Precautions

To avoid fire or electrical shock, do not expose this product to rain or moisture.

To avoid short circuit, please sure the batteries contacts are securely packed and in accordance with local provisions when handling the battery.

Please place the batteries and the parts which can be swallowed mistakenly away from children. Contact a doctor immediately when it occurs.

To avoid possible injury to eyes, do not use the flash light in a short distance from the eyes.

To avoid possible safety accident, do not use the flash light on the people who need a high degree of attention.

● This product is dropped or shocked seriously and the inner part of this product is bared.

● Wear gloves and take the batteries out if the corrosive liquid inside the batteries leaks.

● This product gives off strange smell, heat or smokes.

Do not dissemble or maintain this product because the internal high voltage circuit may cause the electric shock.

Please take out all the batteries if this product is not used for a long time.

Features

● **Equipped with LED modeling lights**

The modeling lamp is surrounded by 24 LED lamp beads. The brightness can be adjusted in 100 gears. It supports coarse adjustment (with 10 as an adjustment unit) and fine adjustment (with 1 as an adjustment unit), which is easy to use.

● **Compatible with YONGNUO RF radio system, making your multi-flashes lighting more flexible.**

This product can cooperate with YONGNUO YN685/YN560 IV/YN560 III/YN720/YN560TX PRO/RF605/RF603/RF602 and other products to form a radio trigger system. YN650EX-RF can be used as a master unit or as a slave unit. There are 15 channels for you to choose, and up to 5 groups of slave units can be controlled. It is easy to realize remote control of wireless TTL (Note: The flash unit used in combination also needs to support the RF system radio TTL flash function), manual flash, stroboscopic flash.

● **Support C series optical transmission wireless master flash**

In optical transmission wireless flash shooting, YN650EX-RF can be used as the main control unit to trigger YONGNUO and C brand EX series flashes (except for YN585EX), with a total of 4 channels to choose , realizing wireless TTL, manual flash, and stroboscopic flash.

● **Support C optical transmission wireless slave flash**

The same YN650EX-RF can receive the main control unit YN600EX-RT II, YN568EX III, 600EX(II)-RT, 580EX II, and C brand 7D/60D/600D and other camera internal flash wireless signal, realizing off-camera TTL, manual flash, stroboscopic flash.

● **Support high-speed synchronization function**

You can use YN650EX-RF to achieve TTL and manual flash simultaneously under all shutters, and the maximum shutter synchronization speed is up to 1/8000 second.

● **GN60@ISO100 200mm**

Professional creative high GN flash, support TTL, M, MULTI flash.

Contents

Conventions used in this user manual:

● In order to learn and master the operation of this speed-lite, at the meanwhile you read this manual, please take user manual of your camera as reference.

● In every operating step, we assume that both camera and speed-lite are power on.

Icons used in this user manual

　📑 ： Supplementary information

　🡽 ： Long press the button

　🡽 ： Short press the button

Quick Start

If you don't have much time to read the whole user manual, we advise you to read this section.

1.Please avoid the excessive use of the output with maximum power. It can effectively extend the service life of this product. (it is recommended that the flash should be idle for more than 10 minutes when entering the overheat protection.)

2.Short press the [MODE] button to switch the flash mode between TTL / M / Multi cyclically, and long press [MODE] to turn on or off the Gr mixed flash mode when used as a wireless master.

3.Short press the [⊞] button to enter the exposure compensation and manual flash output setting status, and long press [Fn] to enter the custom setting interface.
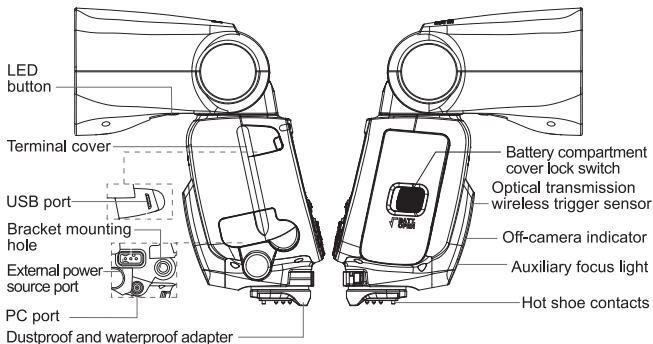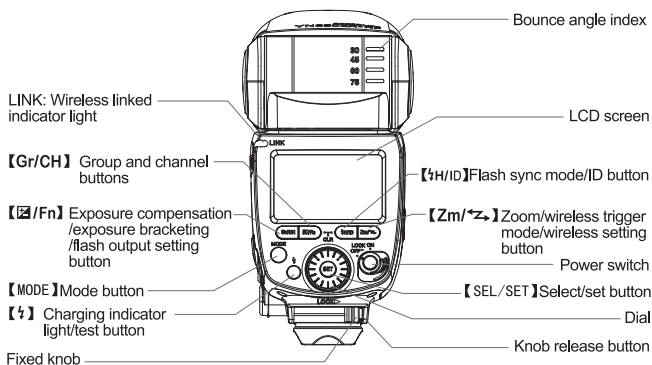
4.Short press the [Zm] button to enter the focal length setting, long press the [Zm] button to enter the trigger mode selection.

