

**Bolt™**

*Inspiration strikes*



**VS-560S**

**WIRELESS TTL FLASH**

**User's Manual**



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## Introduction

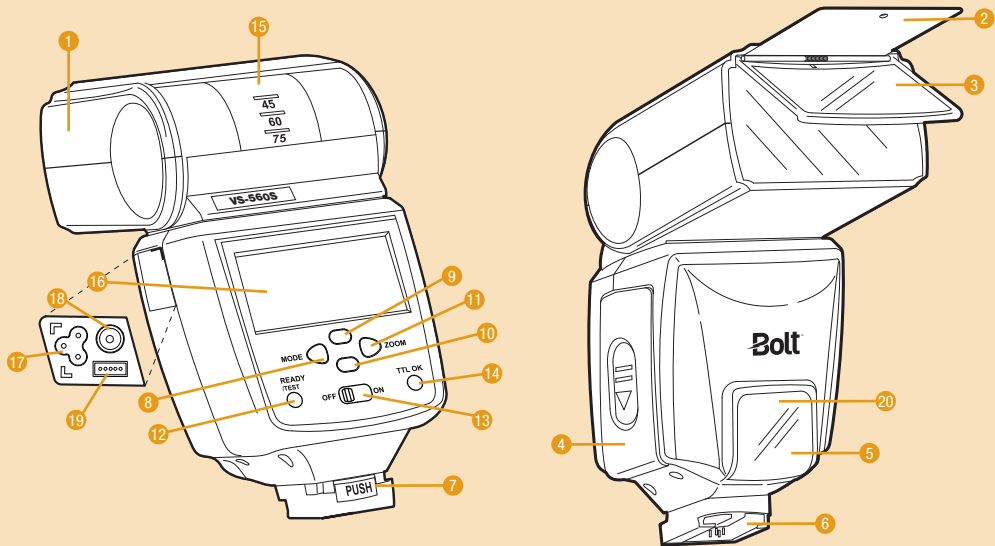
Thank you for choosing the Bolt VS-560S Wireless TTL Flash. This advanced digital flash unit puts creative control in your hands with a broad range of automatic and manual features. It can be used as both an on-camera flash and a wireless slave flash. Among the benefits you'll enjoy:

- Full compatibility with Sony's TTL metering system
- Wireless TTL control with multiple flash units and groups
- Automatic and manual zoom from 24mm to 105mm
- Tilt and swivel head: 90° up, 120° right, and 180° left
- 1.8-inch backlit LCD
- Seven manual flash levels: full to 1/64 power
- Autofocus-assist for low-light photography
- High-speed sync
- Rear-curtain sync
- Built-in reflector and diffuser panels
- Automatic power-saving function
- Upgradeable firmware

# Contents

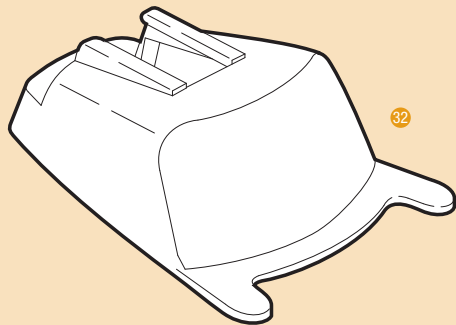
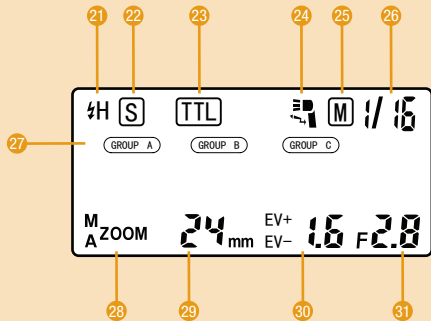
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## Overview

1. Flash head
2. Reflector panel
3. Diffuser panel
4. Battery compartment cover
5. Wireless sensor (optical)
6. Mounting foot
7. Mounting foot lock
8. Mode button
9. Up button
10. Down button
11. Zoom position button
12. Ready light / Test button
13. Power switch
14. Automatic exposure confirmation light
15. Flash head position indicator
16. LCD
17. External power socket
18. PC sync socket
19. Firmware upgrade socket
20. AF assist/Wireless ready indicator light



21. High-speed sync status
22. Slave mode
23. TTL mode
24. Wireless TTL mode
25. Manual mode
26. Manual flash output / Slave channel
27. Slave group
28. Zoom mode
29. Zoom position
30. Flash compensation value
31. Camera aperture (f-stop)
32. Stand / Tripod mount

## Warnings

Before using your VS-560S, please read the following safety notices carefully and thoroughly to ensure safe use, and to help prevent damage to your flash or injury to yourself or others.

