

Cactus[®]

User Manual

**Manual
Flash
RF60**

Table of Content

1. Getting to know RF60

Thank you for purchasing Cactus Wireless Flash RF60. The RF60 is a manual portable flash that allows you to command your lights off camera, with no wires. You can position your lights at any angle, direction and distance – the possibilities are endless!

- Built-in **Wireless Commander and Receiver**;
- **Remote Control** of Power levels and Zooms;
- **Group Control** up to 4 groups with configurable **Group Alias**;
- **Optical Slave** with **Delay** feature;
- **High Power** up to a Guide Number of 60 meters;
- **Compatible with Cactus V6** Wireless Flash Transceiver;
- **Multi-flash** feature;
- **High-speed Sympathy mode** provides HSS support when working with TTL flashes;

2. Caution and Warnings

Before using the product, read the following precautions to ensure correct and safe use and to help prevent damage of Cactus RF60.

1. Turn OFF all your equipments (Cactus units and cameras, etc.) before changing batteries or making connection.

2. Remove batteries and switch off the flash during storage.
3. Use only the batteries specified in this instruction manual;
4. Do not permanently store the product in a high temperature environment (i.e. under strong direct sunlight, near cooking stoves / oven).
5. Cactus RF60 should not be submerged in liquid or exposed to heavy rain unless it is properly protected.
6. Do not operate the device in the presence of flammable gases or fumes.
7. Do not fire the flash directly into the eyes of someone at close range.
8. Do not fire the flash directly at the driver of a moving car.

3. Major Specifications

- Guide Number (ISO 100) in meter:

Zoom (mm)	24	28	35	50	70	80	105
GN (meter)	33	34	38	45	53	57	60
GN (feet)	108	112	124	147	174	186	195

- Motor Zooms: 24mm – 28mm – 35mm – 50mm – 70mm – 80mm – 105mm

- Power levels (21 in total):

1/1	1/2	1/4	1/8	1/16	1/32	1/64	1/128
	1/2+0.3	1/4+0.3	1/8+0.3	1/16+0.3	1/32+0.3	1/64+0.3	1/128+0.3
	1/2+0.7	1/4+0.7	1/8+0.7	1/16+0.7	1/32+0.7	1/64+0.7	1/128+0.7

- Flash Durations: 1/300s – 1/20,000s
- Modes: Local (L), Master (M) and Slave (S)
- Working Radio Frequency: 2.4GHz
- Number of Channels: 16
- Number of Groups: 4
- Maximum Wireless Effective Distance: 200 meters

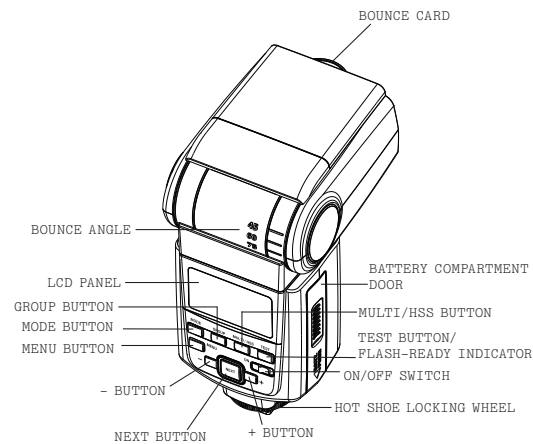
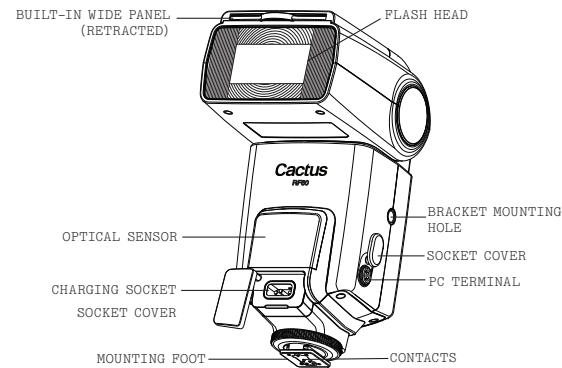
- Built in Optical Slave Mode: S1 (pre flash or main flash) / S2 (main flash only)
- Power input: 4x AA Batteries (LR6 alkaline or Ni-MH), rechargeable Ni-MH for best performance
- Flash count per battery cycle: 100-700 times (depends on power level)
- Recycle time: 0.1-5.0 seconds
- Color temperature: 5600k +/- 200k
- Operating temperature: -20°C to +50°C
- Dimensions: 205 x 83 x 61mm
- Net weight: 390g

4. Package Content

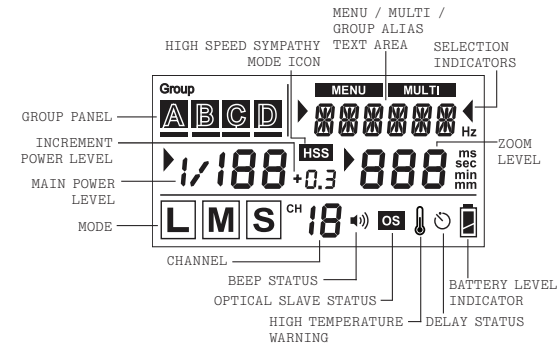
Cactus RF50 Flash (1)
Cactus Flash Stand FS-2 (1)
Cactus Flash Carrying Case FC-3 (1)
User Manual (1)

(illustration T.B.A)

5. Nomenclature



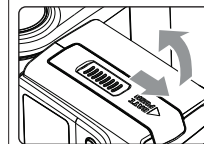
6. LCD Panel



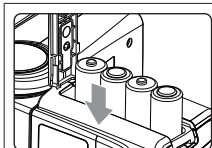
7. Getting Started

7.1

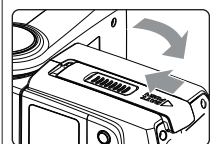
Inserting Batteries



1. Open the cover.
Use your thumb to press the battery compartment door, and slide it as shown by the arrow to open the door.