5.Wireless flash shooting status: short press the [Gr] button to switch groups, long press [CH] to enter the channel setting, and long press the [ID] button to enter the ID setting.
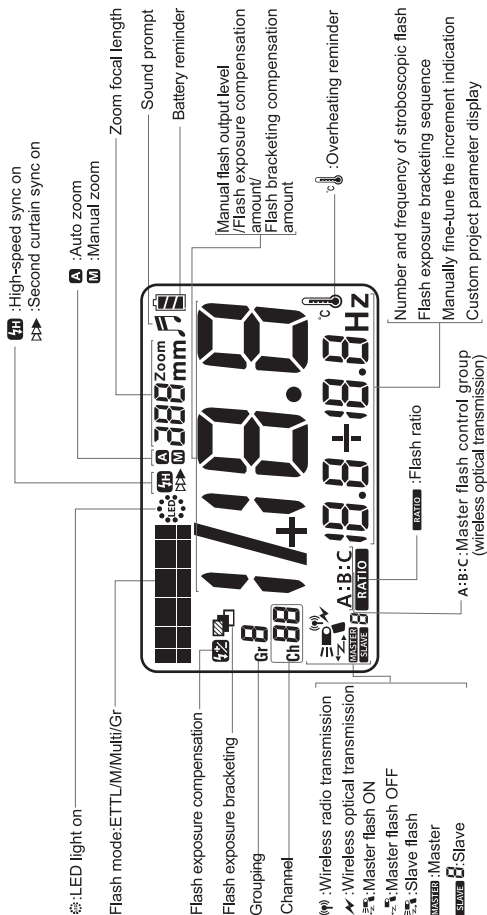
6.Press and hold the [Fn] and [ID] buttons simultaneously for 2 seconds to restore the flash shooting function settings and wireless shooting settings to the default normal top ETTL flash mode state.

7.In the shutdown state, keep pressing the [MODE] button and then power on to enter the firmware upgrade interface.

Components Description

Bounce angle index

LINK: Wireless linked indicator light

LCD screen

【Gr/CH】Group and channel buttons

【⚡H/ID】Flash sync mode/ID button

【☒/Fn】Exposure compensation /exposure bracketing /flash output setting button

【Zm/⚡Z】Zoom/wireless trigger mode/wireless setting button

Power switch

【MODE】Mode button

【SEL/SET】Select/set button

【⚡】Charging indicator light/test button

Dial

Knob release button

Fixed knob

LED button

Terminal cover

Battery compartment cover lock switch

Optical transmission wireless trigger sensor

USB port

Bracket mounting hole

Off-camera indicator

External power source port

Auxiliary focus light

PC port

Hot shoe contacts

Dustproof and waterproof adapter

LCD Display

🔆:LED light on

Flash mode:ETTL/M/Multi/Gr

Flash exposure compensation

Flash exposure bracketing

Grouping

Channel

((•)):Wireless radio transmission

✦:Wireless optical transmission

:Master flash ON

:Master flash OFF

:Slave flash

MASTER:Master

SLAVE:Slave

:High-speed sync on

:Second curtain sync on

:Auto zoom

:Manual zoom

Zoom focal length

Sound prompt

Battery reminder

Manual flash output level
/Flash exposure compensation
amount/
Flash bracketing compensation
amount

:Overheating reminder

Number and frequency of stroboscopic flash

Flash exposure bracketing sequence

Manually fine-tune the increment indication

Custom project parameter display

:Flash ratio

A:B:C:Master flash control group
(wireless optical transmission)

Charging indicator light status description

Status of Charging Indicator	Meaning	Method
Red light	The speed-lite is fully charged and can be used.	Normal.
Blue light	The speed-lite has not been fully charged.	Waiting for completion of charging.
Blue light blinking	A. Low battery; the speed-lite is about to shut down B. Overheat prompt	A. Please replace batteries. B.Reduce flash frequency or stop using the speed-lite until it cools down.
Red light blinking	Overheat prompt	Reduce flash frequency or stop using the speed-lite until it cools down.
Red light and blue light blinking	Overheat protection mechanism is activated.	Stop using the speed-lite/shut down the speed-lite until it cools down.

Voice prompt description

The Sound Form	Meaning	Method
Tick twice	The sound indicator is enabled; the speed-lite is started and ready to fire.	Normal
Three ticks, two times	The exposure is possibly excessive.	Adjust exposure compensation or change the shooting condition.
Tick Tick Tick	The exposure is possibly insufficient.	Adjust exposure compensation or change the shooting.
Tick-tick twice -tick twice	The charging has not been completed.	Wait for completion of charging.
Tick-a long sound	The speed-lite is fully charged and can be used.	Normal
Tick continuously and quickly	Low battery; the speed-lite is about to shut down.	Please replace the batteries.
Tick-tick-tick-	The speed-lite is in sleep mode and it shuts down automatically.	Please turn off the speed-lite and restart it.

LILINK indicator light status description

Indicator light status	Meaning
Blue light	Communication statu
Red light	Send and receive trigger signal

Off-camera status indicator description

Indicator light status	Meaning
Flashing	The slave unit is fully charged
Light off	The slave unit is not fully charged

Group status display and meaning

Group status display	Meaning	
	TX master flash mode	Rx slave flash mode
Gr A Gr A	At this time, you can set the flash mode, brightness and focal length of the master unit and the slave unit in A group	This unit is used as a group A flash in the slave unit
Gr B/C/D/E	At this time, the slave units of B/C/D/E group can be set separately flash mode, brightness, focal length through the master control unit	This unit is used as a slave flash in B/C/D/E group

Installation and dismantlement Introduction ▬

1.Install Batteries

Slide the batteries compartment cover in the direction of the arrow as shown.

