INON D-2000 "S-TTL" changes underwater litghting concept

Fine tune for desired exposure and shadow control under dual strobe

■ **INON D-2000**
¥49, 800− /excl.tax

"S-TTL" Auto of "Ultra Multi Mode" D-2000 is not just to work out "Full Automatic Strobe shot" with point and shoot digicam.

・Flash output can be finely adjusted even though in underwater TTL Auto circumstance for desired exposure.

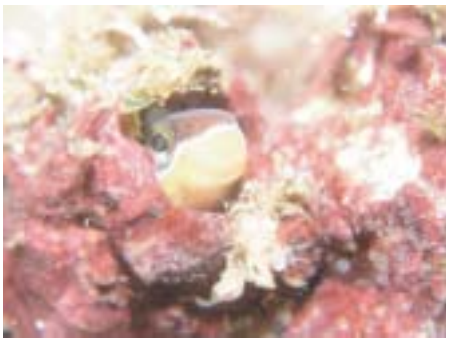
・Three dimensional appearance can be obtained by adjusting balance of flash output output to control shadows under dual strobe configuration.

D-2000 enables above function which was imposible with existing underwater TTL ・Auto Strobe, by simply clicking control dial.

D-2000 meets the needs of high sensitivity that can not be satisfied with existing underwater TTL Auto strobe.

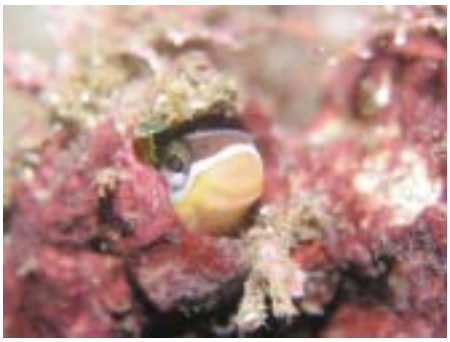
No. 1 Fine flash output tune for desired exposure in TTL AUTO

【Flash output compensation using [EV. Control Switch] in "S-TTL" Auto Mode】



【Bit brighter】
EV. Control Switch : **A**

【Standard position】
EV. Control Switch : **B**



【Bit dark】
EV. Control Switch : **C**

【Rather dark】
EV. Control Switch : **C-**

It will get hard to express one's image with existing underwater Auto Strobe when a user gains experience of underwater photographyphotography. This is because that desired exposure is vary by each photographer's sensitivity and appropriate exposure is also vary depending on shooting condition.
"S-TTL" of D-2000 enables fine adjustment of flash output based on desired exposure or appropriate exposure which may vary depending on shooting condition.
Manually controllable [EV Control Switch] enables you to select "real" appropriate exposure by simply dialing the switch.

Improved usability comparing to existing underwater TTL Auto Strobe
Please "feel" D-2000 using following examples.

● Sample data

・Set D-2000 to "S-TTL Auto Mode" and make flash out put compensation. Set [EV Control Switch] to 『B』 position.

・Compare different setting of 『A』 for【Bit brighter】, 『C』 for【Bit dark】and 『C−』 for【Rather dark】, then select "real" appropriate exposure setting.

● Note

・Actual exposure may be different from the sample depending on camera/shooting condition/shooting parameters (aperture, distance to subject etc.) though setting [EV Control Switch] to 『B』.

● Equipments

・Camera/Housing :C-5050Z / PT-015
・Strobe : D-2000 x 2 (Both strobe set to "S-TTL" Auto)
・Attachment lens :UCL-165M67 x2

● Photo data / Subject

・Camera setting : f2.6 at 1/1,000, ISO=100, Telephoto side, with Macro Mode ON
・Subject : Piano blenny (face size :approx.1.5cm width)
Distance to subject : approx. 5cm
Location : Fukuura, Photo by R.Hattori

No. 2 Accentuate three dimensional appearance with dual strobe by controlling shadow

【By applying "S-TTL" Auto, balance of flash output between right/left strobe can be separately controlled】

【Flat lighting, bit overexposed】

"S-TTL"Auto side
EV.Control Switch : **B**
(select the position at correct exposure)

External Auto side
Aperture : **F8.0**

【Soft shadow】

"S-TTL"Auto side
EV.Control Switch : **B**
(select the position at correct exposure)

External Auto side
Aperture : **F5.6**

【Normal shadow】

"S-TTL"Auto side
EV.Control Switch : **B**
(select the position at correct exposure)

External Auto side
Aperture : **F4.0**

【Dark shadow】

"S-TTL"Auto side
EV.Control Switch : **B**
(select the position at correct exposure)

External Auto side
Aperture : **F2.8**

Configure another D-2000/D-180/D-180S as External Auto Strobe.

It was impossible for existing underwater TTL Auto Strobe to intentionally control balance between right and left strobe under dual strobe configuration. And only "flat" lighting was available. However, by setting D-2000 to "S-TTL" Auto and another D-2000, D-180 or D-180S to External Auto, darkness of shadow can be controlled.
When using D-2000 x 2, 『S-TTL Auto』 and 『External Auto』 can be easily switched by dialing control knob and enables to control not only darkness of shadow but can select which side of a subject you have shadow. The function to control shadow under dual TTL Auto Strobe was possible with high-end SLR camera system to be used on land.