2. Install the batteries.
Make sure the positive (+) and negative (-) battery contacts are properly oriented as shown in the compartment.



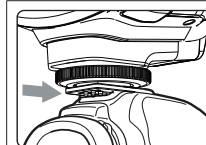
3. Close the cover.
Slide the battery cover as shown by the arrow to close it.

⚠ Caution

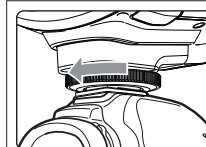
1. Use a new set of AA batteries of the same brand. When replacing batteries, replacing all four at one time.
2. AA-sized alkaline, Ni-HM or lithium batteries can be used.
3. If you change batteries after firing many flashes continuously, be aware that the batteries may be hot.

7.2

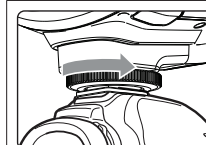
Attaching to the Camera



1. Attach the Flash.
Slide the flash's hot shoe mounting foot into camera's hot shoe all the way.



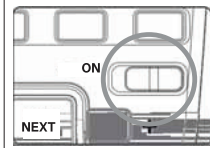
2. Secure the Flash.
Rotate the locking wheel on the mounting foot until it locks up.




3. Detach the Flash.
Rotate the locking wheel on the mounting foot until it is loosened.

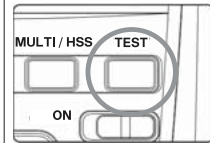
7.3

Turning on the Power Switch



1. Switch the On/Off Switch to ON.
Flash starts charging.

⚠ If  signal blinks on the LCD panel, the battery power is low and the flash stops charging. In this case, the zoom adjustment will be disabled. Please change the batteries immediately.



2. Check that the flash is ready.
 - The flash-ready indicator blinks in red, indicating that the flash is ready for quick flash (see Section 12.3).
 - Once fully charged, the flash-ready indicator will stay in red, and the flash is ready for giving full power output.
 - Press TEST button will fire a test flash.

⚠ Caution

1. When the flash is switched ON and the flash power is off automatically after a certain period of idle use, the flash still consumes power and power discharges for a long time may damage batteries. Therefore, shut off the flash power if the flash is not used for long periods of time. AA-sized alkaline, Ni-HM or lithium batteries can be used.

2. To avoid overheating and degrading the flash head, do not fire more than 20 continuous flashes. After 20 continuous flashes, allow a rest time for at least 10 minutes.

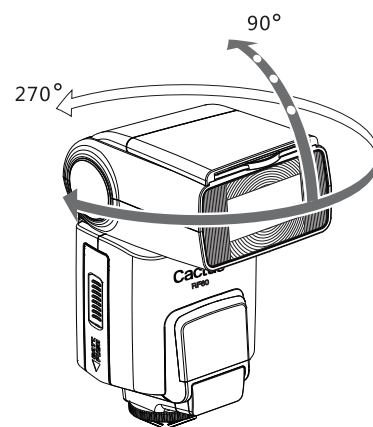
🌡 If you fire more than 20 continuous flashes in short intervals, the inner overheating prevention function may be activated to prolong the recycling time to about 8 – 20 seconds. The temperature warning signal would appear in the status bar of the LCD screen. If this occurs, allow a rest time of about 15 minutes, and the flash will then return to normal.

7.4

Adjusting Flash Head

By pointing the flash towards a wall or ceiling, the flash will bounce off the surface before illuminating the subject. This can soften the shadows behind the subject for a more natural looking shot. This is called a bounce flash.

The flash head of RF60 can be tilted to an angle of 45°, 60°, 75° and 90° vertically. Horizontally, it can be rotated to 30°, 60°, 90°, 120°, 150°, 180° to the right and 30°, 60°, 90° to the left. Hold the flash head and turn it to a satisfying angle vertically and horizontally.

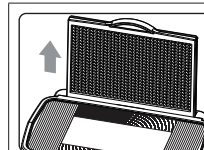


7.5

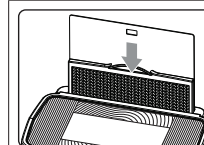
Bounce Card and Wide Angle Diffuser

There is a set of bounce card and wide angle diffuser built-in RF60. Bounce card is useful for strengthening a bounce flash creating a catch-light, while wide angle diffuser can increase the flash light coverage to 14mm wide.

Using Bounce Card

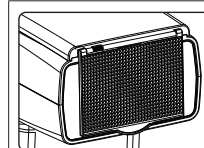


1. Point the flash head upward by 90°.
2. Pull out the wide angle diffuser, the bounce card will come out at the same time.



3. Push the wide angle diffuser back in, the bounce card will be ready for use.

Using Wide Angle Diffuser



1. Pull out the wide angle diffuser and place it over the flash head as shown. The bounce card will come out at the same time.
2. Push the bounce card back in. The flash coverage will be illuminating at 14mm coverage.