Insert the batteries according to the label inside battery compartment and make sure the direction of the battery contact (+/-) is correct.

Close the [battery compartment cover] in the direction of the arrow as shown.
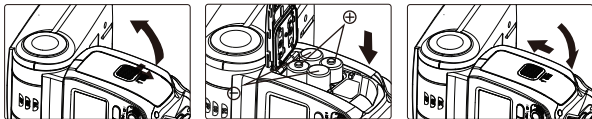
> Please use 4pcs of standard specification AA batteries. To avoid circuit,please do not use damaged batteries.

2.Attach the flash to the camera

Slip the flash [Hot shoe stand] into the camera hot shoe.

As shown by the arrow, slide the [fixed knob] to the right until it is locked.

3.Dismantlement

To remove the flash, press the [Knob Release] button while turning the [Fixed Knob] to the far left, and then remove the flash.
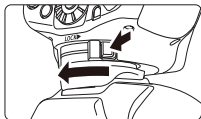
Basic Functions

1.Power on and Power off

Set the switch to <ON> position, the speed-lite will turn on and start charging; after turned on, the <Charging indicator> will be turned on with red light which indicates it is ready to fire.
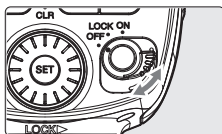
If the battery power is low, the flash will show the <low battery icon> with the <Charging indicator light> flickers in blue, and then automatically shut down. Please replace the battery at this time.

After use, set the switch to <OFF> position to turn off the power source. It's recommended to turn off the power source before you take out the batteries.

2.Button Lock Function

Turn the [Power Switch] to the <LOCK> position to lock the [Dial] and buttons of the flash. Use this function to prevent the set parameters from being accidentally changed. When this function is turned on, if the button is operated, <LOCK> will be displayed on the upper left corner of the display.

3.Test flash

After the flash <Charging indicator light> turns red, you can use the [TEST] button to test whether the flash is normal.

4.ETTL mode

Short press the [MODE] button to switch the flash mode to ETTL mode. In ETTL mode, the camera's metering system will detect the flash lighting reflected from the subject, thereby automatically adjusting the flash output, so that the subject and the background are exposed in a balanced manner.
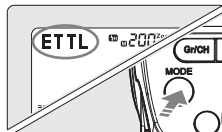
Supports functions such as exposure compensation, exposure bracketing, high-speed sync, rear curtain sync, exposure lock, aperture preview modeling light, and Canon camera menu access.

In ETTL mode, you can also compensate the flash brightness, the compensation range is -3EV ~ +3EV, the accuracy is 1/3EV or 1/2EV. The setting method is: short press the [⊠] button to make the < ⊞ > icon and the flash exposure compensation amount flicker, turn the [dial] to set the exposure compensation amount, and press [SET] to save the setting.

5.M Mode

Short press the [MODE] button to switch the flash mode to M mode. In M mode, you can set the flash brightness according to your needs. Short press the function button [⊠], and when the <flash output level> flashes, turn the [dial] to adjust the flash output brightness. The adjustment range of flash output brightness in M mode is 1/128~1/1, and there are 8 levels of brightness. There are up to 3 levels of fine adjustment for each level, with 1/3EV as the adjustment increment, and a total of 22 levels of fine adjustment. When shooting, you only need to set the flash output, adjust the camera and press the camera shutter, the flash will fire under the camera's sync signal.
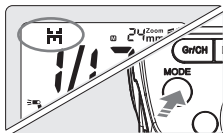
6.MULTI Mode

Short press the [MODE] button to switch the flash mode to MULTI mode. MULTI mode is stroboscopic mode. In this mode, the flash will fire according to the output power, times of flash and flash frequency you set. The setting method of flash output is the same as M mode, the flash output range is

-11-
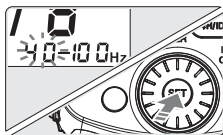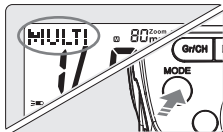
1/128-1/64-1/32-1/16-1/8-1/4. Short press [SET] to select the number or frequency of stroboscopic flashes. When the number or frequency of stroboscopic flashes, turn the [dial] to adjust the number of flashes and frequency. Both the number of flashes and the flash frequency are range from 1 to 100. When the number of flashes is set to <-->, the flash will continue to fire until the shutter is closed or the battery is exhausted.

> In the case of low battery power, the flash charging speed is slow, which may cause flash leakage during high-frequency flash. In this case, please reduce the flash frequency or replace with new batteries.
> The maximum number of strobes of the flash will be limited by the flash output power and flash frequency.

7.Modeling lights

The modeling lamp of this product is surrounded by 24 LED lamp beads. Long press the [LED] button under the lamp head to turn on or off the modeling lamp.


Brightness adjustment: Turn on the modeling light and turn the [dial] to adjust the brightness. Each time you turn the [Dial] one division, the brightness increment is 1 or 10, and the adjustment precision can be set through custom settings.
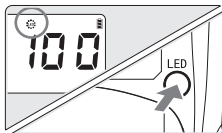
8.ZOOM：Set flash range

Short press the [Zm] button, and turn the [dial] when the focal length value on the LCD screen flashes to adjust the flash coverage to match the lens focal length of 28-200mm.