- Do not fire the flash at close range directly into the eyes of people or animals. This can cause damage to the retina and may even lead to blindness.
- To avoid overheating and damaging your flash unit, please wait for at least 10 minutes after 20 continuous flashes at full power.
- Do not disassemble or attempt to repair this product yourself. There are high-voltage components inside that can produce a hazardous electric shock.
- Keep this product and its batteries out of reach of children.
- Use only the power sources specified in this manual.
- Always switch the flash off before changing the batteries.
- Always install AA batteries of the same type, brand, and age. Do not combine different types or brands, or old and new batteries. This could cause batteries to leak, overheat, or explode.

- Install batteries in the proper orientation, according to the indicator in the battery chamber. Installing batteries in the reverse orientation could cause them to leak, overheat, or explode.
- Do not use or store the VS-560S in flammable conditions (such as environments containing flammable gases or liquid chemicals). This could damage the flash, start a fire, or cause an electric shock.
- Do not clean the VS-560S with agents containing corrosive or flammable substances such as paint thinner, benzene, or nail polish remover.
- This product is not water resistant. Keep it away from rain, snow, humidity, and general moisture.
- Should the VS-560S get damaged, do not touch any exposed interior metal parts. If touched, they may generate an electric shock or cause a malfunction. Promptly remove the batteries and take the product to an authorized service center for repair.
- If you detect excessive heat, smoke, or a burning smell coming from the flash, immediately stop operation and remove the batteries to prevent the product from igniting or melting. Take the product to an authorized service center for repair.
- Do not drop or otherwise cause a strong physical impact to the VS-560S, as this could cause a malfunction that may cause it to explode or ignite.
- Remove all batteries from the VS-560S before long-term storage in order to prevent the product from igniting or leaking corrosive liquids.

- Do not store or use this product at temperatures above 104°F (40°C).
- Keep the metal contacts in the battery compartment clean and free of corrosion and dirt. Do not touch them with your fingers. Corrosive elements on the contacts can damage the VS-560S and prevent it from functioning properly. Contacts may be cleaned with isopropyl alcohol on a cotton swab.
- Dispose of used batteries properly. Never heat them or throw them into a fire, as this could cause the batteries to leak corrosive liquids, generate heat, or explode.

## Installing Batteries

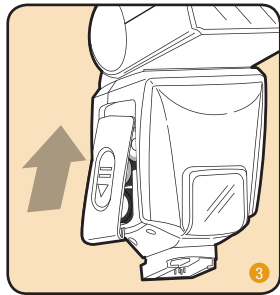
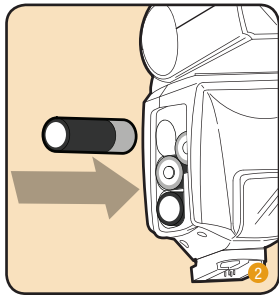
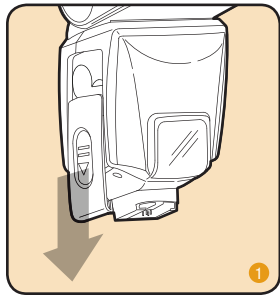
**The VS-560S can be powered by four AA batteries of several types:**

- Lithium (1.5V)
- Nickel-metal hydride (Ni-MH) (1.2V)
- Alkaline (1.5V)

**Note:** For the fastest recycle times and longest battery life, lithium or Ni-MH batteries are recommended.

**To install batteries, make sure the VS-560S is turned off and follow these steps:**

1. Press on the battery compartment cover and slide it in the direction of the arrow to remove it.
2. Insert batteries in the orientations indicated by the illustration inside the compartment.
3. Replace the battery compartment cover by pressing and sliding it into place in the opposite direction of the arrow on the cover.



