POWER TO YOUR NEXT STEP

Be creative with flash

Speedlite flash range

you can
The oyster farmer was shot in daylight against a clear sky. Flash was used with a softbox and a reflector to enhance the daylight and give a boost to the shadow areas. See inset showing how it was achieved.

Camera: Canon EOS 5D Mark III
Tv (Shutter Speed): 1/200 sec
Av (Aperture Value): f/10.0
ISO Speed: 100
Lens: EF 24-70mm f/2.8L USM
Focal length: 43.0 mm
Flash: Speedlite 600EX-RT
Taking control of light

Flash photography is more than simply adding light to a dark situation. Adding Canon Speedlite flashes to your system opens up new ways of working – making light work for you.

A Speedlite can be used in either the camera's hotshoe or wirelessly off-camera, lighting your subject from any angle you choose. Built-in radio-frequency and optical triggering offer remote control over slave flashes both indoors and outdoors. E-TTL II exposure metering ensures accurate exposures every time, even when mixing ambient and flash together in the same photograph.

It's never been so easy for photographers to take this much control over lighting, and enjoy the power of light.
Flash photography techniques

E-TTL metering
The moment you mount a Speedlite in the hotshoe of an EOS camera, Canon’s E-TTL II flash metering takes control. Accurate exposures are made automatically and consistently, even in the most difficult of lighting situations.

As the shutter release is depressed the Speedlite emits a pre-flash of light which is metered through the lens of the camera. An ambient light reading is also made and distance information from the camera’s autofocus system added to the equation in order to produce the most accurate exposure possible. Precisely the right amount of light for the conditions is emitted by the flashgun – and all in the blink of an eye.

Bounce flash
Bouncing flash off a surface such as a wall or ceiling softens harsh shadows, resulting in a more flattering light than can be obtained with direct flash. The apparent size of the light source is made larger – and the larger the light source, the softer the quality of the light.

Furthermore, red eye, caused by the direct reflection of light from the retinas at the back of a subject’s eyes, is virtually eliminated. Speedlites make bounce flash photography easy. A bounce and swivel head enables flash to be directed at any surface and E-TTL II flash metering still operates as it does for direct flash, calculating accurate exposures. A small catchlight panel, available on some Speedlites, can be used to reflect a tiny amount of light directly towards a subject – just enough to put that all-important catchlight in the eyes, giving portraits more depth.

Flash and daylight
Flash photography doesn’t just happen when the sun goes down. Using Speedlites in the daylight hours is a great way of reducing unwanted shadows and enhancing detail, for a dramatic result.

When using flash as the main light source, the brightness of the ambient light in the background can be decreased using the camera’s exposure compensation controls. In manual, Av or Tv exposure modes and your EOS will meter for daylight as well as making an E-TTL II flash exposure.
Fill-in flash

Instead of a primary light source, flash is often used to supplement ambient light. One of the most common uses of this approach is brightening the harsh shadows created by intense sunshine. Known as ‘fill-in flash’, this technique is completely automated by Canon’s E-TTL II flash metering. Flash exposure compensation can be used to vary a Speedlite’s brightness, thereby adjusting the balance of ambient light to flash.

High-speed sync (FP)

When attempting fill-in flash, bright daylight conditions can sometimes necessitate the use of a shutter speed that is faster than the camera’s maximum flash synchronisation speed – i.e. the shortest shutter speed where the shutter opens fully during the exposure.

With conventional flash this is problematic, leading to dark bands across the frame, but with Canon Speedlites and EOS cameras, high-speed sync (FP) technology allows any shutter speed to be used with flash, right up to 1/8000 sec.
E-TTL II flash metering calculates correct exposure even when flashes are used off camera, leaving you free to concentrate on shooting great pictures.
Moving a Speedlite off camera is a reliable, simple way of taking even more control over lighting. Changing the angle from which you illuminate your subject can dramatically alter the look and feel of a picture, conveying a message or enhancing a mood.

A number of Speedlites in the range feature wireless flash control. They can be positioned off camera and fired using one of two methods: radio-frequency triggering or optical flash control, using bursts of visible or infrared (IR) light. Optical triggering uses either an ST-E2 Speedlite Transmitter mounted on camera, an integrated Speedlite Controller (on selected EOS models) or a 580 EX II or 600EX/600EX-RT Speedlite fitted to the camera’s hotshoe.