This product supports automatic zoom and manual zoom.
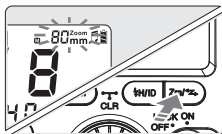
Auto zoom: When <A> is displayed on the left of the focal length value, the flash lamp cup will move back and forth as the focal length of the lens changes to adapt to different flash coverage (the default is 35mm).

Manual zoom: When <M> is displayed on the left of the focal length

value, you can manually adjust the flash coverage (28, 35, 50, 70, 80, 105, 135, 200mm).

9. Camera menu access (only supports Canon newer cameras)

The flash can be operated by accessing the camera menu on newer Canon cameras that support ETTL. On the external flash function setting and the external flash custom function setting in the flash control menu,you can set flash related parameters; such as switching ETTL mode, M mode, MULTI mode, Gr mode, wireless flash setting, synchronization mode, exposure bracketing, exposure compensation , Focal length and custom functions, etc.
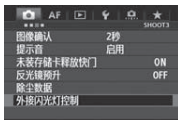
10. Auto-assisted focusing light

In low-light or low-contrast shooting environments, when the camera cannot focus automatically, the built-in flashlight will be activated to help the camera to focus. The auxiliary focus light can be set to be on or off through the flash setting or the camera's custom settings.

> To use this function, you need to set the camera's focus mode to one shot, otherwise the focus light may not be on.

11.Modeling Flash

When you operate the aperture preview button on the camera, the flash will fire continuously for 1 second, that is the modeling flash. For detailed operations, please refer to the camera manual.

> Please try to control the number of continuous imaging flashlights below 10 times to prevent the flash from overheating or burning out.

12.Power saving mode

This product is designed with a power saving mode. This power saving mode can be realized by custom function settings. For specific setting methods, please refer to the subsequent "Custom Function Settings" chapter. After the power saving mode is turned on, the flash will enter the sleep state after being idle for a period of time, and the flash will automatically shut down after being idle for a period of time. After the flash sleeps, the screen display will turn off and the recycling indicator will light up in blue. At this time, you can wake up the flash by pressing the camera shutter halfway or pressing the [TEST] button.

13.Overheating protection

Too frequent continuous flash, the temperature of the flash lamp head may rise, in order to avoid overheating from damaging the lamp, the flash will give an overheating warning, at this time the flash <Charging indicator light> will flash in a single color, and the recycling time may be longer. After the overheat warning appears, the flashing at a high frequency will activate the overheat protection mechanism. At this time, the LCD screen will display the <overheat protection> icon and the <Charging indicator light> will flash alternately in red and blue. After the overheating protection mechanism is activated, the

flash will be locked and unable to change the parameters or flash. At this time, please leave the flash idle for 10-15 minutes and wait for the flash to cool down before continuing to use it. To avoid affecting the shooting, when you need to shoot quickly, please try to use 1/4 and below output.

> When an overheating warning appears, please reduce the flash frequency or flash output appropriately.
> When removing the battery after flashing multiple times in succession, please be careful that the battery may be very hot.

14.Voice prompt

The sound prompt can be turned on or off through the custom function

setting option FN-20. After turning on, the flash will emit different sounds to prompt its working status. For detailed sound mode and meaning, please refer to the "Parts Description" chapter.
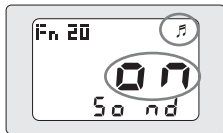
15.Off-camera status indicator light

The off-camera status indicator light can be turned on or off through the custom function setting option FN-E4. The off-camera status indicator light can reflect the charging status of the off-camera flash in real time, which is convenient for you to grasp the recycling status of the slave units from a distance. After enabling this function, the indicator light will flash when the slave unit is fully charged.
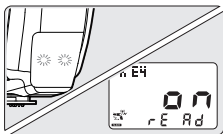
16. Automatically save settings

When the power is turned off through the [Power switch], the flash will automatically save the current settings so that you can continue using it next time you turn it on.

17. Clear flash settings

Press the [+/-] and [ID] buttons at the same time for about 2 seconds, in addition to the custom function settings, the trigger mode, flash mode, flash output, focal length and other parameters will be restored to the default settings.
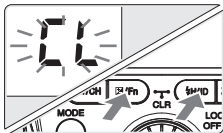
For the operation method of restoring custom function settings, please refer to the chapter on custom function settings.

18.Firmware upgrade

This product supports firmware upgrade. Users can log in to YONGNUO official website https://www.hkYONGNUO.com/xzyzc to download the latest upgrade software and firmware to upgrade the flash. The upgrade method is:

1.Connect to the computer via a micro USB cable (micro USB cable needs to be purchased separately).
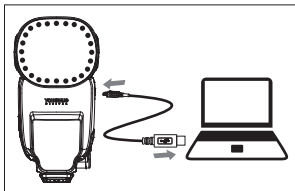
2. When the flash is off, press and hold the [MODE] button and turn it on to enter the upgrade interface.