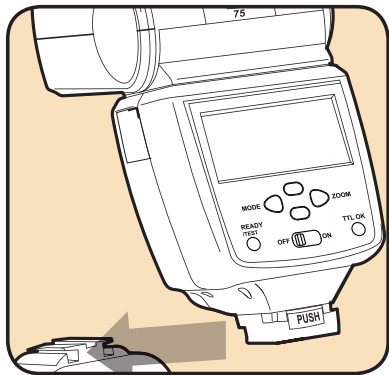
## Important!

Replace all four batteries at the same time. Do not mix battery types or brands, or use old and new batteries together.

## Mounting the Flash

To mount the VS-560S on your camera, follow these steps:

1. Make sure that the flash is turned off.
2. Slide the mounting foot all the way into your camera's hot shoe.
3. The lock will automatically engage and hold the flash in place.

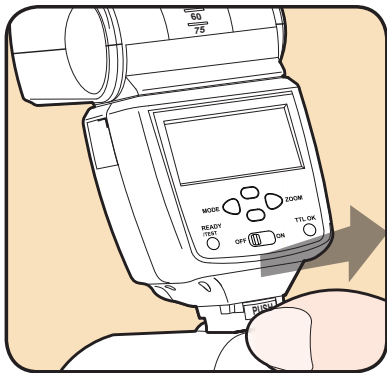


**To dismount the flash from your camera, follow these steps:**

1. Make sure that the flash is turned off.
2. Push the lock release button in while simultaneously sliding the mounting foot out of your camera's hot shoe.

**Mounting the VS-560S on the included stand:**

You can mount the VS-560S on the included stand in the same way you would mount it on your camera. This allows you to set the flash up on a flat surface, or to attach it to a tripod head, light stand, or clamp that has a compatible  $\frac{1}{4}$ "-20 screw mount.



## Turning on the Flash and Firing a Test

To turn the flash on, simply slide the power switch to the On position.

When the flash is ready to fire, the Ready light will glow red. If the flash is mounted on your camera, a flash icon will also appear in the camera's viewfinder.

To fire a test flash, press the Ready light / Test button.

**Automatic power-saving function:** After 3 minutes of inactivity, the flash will automatically enter power-saving mode to conserve battery life. The LCD will display a single OFF indicator, and the Ready light will turn off. To reactivate the VS-560S, simply press any button on the control panel, or tap your camera's shutter-release button. During long periods of inactivity, it is recommended that you use the power switch to turn the flash off completely.

**LCD illumination:** When a button is pressed, the LCD will be illuminated for about 5 seconds.

## Extended Interface

You can connect your VS-560S to an external power source or PC sync via the extended interface on the side of the flash.

**External power source:** An external power source, such as the Bolt Cyclone Battery Pack, can greatly increase the battery life of your flash and reduce the recycle time in between flashes.

**Note:** When using an external power source, the AA batteries must still be in the flash in order to operate.

**PC Sync:** You can synchronize your VS-560S with a camera by running a PC cord between your camera and the VS-560S's PC sync socket. This lets you position the flash away from the camera, thus giving you more lighting options.

**Note:** The PC sync socket on the VS-560S is only for synchronous signal input, and not output.

To access the extended interface, follow these steps:

1. Pull back the contact cover on the side of the flash.
2. Plug the cable into the corresponding socket.
  - A. For an external power source, plug the Bolt BO-1011 power cable (sold separately) into the external power source socket.
  - B. For PC sync, plug a PC cord into the PC sync socket.

## Using the Automatic TTL Flash Mode

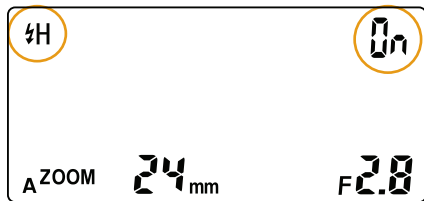
When the VS-560S is mounted on a compatible camera, it can set the appropriate flash level automatically, in conjunction with the camera's through-the-lens (TTL) metering system. To use the automatic mode, mount the flash on the camera and follow these steps:

1. Each time you turn the flash on, it will be in automatic mode. This will be confirmed by the TTL mode indicator on the LCD. If the flash has been set to another mode, press the Mode button repeatedly to cycle through the flash modes until "TTL" is shown on the LCD.
2. Make sure your camera is set on a programmed or automatic mode, or on a priority mode such as aperture-priority.
3. Press the shutter-release button on your camera halfway to ensure that the camera is communicating with the flash. The camera's aperture setting will be displayed on the flash LCD, and a flash icon will appear in the camera's viewfinder.
4. Press your camera's shutter-release button to take the picture. The OK indicator will flash on the VS-560S's LCD, and the OK light below it will glow green momentarily to indicate that the proper exposure was attained.