Radio triggering offers greater range (maximum of 30 meters) and reliability, with no direct line of sight required between flash and camera. This allows speedlights to be positioned behind objects or around corners, for even more creative lighting possibilities. The Speedlite 600EX-RT features a built in radio-frequency transceiver and may be controlled and fired using the hot-shoe mounted Speedlite Transmitter ST-E3-RT, or a second 600EX-RT gun.

E-TTL II flash metering calculates correct exposure even when flashes are used off camera, leaving you free to concentrate on shooting great pictures.

Adding more flashes
Working with multiple off-camera flash units is as simple as working with one, but offers many more opportunities for creative lighting solutions. Position the units where they need to be and control them all with a single Speedlite Transmitter. E-TTL II metering looks after exposure and makes combining flash and ambient light quick and simple.

The power output of the remotely positioned Speedlites doesn’t have to be identical. Flash units can be adjusted individually, either from the camera or by making specific changes to each Speedlite unit.

Up to 15 Speedlites can be fired from a single controller, and units may be up to camera when using the RT based system. Speedlites can also be grouped together, with up to five groups supported from a single Speedlite Transmitter ST-E3-RT. The power ratio between groups is adjustable on the Speedlite controller.

Remote control shooting
The wireless link between EOS and Speedlite can also be used the other way around: Remote Control Shooting allows photographers to wirelessly fire their cameras. The Speedlite 600EX-RT and radio-frequency Speedlite Transmitter ST-E3-RT allow Remote Camera Control over distances of up to 30m.
Ultimate creative flash set-up

Whether you are shooting with single Speedlite on the camera’s hotshoe, or mixing daylight with the output of multiple Speedlites positioned off camera, Canon E-TTL II metering makes flash photography easy.
Position the flashes wherever you want, set their power individually and meter for any ambient light as you would normally, using your EOS’s Av, Tv or manual exposure mode.

Fit a radio or optical Speedlite Controller to your camera and shoot. The camera will instruct the Speedlites to fire a test flash, which it will use to meter the scene.

The correct amount of light is emitted from each flash gun to match the ambient-light exposure set on the camera.
Macro flash

When using a Canon EF macro lens to shoot objects close up, it is quite common to find that ambient light is not sufficient. Small apertures are required to achieve sufficient depth of field when working at such close focus settings. This makes long shutter speeds necessary, which can introduce blur from camera or subject movement.

Macro ring lite MR–14EX

Improve your macro photography with this dedicated macro ring lite. E–TTL flash control and a Guide Number of 14 provide ample light and accurate exposures in all macro photography situations.

- E–TTL II Auto Flash metering
- Guide Number of 14
- Can act as a wireless master flash
- Two flash tubes that can be fired as one or independently with full ratio control
- Two focusing lights
- Modelling flash capability
- Mounts to the front of macro lenses

A Macro Lite adapter may be required to attach to a lens and the flash unit. Macro Lite adapters are available in the following filter sizes 52, 58, 67 and 72.

Macro twin lite MT–24EX

Take control of your macro photography lighting with the MT–24EX Macro Twin Lite. Designed for macro specialists it provides creativity and versatility in both light direction and power.

- E–TTL II Flash metering
- Guide Number of 24
- Functions as a wireless master flash
- Two flash heads that can be fired together or independently
- Modelling flash capability
- Mounts to the front of macro lenses or each head can be independently placed

A Macro Lite adapter may be required to attach to a lens. Macro Lite adapters are available in the following filter sizes 52, 58, 67 and 72.
Using flash makes hand-held macro photography at small apertures a reality. Macro-specific Speedlites, such as the MR-14EX and MT-24EX, are designed especially for this task, attaching to the end of a macro lens to provide even, shadowless lighting for even the smallest subjects.

The MR-14EX and MT-24EX have two independently variable flash tubes on either side of the unit, which can be used to create more directional lighting and introduce shadow and texture. Additionally, the Speedlite MT-24EX’s dual flash heads can also be positioned independently for precise lighting control. Both Speedlite macro flashes units may be used to trigger other Speedlites wirelessly – perfect for adding background effects.
Speedlite flash range

**Speedlite 600EX-RT**
A powerful flash gun for use both on and off the camera. Built-in radio triggering offers remote lighting control over distances up to 30m.

- Radio triggering with 30m range
- Use up to 15 units together
- Integrated optical slave
- Remote camera triggering
- Bounce-and-swivel head with zoom control
- Guide number 60 (m, ISO 100, at 200mm)
- White-balance correction filters
- Fast, quiet recycling

**Speedlite 600EX**
With a guide number of 60 (m, ISO 100), the Speedlite 600EX is powerful enough to light up large areas, even when light is bounced off walls and ceilings. Four AA/LR6 batteries provide silent recycling in as little as 0.1 sec.