8. On-camera Operation: Local Mode **L**

8.1

Choosing Local Mode

There are 3 operating modes in RF60, namely Local, Master and Slave. Upon switching on RF60, press the **[MODE]** button to choose the appropriate mode. The mode indicator turns in the following sequence.

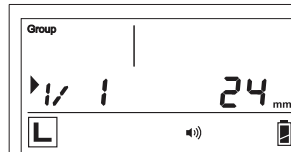


To use RF60 on camera's hot shoe without wireless connection, switch RF60 to Local mode.

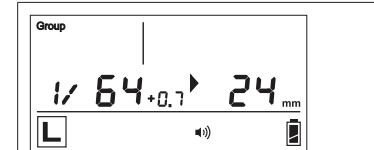
8.2

Adjusting Power and Zoom

In the main screen, the power level is shown on the left while the zoom right. The selection indicator ► will be shown at either the power level or zoom. Press the **[NEXT]** button to switch the selection indicator in order to adjust a setting of an item.



To adjust power, press **[NEXT]** until the selection indicator ► is pointing to power ratio value (i.e., the left figure in the central row), press + to increase or – to decrease the power level.



To adjust zoom, press **[NEXT]** until the selection indicator ► is pointing to the zoom value (i.e., the right figure at the centre row), press + to increase or – to decrease the zoom range.

The power levels available for adjustment are as below:

1/1	1/2	1/4	1/8	1/16	1/32	1/64	1/128
	1/2+0.3	1/4+0.3	1/8+0.3	1/16+0.3	1/32+0.3	1/64+0.3	1/128+0.3
	1/2+0.7	1/4+0.7	1/8+0.7	1/16+0.7	1/32+0.7	1/64+0.7	1/128+0.7

The power levels available for adjustment are as below:

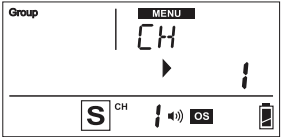
Zoom (mm)	24	28	35	50	70	80	105
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9. Wireless Flash: Master and Slave Modes **M S**

With a built-in RF (Radio Frequency) module, the RF60 has the capability to communicate with other RF60 unit wirelessly. To control and fire RF60 wirelessly, set up one RF60 in Master mode and the other RF60 units in Slave mode.

9.1

Setting Up RF60 Slave

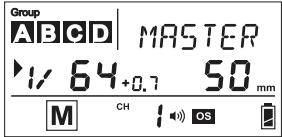


The diagram shows the RF60 Slave Mode Setup process. It starts with a screen displaying 'Group' and 'MENU' with 'CH' and '1' below them. A sequence of arrows indicates the mode changes: Local → Master → Slave. The final screen shows 'Group' with 'C' and 'MENU' with 'CH' and '1' below them. The status bar at the bottom shows 'S' CH, a battery icon, and 'OS'.

1. Switch all off-camera RF60 units to **Slave mode** by pressing **[MODE]**. Each press of the button will change mode in the following sequence:
Local → Master → Slave
2. Set all RF60 to the same **channel**. Press **[MENU]**, use + or – button to select the RF channel. Press **[MENU]** to go back to main screen. The selected channel will be shown at the bottom status bar.
3. Assign RF60 Slave units to either group A, B, C or D. Press Group to select the **[GROUP]** for each RF60. Each press of the Group button in Slave mode will change group in the sequence of A-B-C-D. The selected group will be shown on the group panel.

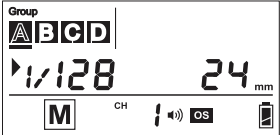
9.2

Commanding with RF60 Master

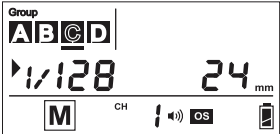


The diagram shows the RF60 Master Mode Setup process. It starts with a screen displaying 'Group' and 'MASTER' with 'ABCD' and '50 mm' below them. The status bar at the bottom shows 'M' CH, a battery icon, and 'OS'.

1. Set the on-camera RF60 to **Master mode** by pressing **[MODE]** (see Section 9.1).
2. Set RF60 Master to the same **channel** as RF60 Slave units (see Section 9.1).
3. Check the group status on the group panel. Only activated group(s) will be shown as A, B, C or D boxes.
4. On RF60 Master, you can change Power level and Zoom settings of the Master flash itself, and RF60 Slave flashes in A, B, C and D group.
5. The default group is the Master RF60 itself. In the display, the text area will show <MASTER>. No group is selected in the group panel, though it still shows the group activation status.



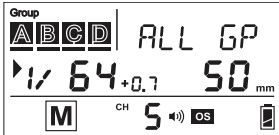
6. To select a particular group for remote control, press **[GROUP]** and the group selection indicator will go to group A.



7. Press **[GROUP]** again will select next group, i.e., group B. Each press on the Group button will select next group in the following sequence:
Master → A → B → C → D

8. **Adjust Power level** of the Master flash or of a particular group using + or - button. Press **[NEXT]** to **Zoom** and adjust also with the + or - button.

Note: The power level and zoom settings will only apply to the group being selected.

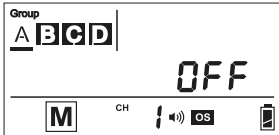


9. You may also change settings for all active groups at the same time. **To select all groups**, long press the **[GROUP]** button.