**Note:** The aperture indicator on the VS-560S provides readouts up to f/11, in full-stop increments. The indicator will display the f-stop closest to your current camera setting.

## Using High-Speed Sync

You can use shutter speeds higher than your camera's top flash sync speed with the VS-560S by activating high-speed sync in automatic TTL mode. High-speed sync lets you use shutter speeds as fast as 1/8000 second. This is especially useful when using large apertures in bright situations or when freezing motion. To activate high-speed sync mode on the VS-560S, press the Mode button repeatedly to cycle through the flash modes until the high-speed sync mode indicator appears on the LCD.

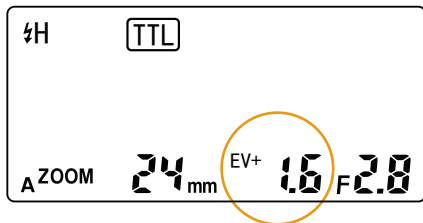


To turn high-speed sync on or off, press the up or down buttons. “ON” will appear in the top right corner of the LCD when high-speed sync mode is activated, and “--” will appear when high-speed sync mode is deactivated.

## Using Flash Exposure Compensation

In automatic TTL mode, you can use flash exposure compensation to adjust the VS-560S's flash output incrementally, just as you would adjust exposure with the exposure compensation function on your camera.

To apply flash exposure compensation, press the up or down buttons on the flash to increase or decrease flash exposure by 1/3 stop—up to 3 stops total. The LCD will display EV+ or EV- next to the exposure value to indicate whether it is increased or decreased.



## Using the Manual Flash Mode

You can also set the VS-560S's flash output level manually for greater creative control over your images. Seven manual settings are available: 1/1, 1/2, 1/4, 1/8, 1/16, 1/32, and 1/64. The 1/1 setting is the full-power flash, and each successive setting halves the light output. To use the manual mode, turn the flash and camera on and follow these steps:

1. Press the Mode button repeatedly to cycle through the flash modes until "M" and the flash output level indicator show on the LCD. Press the up or down buttons to set the desired flash output level. The output level will cycle through in both directions.
2. Set the exposure settings you want to use on your camera. The highest shutter speed available will be your camera's flash sync speed. To use higher shutter speeds, switch to automatic TTL mode and activate high-speed sync (see *Using High-Speed Sync* on page 19).
3. Take a test shot, and check the exposure on your camera's LCD.
4. Adjust your camera's exposure settings and the light output level of the flash as needed.
5. Press your camera's shutter-release button to take the picture.

**Note:** For best results, a handheld light meter is recommended when using the manual flash mode.

### Important!

To avoid overheating and damaging your flash unit, please wait for at least 10 minutes after 20 continuous flashes at full power. The flash will automatically shut off if it gets overheated.



## Controlling Flash Coverage (Zoom)

The VS-560S's angle of coverage can be adjusted (“zoomed”) to match the focal length of your lens, so that your image is evenly illuminated from edge to edge.

When the flash zoom setting is adjusted, the position of the reflectors inside the flash head shift in order to make the angle of coverage wider or narrower.

The available zoom positions are 24mm, 28mm, 35mm, 50mm, 70mm, 85mm, and 105mm.

**Automatic zoom control:** When you turn the VS-560S on, the zoom mode indicator on the LCD will show an A to indicate that it is in automatic mode and at the default 35mm position. When you press the shutter-release button on your camera halfway to initiate communication between the camera and the flash, the flash zoom will adjust to match the lens focal length and the closest zoom setting will be displayed on the LCD. If you zoom your lens, the flash zoom setting will change automatically.

When the flash head is angled up or swiveled to the side, the zoom position is set to 50mm. The “50mm” indicator will flash on the LCD, and the zoom can then be manually adjusted (see below).

**Note:** Older cameras that do not offer digital data transmission with the flash do not support the automatic flash zoom control. The manual zoom control must then be used.