- Guide number 60 (m, ISO 100, at 200mm)
- Bounce-and-swivel control with 20–200mm zoom head
- Integrated optical slave
- White-balance correction filters
- Fast, quiet recycling

**Speedlite 430EX II**
A powerful and versatile flash, the Speedlite 430EX II will expand your shooting options with a guide number of 43, wireless slave flash ability, nine custom functions and a 24–105mm zoom head.

- E-TTL II Flash metering
- Guide number 43 (m, ISO 100, at 105mm)
- Wireless slave flash ability
- 24–105mm zoom head with 14mm diffuser
- Fast and silent recycling
- Metal hot-shoe foot
- 180 degree swivel and bounce head
- AF Assist beam
Powerful, versatile and simple to use – the comprehensive Canon Speedlite range opens up new options in flash photography. Used in bright daylight or total darkness, positioned on-camera or remotely, these full-featured flashguns give any photographer extraordinary creative control over lighting.

Speedlite 320EX
Featuring Wireless Slave technology, a bounce/swivel head and a constant LED light source for video work, the Canon Speedlite 320EX opens up new creative possibilities for EOS photographers.

- Guide Number 32 (m, ISO 100, 50mm)
- Compact lightweight design
- Bounce-and-swivel flash head, with 24mm and 50mm zoom settings
- Integrated LED video light
- Wireless slave for off-camera TTL flash
- Remote Release button
- Fast, silent recycling

Speedlite 270EX II
Explore the creative side of lighting with the Canon Speedlite 270EX II – a compact flashgun that is as easy to use off-camera as it is in your camera’s hotshoe.

- Lightweight compact design
- Guide number 27 (m, ISO 100, 50mm)
- Bounce flash head
- Wireless slave function for off-camera flash
- Trigger your EOS camera with Remote Release button
- Variable angle of coverage
- Fast, silent recycling

Speedlite 90EX
A compact, high performance flash that delivers superbly lit everyday shots such as portraits and indoor scenes plus creative lighting effects. The ideal companion for the EOS M.

- Slim, pocketable design
- Shoot superbly lit portraits and indoor scenes
- High power in a compact body
- Explore creative lighting effects
- Quick, discreet and fully automatic flash shooting
- Powered by readily available AAA batteries
Accessories

Speedlite transmitter ST-E2
Small, lightweight and portable, the ST-E2 is a dedicated infra-red transmitter to control two groups of remote wireless slave Speedlites. It also functions as a focus assist lamp in low light.

- E-TTL II flash control
- Ratio control over two groups of flashguns
- High-Speed sync
- Up to 10m range outdoors
- AF Assist beam

Speedlite transmitter ST-E3-RT
Fire compatible Speedlite flashguns over distances of up to 30m. Radio-frequency control provides reliable operation even when direct line of sight is not possible.

- Radio frequency remote flash trigger.
- Fire selected Speedlites from 30m away.
- Controls up to 15 flashguns.
- Remote camera triggering.
- Weather sealed against dust and moisture.

Speedlite bracket SB-E2
Shooting with a flash on-camera can produce very good results, however, for more flattering light it is best to position the flash off to one side of the camera. With different levels of height adjustment you can modify the angle from which the flash is fired.

Compact battery pack CP-E4
For those photographers making use of Speedlite flash in wedding or event photography, the CP-E4 will reduce the frequency that batteries need to be changed and will also increase the flash recycling speed, reducing the time you have to wait between shots. It holds 8x AA batteries ensuring you can keep shooting longer.

Off-camera shoe cord OC-E3
The OC-E3 allows you to retain a connection to the camera while positioning the flash up to 60 cm away.