10. All selection indicators of the activated groups will be on and the text area will show <ALL GP>. The power level and zoom of the last group selected will be shown.

11. Adjust power level and zoom level as you do for a single group. The changes in both settings, however, will apply to all active groups, including the Master flash.

12. **To exit from all group control**, press **[GROUP]** button once.



13. If you wish to stop firing a particular group, **turn the group off** by selecting the group (see step 2 and 3) and long pressing the **[NEXT]** button. The screen will show <OFF> in the centre row.

Note: The RF60 Master can also be turned off by long pressing the **[NEXT]** button in the Master group. Once turned off, the RF60 Master will not fire, but it would still command RF60 Slaves to change setting and fire accordingly.

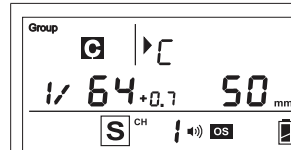
14. To **turn on a group** again, select the group (see step 2 and 3) and long press the **[NEXT]** button. The power level and zoom setting of the group will be shown in the centre row again.

15. Press the shutter on camera and the RF60 Master and Slave units in A, B, C or D group will fire at the power level and zoom setting as you have set in the RF60 Master.

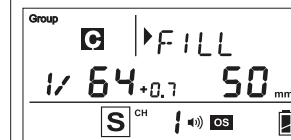
10. Group Aliases

The RF60 comes with a list of preset group alias for users to choose for the particular slave groups according to the purpose of each. The chosen group alias will be shown in the text area beside the group icons. The group alias will display whenever the group is selected.

The group aliases available for selection include:
KEY – FILL – SPOT – RIM – HAIR – LEFT
– RIGHT – BACK – FRONT



1. To **set group alias**, select the group you would like to set an alias, then press the **[GROUP]** and **[MENU]** button simultaneously.
2. The selection indicator and group alphabet will be shown in the text area. Press + or – button to scroll through the group aliases available for selection.



3. Press **[NEXT]** or **[MENU]** to confirm the alias and exit.
4. Repeat 1-3 to set aliases in all the Cactus RF60. To prevent confusion, make sure that you have set the same aliases for the same group in all RF60 units.

Group

FILL

1/ 64

+0.7

50 mm

S

CH

1

OS

Group

KEY

1/ 16

+0.3

24 mm

M

CH

1

OS

5. The alias of each group will appear in Slave mode or Master mode whenever the group is selected.

11. Advanced Operation

11.1

MultiFlash **MULTI**

In Multi mode, a rapid series of flashes is fired. It can be used to capture multiple images of a moving subject in a single frame.



In Multi mode, you can change the:

- Number of flashes
- Flash frequency per second in Hz
- Power level
- Zoom

The number of flashes represents the number of times the flash fires per frame. The flash frequency (Hz) represents the number of times the flash fires per second. Together with the shutter speed you have in mind, you could determine the appropriate value for number of flashes and flash frequency.

$$\text{Shutter Speed} = \frac{\text{No. of flashes}}{\text{Flash Frequencies(Hz)}} \times 1$$

For example, if you wish to take a picture at a shutter speed of 0.5 second and you wish to fire your flash 10 times per second (i.e., 10 Hz), the number of flashes would be 5.

Similarly if you wish to take a picture with 10 flashes, each fire at a frequency of 100Hz, the shutter speed should be set at 1/10 second.

Refer to the table below for the maximum number of flashes and flash frequencies supported by each power level.

Maximum Number of Multi Flashes

Power \ Hz	1	2	3	4	5	6-7	8-9
1/4	7	6	5	4	4	3	3
1/8	14	14	12	10	8	6	5
1/16	30	30	30	20	20	20	10
1/32	60	60	60	50	50	40	30
1/64	90	90	90	80	80	70	60
1/128	100	100	100	100	100	90	80

Power \ Hz	10	11	12-14	15-19	20-50	60-199
1/4	2	2	2	2	2	2
1/8	4	4	4	4	4	4
1/16	8	8	8	8	8	8
1/32	20	20	20	18	16	12
1/64	50	40	40	35	30	20
1/128	70	70	60	50	40	40

⚠ To avoid overheating, do not use Multi Flash more than 10 times in succession. After using Multi Flash for 10 times, allow the flash to rest for at least 15 minutes. Overuse of Multi Flash may cause over-temperature warning to protect the flash head. In this case, the flash may stop firing until heat dissipates and temperature drops to a safe level.

Notes:

1. Multi flash is most effective with a highly reflective subject against a dark background.
2. Multi flash is not supported at power level higher than 1/4.
3. Multi flash can be used with bulb mode camera shutter.

11.1.1 Multi Flash in Local Mode

Once you have determined the shutter speed, the number of flash and the frequency of flash, you can set up the flash in Multi mode.

Group | ▶ 0- 0 Hz

1/ 64+0.7 50 mm

L 🔊 🔋

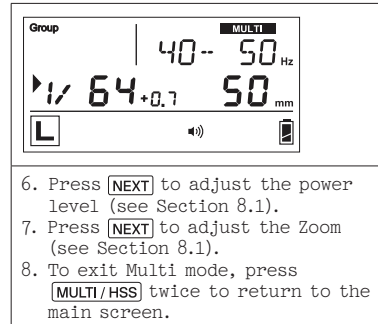
1. To enter Multi Mode, press **[MULTI/HSS]** once and the LCD screen will show the Multi and Hz icons.
2. Press **[NEXT]** until the selection indicator ▶ points to the beginning of the text area. The value before the hyphen represents number of flashes in Multi mode.
3. Press + to increase or – to decrease the number of flashes.