3. Open the upgrade software and follow the software prompts to upgrade.
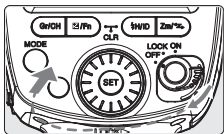
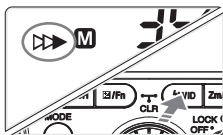# Advanced Applications

1.High-speed sync flash

With high-speed sync flash (FP flash), you can use the flash simultaneously under all shutters, and the maximum sync speed can reach to 1/8000 second. High-speed sync flash is particularly convenient when using aperture priority to fill flash portraits. Short press the function button [⚡H] to turn on or off the high-speed synchronization function. After the high-speed synchronization is turned on, the LCD screen will display the high-speed synchronization icon.
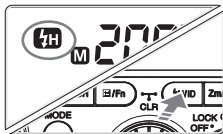
> When this product is used as a slave unit, the flash synchronization mode needs to be set by the master control unit.

2.Rear curtain sync

When the rear curtain sync is turned on, the flash will fire at the moment when the shutter is about to close. Using a slow shutter speed and rear curtain sync can create smear for the subject. The rear curtain sync function needs the support by the camera itself, please refer to the camera manual for the setting method. On the premise that the camera supports this function, you can turn on or off the rear curtain sync function by operating [⚡H] on the flash control panel. After the rear curtain sync function is turned on, the rear curtain sync icon will be displayed on the LCD screen.

3.Long-distance wireless flash

YN650EX-RF supports long-distance wireless flash: 2.4GHz radio wireless flash shooting (602/603 wireless flash system) has an effective flashing distance of up to 100m; optical transmission
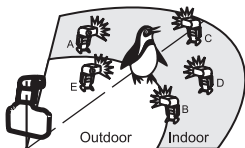
Outdoor   Indoor

wireless flash shooting (Sc/S1/S2) the longest distance for indoor use can reach to 25m, and the longest distance for outdoor use can reach to 15m. Please refer to the "Wireless Flash Shooting" chapter for detailed setting methods.

> In optical transmission wireless flash photography, when the flash works in Sc trigger mode, the flash mode and brightness of the slave unit are completely controlled by the master control unit.

4.Flash exposure compensation

To make the shooting effect more suitable for your needs, you can set flash exposure compensation through the camera menu or flash setting. The exposure compensation value setting range on the flash is -3EV ∼ +3EV, and the exposure level increment is 1/3EV or 1/2EV (exposure increment needs to be set by the camera). Short press the function button [⊠] of the flash to enter the exposure compensation setting state, rotate the [dial] to adjust the exposure compensation value, and press the [SET] button to save the setting.
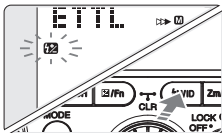
> When exposure compensation is set on the flash, camera, and flash trigger at the same time, the compensation value will be superimposed.

5. Flash exposure bracketing

You can set exposure bracketing by camera or flash. Set the exposure bracketing method on the flash: continuously short press the [⊠] button until < 🔋 >flashes, turn the [dial] to set the exposure bracketing amount, and short press [SET] to save the setting. After setting the exposure bracketing, a certain amount of positive or negative compensation will be automatically applied to the exposure for every 3 pictures, for example, the exposure will be in the order of "normal→ under→over". This feature can help you improve the success rate of shooting.
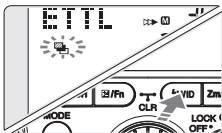
When using the exposure bracketing function, it is recommended to set the camera's drive mode to "single shot" and confirm whether the flash is fully charged before shooting.

6.FE lock (Canon)

To use this function, you should lock the center of camera's viewfinder at the subject which needs flash exposure, press the flash exposure lock [*] button of the camera, the flash will emit a pre-flash, and the camera will calculate the appropriate flash output data. You have a period of time to recompose the picture, you can press the shutter to shoot after composing the picture (this function needs the support of your camera itself, please refer to your camera manual for setting).

7.High-speed continuous shooting

This product supports high-speed continuous shooting function, please set the camera to continuous shooting mode, and then shoot.

The quantity of photos of burst shooting depends on the flash output setting. Please use battery with sufficient power.

# Wireless flash shooting

1.2.4GHz radio transmission

YN650EX-RF is compatible with YONGNUO RF radio trigger system, and can be used as a master unit or a slave unit during radio flash shooting.

When used as a master unit, it can remotely control the flash mode, flash output and focal length of the slave units YN320EX, YN720, YN560 III, YN560 IV, YN660, YN685, YN862.

When used as a slave unit, it can receive the radio trigger signal of a flash trigger (such as RF602, RF603, YN560-TX Pro, etc.) or flash (such as YN560 IV, YN660, YN862, etc.) with 602/603 master control function. If supported by the master control unit, the flash mode, flash output and focal length can be changed remotely through the master control unit.

•Master control unit, slave unit settings

Master control: Long press the [⚡] button to enter the trigger mode selection interface, rotate the [dial] until the < (¶) > and < MASTER > icons appear on the display, and press [SET] to save the settings.
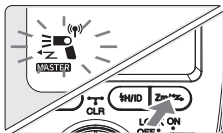
Slave: Long press the [⚡] button to enter the trigger mode selection interface, rotate the [Dial] until the < (¶) >and < SLAVE > icons appear on the display, and press [SET] to save the settings.
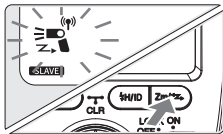
•Select radio signal

Enter the custom option Fn-E2 and set the radio signal to RF602 or RF603. During the flashing process, ensure that the radio signals of the master control unit and the slave unit are set to be consistent, otherwise the flashing cannot be triggered.
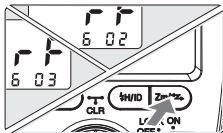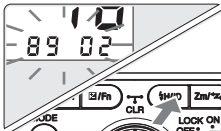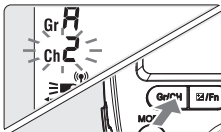
•Transmission channel/radio ID settings

If other photographers are using radio wireless multiple flash shooting or other radio equipment in public, you can change the transmission channel and ID to avoid interference. YN650EX-RF has 16 physical channels and 10,000 IDs to choose.