**Manual zoom control:** To manually select a setting that corresponds to the focal length of your lens, press the Zoom button to make the M indicator for manual mode appear. Then continue to press the button to cycle

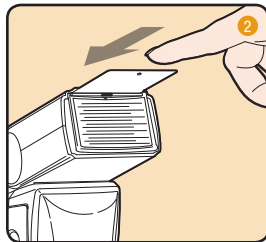
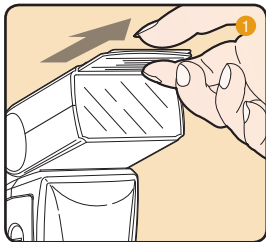
through the available focal length settings.

**Note:** Manual zoom can also be used to achieve special effects, such as using the 105mm setting with a wide-angle lens to produce a vignette.

**Using the flash with wide-angle lenses:** When you have a lens wider than 24mm mounted on your camera, you can use the built-in diffuser panel to give the flash an angle of coverage equivalent to that of an 18mm lens.

#### To use the diffuser:

1. Pull the diffuser and reflector panels out of their slot in the flash head.
2. Push the reflector back in, and let the diffuser lay flat against the flash lens.



The diffuser also softens the light, providing an alternative when no surface is available for bouncing the flash (see Bouncing Your Flash on page 26).

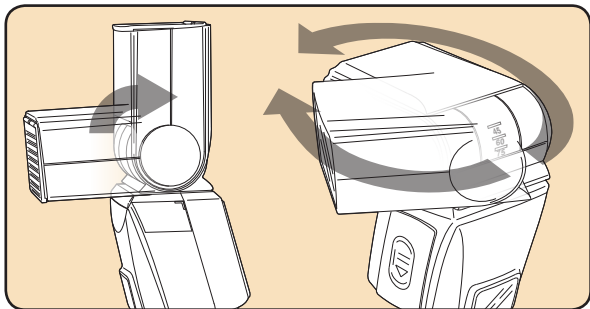
## Using the Autofocus-Assist Light

Camera autofocus systems can have difficulty locking onto a subject in dim light. When the ambient light level is low, the VS-560S will emit a red autofocus-assist beam when you press your camera's shutter-release button halfway to autofocus. The camera will then be able to autofocus by locking onto the projected light.

## Bouncing Your Flash

Using flash to directly illuminate a subject often creates harsh, unnatural, and unattractive shadows. To avoid this, the flash can be tilted or swiveled, allowing you to aim your flash at a large white or neutral-colored surface, such as a ceiling, a wall, or a reflector. The light will bounce off of the larger surface before striking your subject, providing softer, more natural illumination.

The VS-560S flash head can be tilted up at 45-, 60-, 75-, and 90-degree angles to the lens. It can also be swiveled horizontally 180 degrees to the left and 120 degrees to the right.

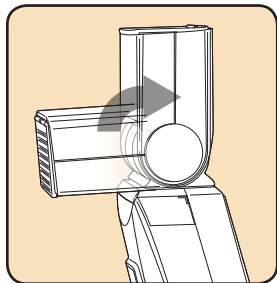


When bouncing your flash, you may need to adjust your exposure settings, since the level of light falling on your subject will be reduced. The farther away the bounce surface and your subject are, the more illumination will be reduced.

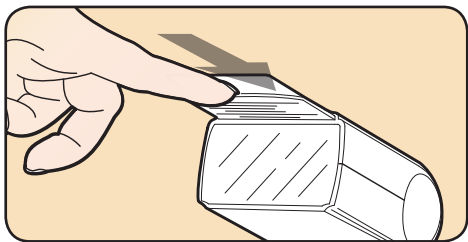
**Tip:** Bouncing your flash off of colored surfaces can create a color cast in your images. Bouncing off of a white or neutral-colored surface will not alter the color of the light, while bouncing off of a gold-toned surface can give portraits a warmer look. Other colors, while usually not desirable, can be used for creative effects.

**Creating catchlights:** Catchlights are the reflections that appear in people's eyes in photographs. Without catchlights, eyes can have a dull, lifeless look. To create catchlights in your subjects' eyes when bouncing your flash, follow these steps:

1. Position the flash head at the 90-degree angle (pointing straight up) to bounce your flash off the ceiling or an overhead reflector.



2. Pull the built-in reflector and diffuser panels all the way out of their slot in the flash head. Push the diffuser back in while leaving the reflector extended.