Group | 40- 0 Hz

1/ 64+0.7 50 mm

L 🔊 🔋

4. Press **[NEXT]** until the selection indicator ▶ points to the right of the text area. The value after the hyphen represents the flash frequency per second in Multi mode.
5. Press + to increase or – to decrease the flash frequency per second.



11.1.2 Multi Flash in Master and Slave Modes

When working wirelessly, the Multi flash setting of Slave RF60 will sync with the Master RF60 in the same channel.

1. To enter Multi mode in RF60 Master, press **[GROUP]** until you see <MASTER> displayed as the group name.
2. Press **[MULTI/HSS]** button once. The LCD of RF60 Master and Slave units will show the Multi and Hz icons. Both Master and Slave units are now in Multi Flash mode.
3. On RF60 Master, follow the steps in 11.1.1 to adjust the number of flashes and flash frequency per second (Hz). The flash frequency will apply to both Master and Slave units in all active groups. Whenever the number of flashes is larger than supported by the power level of a particular slave group (see table Maximum Number of Multi Flashes), it will be reduced accordingly.

4. Since Multi flashes are not supported in power levels higher than 1/4, the Slave RF60 set at those power levels will only flash once in Multi mode.
5. To exit Multi mode, press Group to Master, press **[MULTI/HSS]** button twice get return to normal flash mode.

Notes:

1. Multi mode and HSS mode (see Section 11.2) are exclusive options. Pressing the **[MULTI/HSS]** button changes the flash modes in the following sequence:
Normal Flash → Multi Flash
→ HSS Flash
2. On RF60 Master, the flash modes can only be selected in the Master group. The selection will apply to the RF60 Master and all RF60 Slaves in the active group(s).

11.2

HSS Sympathy Mode **HSS**

RF60 is a manual flash that does not have TTL capability which often supports High Speed Sync, such as HSS mode on a Canon and FP mode, or Focal Plane Shutter, on the Nikon. However, the RF60 offers a HSS Sympathy Mode that can work with TTL portable flash to support High Speed Sync wirelessly.

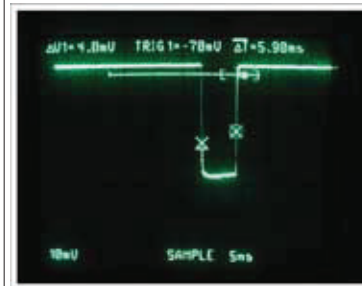
In HSS Sympathy mode, RF60 will fire flashes at longer duration with even illuminations. Longer flash duration enables synchronization at shorter shutter speeds, i.e. the shutter speed shorter than the camera's x-sync speed.

Instead of delivering one burst of light, RF60 units deliver several smaller bursts over a time interval as short as 1/125 of a second. This allows light to be captured by the entire area of the film or image sensor even though the shutter is never fully open at any moment.

Normal Flash



HSS Flash



To set up RF60 in HSS Sympathy Mode, you need a TTL flash with HSS / Auto

FP capability.

1. Mount the TTL flash on the camera's hot shoe.
2. Switch the RF60 Master to HSS mode by pressing Multi / HSS button twice. The HSS icon will show in the centre row of the LCD. This will automatically turn on the optical slave trigger in OS1 (the mode triggered by first pre-flash, see Section 11.3). Meanwhile, the RF60 Slave unit(s) will turn into HSS mode automatically.
3. Position the RF60 Master with its optical sensor facing the TTL flash head.
4. Take a test shot by pressing the camera shutter button.
5. If the flash does not fill up the picture, set the Delay Timer of the RF60 Master to 10ms and then 20ms, 30ms, etc. until the flash fully fill up the frame. The appropriate delay time that works with a high-speed shutter should be within the range of 10ms to 60ms.

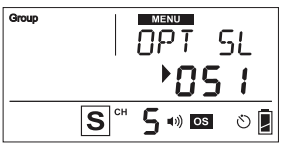
11.3

Optical Trigger OS

Optical trigger can act as an alternative trigger mechanism from radio signal. It is very useful in capturing pre-flashes signals that are being emitted earlier than the flash sync. Setting pre-flash triggered optical trigger with the delay timer (see Section 11.4) could manipulate the exact time when flash starts to fire.

Three optical trigger modes OS1, OS2 and OS3 are available for selection:

OS1: Triggering on the first pre-flash.
 OS2: Excluding pre-flashes and triggering on the main flash.

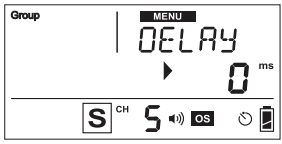


1. **To turn on the optical trigger**, press **MENU** then press **NEXT** button until the text area shows <OPT SL>. Use + and – buttons to select <OS1> or <OS2> in the selection area. Press **NEXT** or **MENU** to confirm.
2. The OS icon will show in the status bar of the main screen whenever any one of the optical trigger modes has been turned on.
3. **To turn off the optical trigger**, press **MENU** and then press **NEXT** buttons until the text area shows <OPT SL>. Use + or – button to choose <OFF>. Press **MENU** or **NEXT** to confirm.


