fresh alkaline batteries

Remarks : Clellan & Co. assumes information may be changed or updated without notice.