## Using Rear- or Second-Curtain Synchronization

When you photograph a moving subject with a slow ( $1/30$  second or longer) shutter speed and a flash, the flash will freeze the moving subject and the long exposure will cause motion blur and light trails to appear in the image, especially in low light.

This “slow-sync” flash technique, also referred to as “dragging the shutter,” can be applied in two different ways: The flash can be synchronized with the camera’s shutter release so that it fires at the beginning of the period when the shutter opens, or it can fire near the end of that period.

The former is called “front-curtain” or “first-curtain” flash sync, and the latter is called “rear-curtain” or “second-curtain” sync. Front-curtain sync causes motion blur and light trails to appear in front of moving subjects, while rear-curtain sync makes them appear behind moving subjects. That means rear-curtain sync creates a more realistic impression of movement.

The VS-560S supports rear-curtain sync modes on cameras that offer the setting. Consult your camera’s manual to find out how to activate it. Use your camera’s manual or shutter-priority mode to control the amount of blurring and light trails you capture by varying the shutter speed.

## Using Your VS-560S as a Wireless TTL Slave

The VS-560S is equipped with advanced wireless TTL flash functions, allowing you to fire the flash remotely while still maintaining full TTL control. In addition, it can be set to multiple channels and groups, giving you unlimited creative lighting possibilities.

**Important terms:** Here are the terms you'll need to be familiar with in order to learn how to work with multiple wireless flash units:

**Master:** This can be the camera's built-in flash, a flash unit mounted on the camera, or a dedicated wireless controller. The master controls how the slave flashes operate in wireless TTL mode. Only one master flash is allowed in a multiple-flash photography setting. Note that not all cameras and flashes offer master capability.

**Slave or remote flash:** Flash units that are not directly connected to the camera and are controlled via the master flash or a controller are called "slave" or "remote" units. There is no limitation on the number of remote flash units that can be used at once.

**Channels:** Master and slave flash units exchange data through channels. On the VS-560S, four channels (1, 2, 3, 4) are available. You can select the channel you prefer for communication between the master and remote flash units. You can use this option to prevent your remote units from being triggered by the master unit of another photographer working with the same type of system nearby.

**Groups:** With the VS-560S's wireless system, you can assign remote flash units to any one of three groups (A, B, or C) and set the mode and power ratio for each group.

**Setting the remote TTL flash units:** To set a VS-560S flash unit to function as an automatic TTL slave, follow these steps:

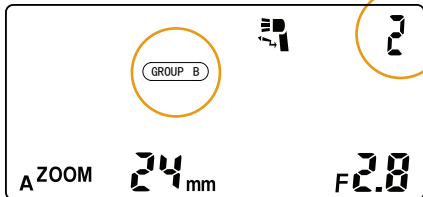
1. Make sure the master flash or controller on your camera is on and set to automatic TTL mode.
2. Select the appropriate group and channel on the master unit. Consult the master's manual to find out how to set it.
3. Press the Mode button repeatedly to cycle through the flash modes until the Wireless TTL mode icon appears on the LCD.

4. Press the up or down buttons to select the channel and the group. The flash will cycle through channel 1, groups A through C, and then channel 2, groups A through C, and so on. The numbers represent the channel, while the letters represent the group.

A. When using a single flash, set it to the same group and channel as the master.

B. When using multiple flash units, select the same group and channel for all units being used in a particular light position. For example, if you are using three VS-560S units, you might want to set two as a main light on channel 1, group A, and set the third as a fill light on channel 1, group B.

5. If desired, adjust the flash coverage angle by pressing the Zoom button repeatedly.
6. Make sure that the red light on the front of the flash is flashing. This indicates that the unit is ready to fire in wireless TTL slave mode.



## Using Your VS-560S as a Wireless Manual Flash

For even greater creative control, you can set the output levels of your remote flash units manually.

Using the optical slave feature, the VS-560S can be set to fire whenever it detects a signal from the master flash. This works optically—when the VS-560S “sees” another flash firing, it will instantaneously fire along with it.