11.4

Delay Timer

Every RF60 is equipped with a Delay Timer that can configure in either Master or Slave mode. The Delay Timer delays the trigger response for the time set by users. If you wish to fire the flash a bit later than the first curtain sync to create a different lighting effect, Delay Timer is helpful for your creation.



1. **To set Delay Timer**, press **MENU** then press the **NEXT** button until <DELAY> is displayed and the selection indicator ► points at the value in ms.



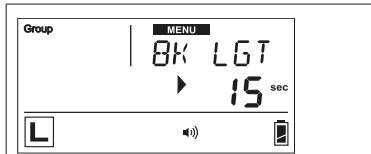
2. Use + or – button to set the Delay Timer in millisecond (ms) which is equal to 1/1000 second. You may set a delay time from 1 ms to 999 ms, i.e. close to 1 second.
3. The Delay Timer icon will show on the main screen status bar whenever a delay timer has been set.
4. **To turn off the Delay Timer**, follow step 1 to set delay time to 0. The delay timer icon will then disappear from the status bar on the main screen.

12. Personalizing RF60

12.1

LCD Backlight

The LCD backlight of RF60 turns on whenever any button are pressed. For energy saving, there is a timer setting that automatically turns off the backlight.



1. To configure the backlight duration, press **[MENU]**, and press **[NEXT]** until the text area shows <BK LGT>. Then use + or – buttons to choose from OFF, 5 sec, 15 sec, and ON.
2. The option ON will instruct the LCD to be on constantly.
3. Press **[NEXT]** to confirm and configure other items, or press **[MENU]** to confirm and leave.

12.2

Sleep

To prevent unnecessary energy consumption when users forget to switch off RF60 after use, the sleep timer will switch RF60 into sleep mode after a specified period.



1. To configure the sleep mode timer, press **[MENU]**, and press **[NEXT]** a few times until the text area shows SLEEP. Then use + or – buttons to choose from OFF, 15 min, or 60 min.
2. The option <OFF> will deactivate the sleep mode.
3. Press **[NEXT]** to confirm and configure other items, or press **[MENU]** to confirm and leave.
4. To wake up RF60 from sleep mode, press any button once.

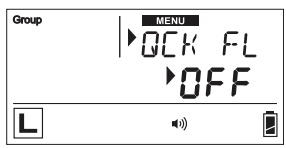
Note: Wireless triggering will not wake up RF60 Slave units remotely.

12.3

Quick Flash

The quick flash option allows user to fire RF60 even though it is not fully charged. However, the flash output may be lower than specified on the RF60 menu.

Enable quick flash when speed is more important than the accuracy of power output. Disable quick flash when accuracy is your prime concern.



1. To enable or disable the quick flash, press **[MENU]**, and press **[NEXT]** until the text area shows <QCK FL>. Then use + or – buttons to choose OFF and ON.
2. Press **[NEXT]** to confirm and configure other items, or press **[MENU]** to confirm and leave.

12.4

Beep

Besides the flash ready indicator, the built-in buzzer of RF60 also reminds you when the flash is ready in your own definition. Choose from the following options to best fit your shooting habit:

OFF

RF60 does not beep in any circumstance.

Fn1: Full Charge (READY)

RF60 beeps when the flash has been fully charged.

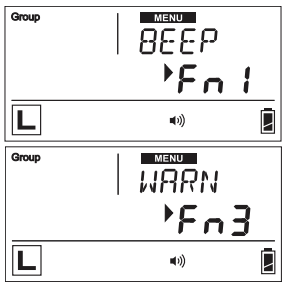
Fn2: Quick Flash (QCK FL)*

RF60 beeps when the flash has been charged enough for quick flash.

Fn3: Insufficient Power Warning (WARN)*

RF60 beeps only when the flash has fired a quick flash with a power lower than the selected level.

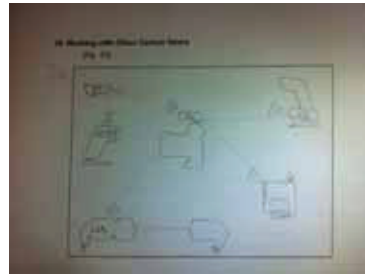
*Both Fn2 and Fn3 are only available for selection when the Quick Flash has been enabled (see Section 12.3).



1. To configure the beep option, press **[MENU]**, and press **[NEXT]** until the text area shows BEEP. Then use + or – buttons to choose from OFF, Fn1 (READY), Fn2 (QCK FL) or Fn3 (WARN).
2. When choosing the options with + or – buttons, the abbreviation of the options will be shown in the text area.
3. Press **[NEXT]** to confirm and configure other items, or press **[MENU]** to confirm and leave.
4. The beep icon will appear in the status bar whenever Fn1, Fn2 or Fn3 is selected.

13. Working with Cactus Triggers

The RF60 is compatible with Cactus Wireless Flash Transceivers V6, V5 and Laser Trigger LV5.



13.1

Cactus V6

With group function, Cactus V6 transmitter and RF60 flash can trigger and command each other, in either Master or Slave mode.

13.1.1 RF60 as Slave

With a built-in Cactus V6 RF module, Cactus RF60 can be remotely commanded and triggered by V6 TX. Note that the LCD of RF60 only supports the display of 1/3 EV stop.

Users may combine RF60 with other V6-compatible TTL flashes to form a manual flash control system. For example, assign a RF60 to group A, Canon 580EX (with a V6 RX) to group B, Nikon SB-900 (with another V6 RX) to group C. V6 TX will be able to trig-

ger them all and command their power level in either relative or absolute power mode.