Set the channel: long press [CH] to enter the channel waiting state, turn the [dial] to select the appropriate channel from 1 to 16, short press [SET] to save the setting.

Set ID: Long press[ID]to enter the ID waiting state, short press [SET] button to select the digits of the ID, turn the [dial] to select the desired number from 0 to 9, then short press [MODE] Or 【TEST】button to save the setting. In the ID setting interface, you can short press the 4 buttons at the bottom of the screen to quickly select the number of ID digits to be changed.

> During the radio transmission wireless shooting process, you must ensure that the transmission channel and ID of the master unit and the slave unit are set to the same, otherwise the flash will not be triggered normally.

•The master flash on or forbid flash （ON/OFF）

When YN650EX-RF is used as the master control unit for radio wireless flash photography, you can choose whether the master unit participates in the flash. When the flash setting of the master flash is ON, the master unit will participate in the flash as a group A flash.
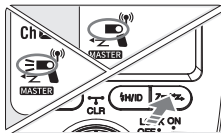
Setting method: Short press the [Zm] button continuously until <≡◥> or < ◥ > flashes, and turn the [Dial] to set the master flash ON or OFF. <≡◥ >indicates that the master flash is ON, < ◥ >this icon indicates that the master flash is OFF.

•Slave unit group setting

On the slave unit, short press the [Gr] button
to switch the flash to the group you want to
set. There are 5 groups A/B/C/D/E for the
slave unit to choose from. (Please refer to
the chapter "Group display status and
meaning")
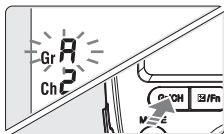
•Slave unit flash parameter setting

When used as a slave unit, the parameters can be set directly on this
flash, or the parameters can be changed remotely through the master
control unit. The method of directly setting the flash mode, flash output,
and flash coverage on this light is the same as a normal on camera
flash. To remotely set the parameters of the slave unit, you only need to
set the flash mode, flash output, and flash coverage of the
corresponding group on the master control unit and all the settings will
be synchronized to the group of slave unit flashes.

•Wireless flash shooting using 1 to 3 slave units

On the slave unit flash, short press [Gr] to set the slave unit to any group
of A, B, C.

On the master control unit, continuously
short press [Zm] until the <RATIO> icon
flashes on the display, turn the [dial] to select
in turn: RATIO OFF, RATIO A:B, RATIOA:BC
(or RATIO A:B:C) . Short press the [Gr]
button to select the control group, and turn the
[Dial] to adjust the flash ratio, exposure compensation and flash output
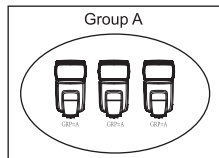of the group.
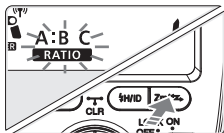
> When <RATIO A:B> is set, the slave unit flash set to C will not fire.
> To make all three groups of slave units A, B, and C flash with the same flash output,
> set to <RATIO OFF>.

If you need a larger flash output or want more complete lighting, you can
increase the number of flash units in a group of slave units.

For example: if the groups of 3 slave units are set to <A>, they will be fired as a flash unit of the slave unit group and controlled by the master unit.


•Gr: Set different flash modes, brightness, and focal lengths for each group of flashes for wireless flash shooting.

On the main control unit, long press the [MODE] button to turn on or off the Gr mixed flash mode. After turning it on, the screen displays <Gr.*>. The master control unit turns on the Gr mode, it can remotely set different flash modes, flash brightness and focal lengths for each group of slave units of A/B/C/D/E.
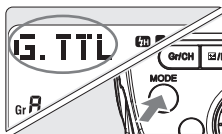
The <Gr A... E> displayed on the master control unit is the flash parameter control of the group of slave units. Take "remotely control the flash parameters of the group B slave unit" as an example: firstly short press <Gr> on the master control unit continuously until the flash control group displays <Gr B>. In this interface, the flash mode, flash brightness output, and focal length will be updated to the slave units of group B. For more grouping meanings, please refer to the chapter "Group display status and meaning".

Master Control Unit → Remotely Control → Slave Unit
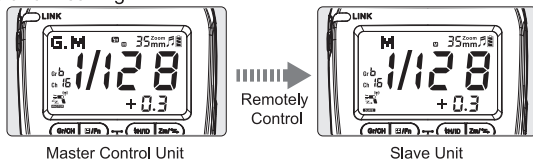
In wireless radio flash shooting, the flash mode, brightness output, and focal length of the master control unit are controlled by Group A.
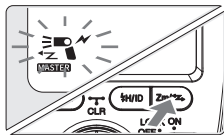
2.Optical transmission

YN650EX-RF supports optical transmission wireless flash shooting function, realizing wireless TTL, manual and stroboscopic functions: When it is used as the master unit, it can directly trigger YONGNUO and C brand EX series flashes (except YN585EX) through optical transmission; when it is as a slave unit ,YN650EX-RF can receive the optical transmission of wireless signals from YONGNUO YN600EX-RT (II), YN568EX III, C family 600EX (II)-RT, 580EX II, 7D/60D/600D camera internal flash, etc..