With the flash off-camera you can control where shadows fall and also minimise red-eye in portraits.
## Specifications

### Power

- **Speedlite 600EX-RT**
  - Guide No. (20 degrees, ISO 200): 60, 200mm
  - Dimensions: W x H x D: 112.8 x 49 x 126.4
  - Weight: 425g

- **Speedlite 600EX**
  - Guide No. (20 degrees, ISO 200): 60, 200mm
  - Dimensions: W x H x D: 112.5 x 97.4 x 67.4
  - Weight: 425g

- **Speedlite 430EX II**
  - Guide No. (20 degrees, ISO 200): 44.2 x 25.6
  - Dimensions: W x H x D: 78.7 x 124.5 x 90.4
  - Weight: 425g

- **Speedlite 320EX**
  - Guide No. (20 degrees, ISO 200): 320g
  - Dimensions: W x H x D: 70 x 115 x 78.4
  - Weight: 425g

- **Speedlite 270EX**
  - Guide No. (20 degrees, ISO 200): 55.8 x 55.2 x 77
  - Dimensions: W x H x D: 72 x 122 x 101
  - Weight: 320g

- **Speedlite 90EX**
  - Guide No. (20 degrees, ISO 200): 44.2 x 25.6
  - Dimensions: W x H x D: 70 x 115 x 78.4
  - Weight: 425g

- **Speedlite MR-14EX**
  - Guide No. (20 degrees, ISO 200): 58.5
  - Dimensions: W x H x D: 58 x 61.5 x 77.4
  - Weight: 110g

- **Speedlite MT-24EX**
  - Guide No. (20 degrees, ISO 200): 125.4
  - Dimensions: W x H x D: 52 x 51 x 80
  - Weight: 100g

### Zoom

- **Zoom head rotation**: 15°, 30°, 45°, 60°
- **Focal length coverage**: 40°, 15°, 4°
- **Bracket coverage**: 14mm, 14mm, 14mm
- **Auto zoom for sensor size**: Yes, Yes, Yes

### Flash Modes

- **Dedicated flash**: Yes
- **High speed sync**: Yes
- **Second-curtain flash**: Yes
- **Zoom head**: Yes
- **Remote shutter release**: Yes

### Flash RELATED Function

- **Flash exposure compensation**: Yes
- **Flash exposure bracketing**: Yes
- **Flash reflection function**: Yes
- **AF-assist beam**: Yes
- **Video light**: Yes
- **Video light power**: 75 lux
- **Video light color temperature**: 4500-6500K

### Wireless Flash

- **Transmitter-transmission type**: Infra-red / Radio
- **Transmitter range**: Indoors: 12.15m / 30m, Outdoors: 8-10m
- **Slave**: Yes, Yes, Yes
- **No. of groups**: 3 / 3
- **No. of channels**: 4 / 15
- **Remote shutter release**: Yes

### Flash HEAD MOVEMENT

- **Up**: 45, 60, 75 and 90°
- **Down**: 45, 60, 75 and 90°
- **Left**: 60, 75, 90, 120, 150 and 180°
- **Right**: 60, 75, 90, 120, 150 and 180°
- **Zoom head**: 150 and 180°

### AF Assist

- **AF-assist beam**: Yes
- **Number of AF points supported**: 1 - 61
- **AF-assist beam type**: Infra-red

### Power Source

- **Battery**: 4 x AA batteries (Approx. 3.8 sec)
- **External power supply**: Yes
- **Minimum recycling time**: 18 (5 personal functions)
- **Power supply**: Yes

### Construction

- **Dust and water resistance**: Yes
- **Mounting foot material**: Metal, Metal, Metal, Metal, Plastic, Plastic, Plastic, Metal

### Misc

- **Custom function**: 18 (7 personal functions)
- **Flash settings**: 32 (15 personal functions)
- **External flash exposure sensor**: Yes
- **PC terminal**: Yes
- **Compatible accessories**: Off-camera shoe cord OC-E3, Speedlite Transmitter ST-E3-RT, EX series Speedlite with Slave function

### Dimensions and Weight

- **Dedicated flash bracket**: SB-E2, SB-E2, SB-E2, SB-E2
- **Speedlite 600EX-RT**: 600EX-RT
- **Speedlite 600EX**: 600EX
- **Speedlite 430EX II**: 430EX II
- **Speedlite 320EX**: 320EX
- **Speedlite 270EX**: 270EX
- **Speedlite 90EX**: 90EX
- **Speedlite MR-14EX**: MR-14EX
- **Speedlite MT-24EX**: MT-24EX
- **Speedlite Transmitter ST-E3-RT**: ST-E3-RT
- **Speedlite Transmitter ST-E2**: ST-E2

---

(1) As default only cameras in group C are triggered wireless, set C-Fn 5-1 to wirelessly trigger groups A & B
(2) Time taken to recharge flash after full discharge using Alkaline AA batteries
(3) With compatible cameras only
(4) Except for the dust and water prevention adaptor
(5) For wireless high-speed sync is possible only with EOS digital cameras released since 2012
(6) Not available in certain countries or regions.