13.1.2 RF60 as Master

Users may assign RF60 as master on camera's hot shoe, and let it trigger and command other RF60 Slave and V6 RX units altogether. While RF60 Master can control the power level and zoom of RF60 Slave, zoom control is not supported when working with V6 RX units.

Check the table below for the features supported in each pairing option:

TX(Master)	RX(Slave)	Note
V6	RF60	<ul style="list-style-type: none"> ✓ Triggering Slaves (RX) in 4 groups; ✓ Commanding the Power levels of of Slaves (RX) in 4 groups; ✓ Power levels adjustable from 1/128 to 1/1 full power, with 0.3 and 0.7 increments between major power levels (in 1/3EV power ratio); X Commanding the zoom of RF60; X RF60 LCD Screen Showing power ratio of 1/10 EV, 1/2 EV.
RF60	V6	<ul style="list-style-type: none"> ✓ Triggering Slaves (RX) in 4 groups; ✓ Commanding the Power levels of of Slaves (RX) in 4 groups; ✓ Power levels adjustable from 1/128 to 1/1 full power, with 0.3 and 0.7 increments between major power levels (in 1/3 EV power ratio); X Commanding the Zoom of RF60; X Commanding in power ratio of 1/10EV, 1/2EV and 1EV.

13.2**Cactus V5, LV5**

Cactus RF60 can work in pair with Cactus V5 or LV5. They all share the same 2.4GHz, 16-channel platform.

Since V5 and LV5 do not support groups and remote power control, RF60 Master will only trigger V5 set in any group: A, B, C or D. Similarly, both V5 and LV5 will trigger RF60 Slave set in any group.

RF60 as Master: trigger Cactus V5 in ANY group.

RF60 as Slave: will be triggered by Cactus V5 or LV5 in ANY group.

14.External Power

External power source provides faster recycling time and longer durability. To use external power source:

1. Open the external power cover of RF60 and plug in Cactus external battery EP-1.
2. Install AA batteries into the battery compartment.

15.Optional Accessories

1. Cactus Wireless Flash Transceiver V6
2. Cactus Wireless Flash Transceiver V5
3. Cactus Wireless Laser Trigger LV5
4. Cactus Mini USB cable MU-1
5. Cactus External Battery Pack EP-1

16. Troubleshooting

Before reading this section, ensure that Cactus RF60 has been set up correctly (follow the instruction in the Section 7-9 of this manual).

If problem persists after conducting the troubleshooting steps, contact your seller directly for further assistance.

1. Flash cannot be charged		
Symptom	Possible Cause	Solution
No Flash Ready Signal	Batteries are installed in wrong direction	Install batteries in the correct direction
	Batteries are nearly or have already been used up	Replace a new set of AA batteries
Temperature warning signal appears in LCD screen	Too many flashes have been fired in a short interval	Allow the flash to rest for at least 15 minutes

2. Flash power turns off by itself		
Symptom	Possible Cause	Solution
LCD turns off	Sleep mode is activated	<ul style="list-style-type: none"> - Press any button on RF60 once to wake it up from sleep mode - Check the Sleep mode configuration in Menu and revise it (see Section 12.2)

3. Local or Master Flash does not fire		
Symptom	Possible Cause	Solution
Flash Ready LED blinks or keeps on	Flash is not attached securely to camera	Attach the flash's hot shoe securely on the camera
	Electrical contacts of the flash or camera are dirty	Clean the contacts

4. Slave Flash does not fire		
Symptom	Possible Cause	Solution
Flash Ready LED blinks or keeps on	Channel mismatch	Set Slave flash to the same channel with the Master flash
	Group mismatch	Make sure the group assigned to the Slave flash has been activated on the Master flash
	Background radio interference	<ul style="list-style-type: none"> - Set both transceivers to another channel - Change setup location as interference may come from other equipment in the surrounding area
	Beyond 200m effective range	<ul style="list-style-type: none"> - Make sure Master and Slave flashes are placed within 200m (656 ft) of each other <p>Note: The effective range of 200m (656 ft) may not be achieved in the presence of radio interference</p>

5. Flash does not fire in sync		
Symptom	Possible Cause	Solution
Black frame appears in pictures	Shutter speed is faster than the camera's x-sync limitation	<ul style="list-style-type: none"> - Adjust the camera's shutter speed to the maximum supported x-sync speed - Set up RF60 in HSS Sympathy mode (see Section 11.3)
	Delay timer has been set incorrectly	Turn off the delay timer or adjust the delay timer to correct sync time

6. Flash misfires (Unexpected flash firing)		
Symptom	Possible Cause	Solution
Local or Master flash misfires	Poor hot shoe connection	<ul style="list-style-type: none"> - Adjust tightness of hot shoe contact - Clean hot shoe contact of RF60 with clean cloth
Slave flash misfires	Background radio interference	<ul style="list-style-type: none"> - Set both Master and Slave flashes to another channel - Change setup location as interference may come from other equipment in the surrounding area
	Master and Slave flashes are placed too close to each other	Place the Master and Slave flashes at least 20cm apart and retry
	Optical Trigger has been switched on and triggered by unexpected ambient light	Switch off the optical trigger, as it may not work in those environments

7. Flash power lower than specified		
Symptom	Possible Cause	Solution
Insufficient Power Warning beep (if enabled)	Flash fires when it is not fully charged	<ul style="list-style-type: none"> - Turn off quick flash - Fire subsequent flash slower
Ready Signal takes longer than usual to turn on	Batteries are nearly or have already been used up	Replace a new set of AA batteries

17. Notices

NOTICES FOR CUSTOMERS IN THE U.S.A.