The flash mode, manual flash output, flash exposure compensation, flash exposure bracketing, exposure lock and other parameter settings set by the master control unit will be automatically transmitted to each group of slave units.

YN650EX-RF supports up to 3 groups of slave unit flash control A, B, C in optical transmission wireless flash shooting, and there are 4 channels (CH1/2/3/4) to choose from. The setting method of flash grouping and transmission channel is the same as wireless radio transmission flash shooting.

•Master control unit settings

Long press the [⇄] button to enter the trigger mode selection interface, rotate the [dial] until the< ⚡ >and < MASTER > icons appear on the display, press [SET] to save the setting.

Short press the [MODE] button on the master control unit, the flash mode will switch among ETTL, M, and Multi.

•Slave unit settings

Long press the [⇄] button to enter the trigger mode selection interface, rotate the [Dial] until the < ⚡ > and < SLAVE > icons appear on the display, press [SET] to save the

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settings.

When YN650EX-RF is used as an optical transmission wireless slave unit, there are 4 trigger modes for selection: Sc, S1, and S2.

Sc trigger mode can receive optical transmission of wireless signals from YN650EX-RF, YN600EX-RT(II), YN568EX III, C brand 600EX (II)-RT, 580EX II, 7D/60D/600D camera internal flash, etc., to realize off-camera TTL and manual flash. When YN650EX-RF works in Sc trigger mode, the flash mode and brightness of the slave units will be fully controlled by the master control unit.

Sc trigger mode: only accept C brand optical transmission wireless flash signal.

The S1/S2 trigger mode is suitable for manual flash mode and TTL flash mode respectively. When YN650EX-RF works in S1/S2 trigger mode, the flash mode defaults to M mode, and the flash output setting method is the same as ordinary on camera flash M mode.

S1 mode: When the flash is in S1 mode, it will trigger the flash synchronously with the first flash of the master flash, the effect is the same as using a wireless flash trigger. To use this mode normally, your master flash must be set to manual flash. The TTL flash system with pre-flash should not be used, and the red-eye reduction function with multiple flashes also should not be used.

S2 mode: Also known as "pre-flash cancel mode", this mode is similar to S1 mode, but it can ignore the pre-flash from TTL flash, so it can support the master flash working in TTL mode. In particular, if the S1 mode cannot synchronize with your built-in flash, you can try the S2 mode.
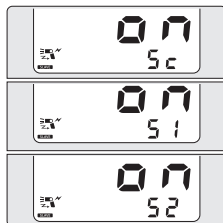
The following situations should be avoided when using S1 and S2 modes. The master flash uses the red-eye reduction function; the master flash uses the optical wireless flash mode; uses ST-E2 as the flash controller; otherwise, the flash may be out of sync.

Custom function settings

You can customize the flash function according to your personal preference. Long press the function button [Fn] to enter the custom function menu, rotate the [dial] to select a custom function item (number, such as Fn-01), short press the [SET] button to enter the item sub-menu, and rotate the [dial] To change the function settings of the sub-menu, short press the [SET] button to save the settings and exit the sub-menu. After finishing the custom function setting, press [TEST] to return to the shooting interface.

The custom functions supported by YN650EX-RF are as follows:

Fn number: 01
SL EP on: Turn on the power saving function
SL EP oF: Turn off the power saving function
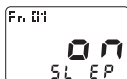
Fn number: 03
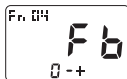Fb CL on: Turn on exposure bracketing and automatic cancellation
Fb CL oF: Turn off exposure bracketing and automatic cancellation

Fn number: 04
Fb 0 − +: The sequence of flash bracketing exposure is 0→−→+
Fb − 0 +: The sequence of flash bracketing exposure is −→0→+

Fn number: 08
AF on: Turn on the auto focus assist lamp
AF oF: Turn off the auto focus assist lamp

Fn number: 09
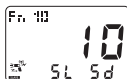FrA on: Enable automatic image size recognition
FrA oF: Disabled

Fn number: 10
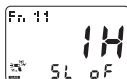SL Sd 10: The slave unit is idle for 10 minutes to sleep
SL Sd 60: The slave unit is idle for 60 minutes to sleep

Fn number: 11
SL oF 1H: The slave unit will automatically shut down after being idle for 1 hour
SL oF 8H: The slave unit will automatically shut down after being idle for 8 hours

Fn number: 20
So nd on: Turn on the voice prompt function
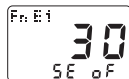So nd oF: Turn off the sound prompt function

Fn number: E1
SE oF 30: The on-camera flash will automatically shut down after 30 minutes of sleep
SE oF 1H: The on-camera flash will automatically shut down after 1 hour of sleep
SE oF 2H: The on-camera flash will automatically shut down after 2 hours of sleep
SE oF –: The on-camera flash will not automatically shut down after sleep

Fn number: E2
rF 602: 602 trigger signal
rF 603: 603 trigger signal

Fn number: E3
Gr AE: The master control unit can remotely control the 5 groups of parameters of the slave unit A/B/C/D/E
Gr AC: The master control unit can remotely control the slave unit A/B/C/ 3 sets of parameters
Gr AB: The master control unit can remotely control the 2 sets of parameters of the slave unit A/B
Gr A: The master control unit can remotely control a group of parameters of the slave unit A

Fn number: E4
rE Ad on: Slave unit status indicator is on
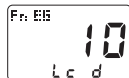rE Ad oF: Slave unit status indicator is off

Fn number: E5
Ad ju +1: Modeling light increment is 1
Ad ju +10: Modeling light increment is 10

Fn number: E6
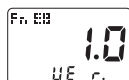LCD 1~10: LCD backlight brightness adjustment
Fn number: E7
CL EA: Restore the default settings of advanced options (long press the [SET] button in this interface to restore the default settings)

Fn number: E8
VER. xx: Flash current version information

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Troubleshooting guide

1.The power cannot be turned on or the flash does not fire.