Improved usability comparing to existing underwater TTL Auto Strobe

Please "feel" D-2000 using following examples.

● Sample Data
- Set 『S-TTL Auto Mode』 in the opposite side (『Left』 side in this sample) of D-2000 to shadow side (『Right』 side in this sample) .
- Set base exposure position (『B』 in this sample) with [EV. Control Switch].
- Set the other D-2000 to External Auto Mode and select same aperture value as camera's setting on EV Control Switch(select f5.6 corresponding to camera's setting in this sample).
  With above setting, base lighting is obtained (【soft shadow】 in this case).
- Change aperture setting of the D-2000(as External Auto Strobe) and take shots; 『F8』 for 【flat lighting, bit overexposed】 , 『F4』 for 【normal shadow】 and 『F2.8』 for 【dark shadow】
- In the case 2 x D-2000 being used, direction of shadow can be easily reversed by setting to a right-to-left contrary.

● Note
- It is necessary to connect housing and each strobe directly by specific 『Optical D Cable/Cap Set 』 and 『Optical D Cable 』 exclusively designed for the housing to be used.
- Standard position of [EV. Control Switch] for appropriate exposure may be differ from position 『B』 depending on camera, shooting condition or camera setting (such as distance to subject, aperture setting etc.)

- D-2000, D-180 or D-180S can be configured as second strobe. When using D-180 or D-180S as 2nd Strobe, it may be necessary to step down aperture setting on the strobe over camera's aperture setting since flash system of D-180/D-180S is different from the system of D-2000 (1st strobe).
- It is possible to select manual flash output on the strobe not to be used in "S-TTL" Auto. In this case, total light amount is adequately controlled by the 1st D-2000 within "S-TTL" Auto exposure range. Make sure to set Advanced Cancel Circuit ON regardless of using External Auto/Manual.
- A camera which allows to fix aperture setting and ISO sensitivity, is desirable to set 2nd strobe in External Auto or Manual.

● Equipments
- Camera/houisng : C-5050Z / PT-015
- Strobe : D-2000 x 2 (one in "S-TTL" Auto mode and the other in External Auto mode)
- Attachment lens : UWL-100 Achromat Wide Conversion Lens Type 2 + Dome Lens Unit for UWL-100

● Photo Data/Subject
- Camera setting : f5.6 at 1/1,000, ISO100, telephoto side with Macro mode ON
- Subject : Cat shark (Length 30cm approx.) Distance to subject :20cm approx.
  Location : Fukuura Photo by R. Hattori

Set D-2000 to "S-TTL" Auto
EV.Control Switch : B
(select the position at correct exposure)
Attach 『**-0.5** Diffuser』

【D-2000 flashes large amount】

Set Z-220 to TT L Auto

Set D-2000 to "S-TTL" Auto
EV.Control Switch : B
(select the position at correct exposure)
Attach 『**-1.5** Diffuser』

【D-2000 flashes low amount】

Set Z-220 to TT L Auto

Configure Z-220/Z-220S(TTL Auto) as 2nd strobe.

When attaching adequate "diffuser panel" on D-2000, shadow can be controlled by using Z-220/Z-220S in TTL Auto as 2nd strobe.

● Sample data
- Attach 『-0.5』 diffuser panel on D-2000 (left side on the subject) and set 『"S-TTL Auto" mode』. Then set 「EV Control Switch to standard position 」 (in this case, set position 『B』)
- Set Z-220/Z-220S(right side on the subject) to TTL Auto mode then D-2000 emits stronger flash output resulting in making shadow according to shooting condition.
- If you prefer to have shadow on the other side of the subject, attach 『-1.5』 diffuser panel on the D-2000. 【D-2000 emits low flash output】.

● Equipments
- Camera/housing : C-5050Z / PT-015
- Strobe : D-2000 ("S-TTL" Auto mode), Z-220 (TTL Auto mode)

● Note

- As in the right image, D-2000 and the housing has to be connected via specific 『Optical D Cable / Cap Set』 and the Z-220 / Z-220S has to be connected to the D-2000 via 『Optical D Slave Cable』.
- Select adequate diffuser panel among 『External Auto Compatible』 『-0.5/White』, 『-0.5/Blue』, 『-1.5/White』 and 『-1.5/Blue』 according to desired shadow effect or color tone.
- Standard position of 「EV. Control Switch」 or flash output balance between two strobes may vary depending on camera,shooting condition, camera parameters (such as aperture setting, distance to subject etc.)
- Attach 『Slave D Holder Unit』 to the diffuser panel which is not set to D-2000 so that the diffuser panel can be easily replaced underwater.

● Photo data/Subject
- Camera setting : f5.6 at 1/250, ISO64, Zoom 12.3mm, with Macro Mode ON
- Subject : Spotfin frogfish (Length 10cm approx.) Distance to subject : 7cm approx. Location: Fukuura, Photo by R. Hattori

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