Federal Communications Commission (FCC)
Radio Frequency Interference Statements.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

HARVEST ONE LIMITED AND THE MANUFACTURER OF THIS WIRELESS FLASH IS NOT RESPONSIBLE FOR ANY RADIO OR TV INTERFERENCE CAUSED BY UNAUTHORIZED MODIFICATIONS TO THIS EQUIPMENT. SUCH MODIFICATIONS COULD VOID THE USER AUTHORITY TO OPERATE THE EQUIPMENT



FCC ID: VAAFLARF60

MADE IN CHINA

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

R&TTE Declaration of Conformity (DOC)

We, Harvest One Limited, 9D On Shing Industrial Building, 2-16 Wo Liu Hang Road, Fo Tan, Hong Kong, declare under our own responsibility that the product:

Cactus Wireless Flash RF60 is in conformity with the essential requirements and other relevant requirements of the R&TTE Directive (1999/5/EC).



This product Cactus Wireless Flash RF60 is in conformity with the provisions of EU Council Directive: 1999/5/EC.



The crossed-out wheeled bin means that within the European Union the product must be disposed separately at the end of product cycle. Do not dispose this product with other municipal waste.

18. Warranty

The limited warranty set forth below is given by Harvest One Limited in the world with respect to the Cactus brand Wireless Flash purchased with this limited warranty.

Your Cactus Wireless Flash or other contents, when delivered to you in new condition in its original container, is warranted against defects in materials or workmanship as follows: for a period of one (1) year from the date of original purchase, defective parts or a defective Wireless Flash returned to our authorized dealers, as applicable, and proven to be defective upon inspection, will be repaired with new or comparable rebuilt parts or exchanged for a new Wireless Flash as determined by Harvest One Limited or the authorized dealers.

This limited warranty shall only apply if the Wireless Flash is used in conjunction with compatible camera and flash equipment, as to which items, Harvest One Limited, shall have no responsibility.

This limited warranty covers all defects encountered in normal use of the Wireless Flash, and does not apply in any of the following cases:

- (a) Loss of or damage to the Wireless Flash due to abuse, mishandling, improper packaging by you, alteration, accident, electrical current fluctuations.
- (b) Failure to follow operating, maintenance or environmental instructions prescribed in Cactus user's manual.
- (c) Receive services performed by someone other than Harvest One Limited or authorized dealers.
- (d) Without limiting the foregoing, water

damage, sand/corrosion damage, battery leakage, dropping the flash, scratches, abrasions or damage to the body, or damage to the hot shoe or PC cables, will be presumed to have resulted from misuse, abuse or failure to operate the Wireless Flash as set forth in the operating instructions.

NO IMPLIED WARRANTY, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, APPLIES TO THE WIRELESS FLASH AFTER THE APPLICABLE PERIOD OF THE EXPRESS LIMITED WARRANTY STATED ABOVE, AND NO OTHER EXPRESS WARRANTY OR GUARANTY, EXCEPT AS MENTIONED ABOVE, GIVEN BY ANY PERSON OR ENTITY WITH RESPECT TO THE WIRELESS FLASH SHALL BIND HARVEST ONE LIMITED. HARVEST ONE LIMITED SHALL NOT BE LIABLE FOR LOSS OF REVENUES OR PROFITS, INCONVENIENCE, EXPENSE FOR SUBSTITUTE EQUIPMENT OR SERVICE, STORAGE CHARGES, LOSS OR CORRUPTION OF DATA OR ANY OTHER SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES CAUSED BY THE USE OR MISUSE OF, OR INABILITY TO USE, THE WIRELESS FLASH, REGARDLESS OF THE LEGAL THEORY ON WHICH THE CLAIM IS BASED, AND EVEN IF HARVEST ONE LIMITED HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. IN NO EVENT SHALL RECOVERY OF ANY KIND AGAINST HARVEST ONE LIMITED GREATER IN AMOUNT THAN THE PURCHASE PRICE OF THE CACTUS WIRELESS FLASH SOLD BY HARVEST ONE LIMITED OR ITS AUTHORIZED DEALERS AND CAUSING THE ALLEGED DAMAGE. WITHOUT LIMITING THE FOREGOING, YOU ASSUME ALL RISK AND LIABILITY FOR LOSS, DAMAGE OR INJURY TO YOU AND YOUR PROPERTY AND TO OTHERS AND THEIR PROPERTY ARISING OUT OF USE OR MISUSE OF, OR INABILITY TO USE, THE CACTUS WIRELESS FLASH NOT CAUSED DIRECTLY BY THE NEGLIGENCE OF HARVEST ONE LIMITED. THIS LIMITED WARRANTY SHALL NOT EXTEND TO ANYONE OTHER THAN THE ORIGINAL PURCHASER OF HARVEST ONE LIMITED, OR THE PERSON FOR WHOM IT WAS PURCHASED AS A GIFT, AND STATES YOUR EXCLUSIVE REMEDY.

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PLEASE CONTACT YOUR LOCAL DEALER FOR
CUSTOMER SERVICES.

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You are cautioned that changes or modifications not expressly approved by the party responsible for compliance could void your authority to operate the equipment.

Cactus

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