Please check whether the battery is installed correctly and whether the battery power is sufficient; please make sure that the flash hot shoe is completely in the camera hot shoe socket, and the flash fixing knob is locked. Make sure that the modeling light is turned off.

2.Optical transmission wireless shooting cannot flash.

When using it outdoors, please avoid direct sunlight to the wireless sensor of the flash; make sure that the channels of the master unit and the slave unit are set to the same, and the slave unit is within the effective wireless transmission range of the master unit.

3.Flash cannot be used for radio transmission wireless shooting.

Please make sure that the channel and ID of the master unit and the slave unit are set to the same, and the slave unit is placed within the effective wireless transmission range of the master unit.

4.The photo is underexposed or overexposed.

Check whether the camera's shutter, aperture, and sensitivity (ISO) are too close to the flash limit, or whether the flash-related settings such as exposure compensation and exposure bracketing on the camera and flash are correct.

5.The photos appear dark corners or subject can be only partially lit up.

Please check the current flash coverage;Please check whether the lens focal length is beyond the range of the flash, if so, you can try to pull out the wide panel to enlarge the coverage of the flash.

6.The flash control panel display blurred.

There is a layer of film on the screen when it is out of the factory, you can tear it to enjoy more clear visual effect.

7.Flash in error state.

Please try to turn off the power of the flash and camera, remove the flash from the camera and install again , and then restart the power of the flash and camera. If there are still abnormalities, you can contact YONGNUO after-sales service hotline 400-0013-888 or send an email to service@hkYONGNUO.com for help.

Specification

Circuit design	Insulated Gate Bipolar Translator (IGBT)
Guide number	60 (ISO 100, 200mm)
Flash mode	TTL, M, MULTI, Gr
Trigger mode	set-top, radio master, radio slave, wireless optical master, wireless optical slave (Sc, S1, S2)
Lamp holder zoom range	28, 35, 50, 70, 80, 105, 135, 200mm
Up and down rotation angle	-7~90 degrees
Left and right rotation angle	180 degrees each
Power supply	4 *AA alkaline batteries or AA nickel-metal hydride (Ni-MH) batteries
Light-emitting times	100~1500 times (using AA alkaline batteries))
Charging time	about 2 seconds
Color temperature	5600k
Flash time	1/200 second ~ 1/20000 second
Flash control	8 levels of brightness control (1/128~1/1), a total of 22 levels of fine adjustment
LED modeling lamp powe	about 2w
LED modeling lamp color temperature	about 5600K
External interface	Hot shoe, PC interface, external charging interface, USB interface
Radio transmission trigger distance	up to 100 meters
Optical transmission trigger distance	20-25 meters indoor, 10-15 meters outdoor
Additional functions	Master flash, off-camera flash, high-speed sync, rear curtain sync, exposure compensation, exposure bracketing, exposure lock, lamp head electric zoom, voice prompts, automatic save settings, power saving mode, overheat protection, custom functions, firmware upgrades
Volume	about 65×78×204mm (stretched state)
Net weight	about 430g
Included items	Flash (1), protective bag (1), miniature base (1), Manual (1), product certificate (1)

Specification

Guide Number (ISO 100, in meters / feet)

Flash Output	Flash Coverage (mm)				
	28	35	50	70	80
1/1	30/98.4	36/118.1	42/137.8	50/164	53/173.9
1/2	21.2/69.6	25.5/83.7	29.7/97.4	35.4/116.1	37.5/123
1/4	15/49.2	18/59.1	21/68.9	25/82	26.5/86.9
1/8	10.6/34.8	12.7/41.7	14.8/48.6	17.7/58.1	18.7/61.4
1/16	7.5/24.6	9/29.5	10.5/34.4	12.5/41	13.3/43.6
1/32	5.3/17.4	6.4/21	7.4/24.3	8.8/28.9	9.4/30.8
1/64	3.8/12.5	4.5/14.8	5.3/17.4	6.3/20.7	6.6/21.7
1/128	2.7/8.9	3.2/10.5	3.7/12.1	4.4/14.4	4.7/15.4

Flash Output	Flash Coverage (mm)		
	105	135	200
1/1	58/190.3	59/193.6	60/196.9
1/2	41/134.5	41.7/136.8	42.4/139.1
1/4	29/95.1	29.5/96.8	30/98.4
1/8	20.5/67.3	20.9/68.6	21.2/69.6
1/16	14.5/47.6	14.8/48.6	15/49.2
1/32	10.3/33.8	10.4/34.1	10.6/34.8
1/64	7.3/24	7.4/24.3	7.5/24.6
1/128	5.1/16.7	5.2/17.1	5.3/17.4

The electronic version manual can be downloaded from www.hkyongnuo.com
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