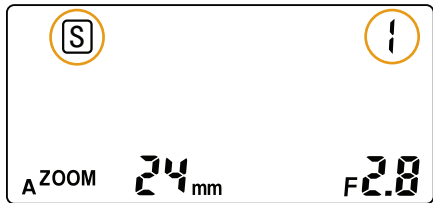
**Setting the remote flash units manually:** To set a VS-560S flash unit to function as a slave with the output level selected manually, follow these steps:

1. In Manual mode, use the up and down buttons to select the power output (1 through 1/64).
2. Press the Mode button once to enter Slave mode.
3. Set the slave mode as desired (see below).
4. If desired, adjust the flash coverage angle by pressing the Zoom button repeatedly.
5. Make sure that the master flash on your camera is on and set to the appropriate mode. If you don't want the master flash to illuminate a subject in front of the camera, tilt the head upward.

## Setting the slave mode:

Depending on your camera and flash settings, the master flash may emit more than one burst of light in quick succession (called a “pre-flash”). Pre-flash is used to help the camera meter and/or focus, and is done automatically by the camera. If the slave flash is not set correctly, it may be triggered by the pre-flash and fire before the camera’s shutter opens. In order to ensure that the VS-560S fires at the correct time, there are three different slave modes available: modes 0, 1, and 2. To select the correct slave mode, follow these steps:

1. Make sure the flash is in Slave mode.
2. Press the Up and Down buttons to cycle through the slave mode options on the LCD.
  - A. In mode 0, the flash will fire on the first (or only) burst of light. Use this mode when the master flash is set to manual.
  - B. In modes 1 and 2, the slave will ignore either one or two pre-flashes, respectively. Use these modes when the master flash is set to TTL or automatic modes. Whether the master emits one pre-flash or two will depend on the camera and settings—always take a test exposure to ensure that the slave is set correctly.

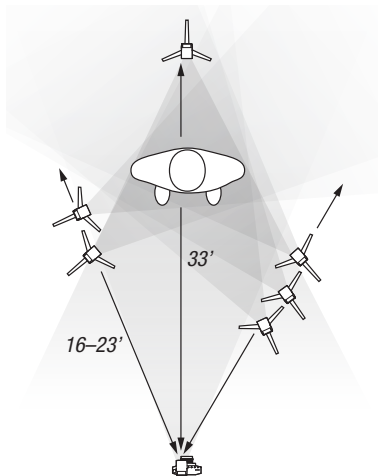


### **Important!**

Some cameras, when set to red-eye reduction, will emit a series of quick flashes lasting a second or more. This may not work properly with any slave mode. We suggest you avoid using red-eye reduction when using the VS-560S as a slave.

## Positioning Remote Flash Units

You can create a professional lighting setup by positioning remote units singly or in groups to function as main, fill, accent, and other lights. Metering your scene with a handheld light meter and setting your light ratios to achieve specific looks will give you a professional level of creative control.



## **When positioning wireless slaves to light a subject, keep in mind the following:**

- The effective communication range between master and remote flash units is approximately 33 feet (10 meters) in the front position, and approximately 16 to 23 feet (5 to 7 meters) at both sides. These ranges may vary, depending on the ambient light.
- The flash head should not be aimed directly into the camera lens.
- The wireless sensors are located on the front of the VS-560S. Make sure that sensor is facing the master flash and that there is no obstruction between the two units.
- When photographing outdoors or in bright ambient light, the sensors can be overwhelmed by ambient light, which will lower their sensitivity.
- To avoid creating interference between flash units, using more than three in a single group is not recommended.

## Upgrading the Firmware on the VS-560S

In order to ensure compatibility with future cameras, the VS-560S's firmware may be updated. This can be done to ensure proper communication with new cameras, or to add new features.

Visit [www.boltflashes.com/firmware](http://www.boltflashes.com/firmware) to check if a new firmware version has been released. Follow the online instructions to upgrade.

## Troubleshooting

Problem	Solution
The flash is stuck in the camera hot shoe.	Make sure that the mounting foot release lock is pushed. (Page 15)

Problem	Solution
The flash is turned on but won't fire.	Make sure that fresh batteries are installed and in the proper orientation. (Page 12)
The flash is set up as a wireless TTL slave but won't fire.	<ul style="list-style-type: none"> <li>• Make sure that the master flash is within the transmission range and the wireless sensor on the slave is pointing toward the master flash. Remove any obstructions in the line of sight between the two. (Page 37)</li> <li>• The ambient light may be too high. (Page 37)</li> </ul>
The flash is set up as a manual (optical) slave, but the light is not noticeable in the picture.	Make sure that the flash is set to the appropriate slave mode. (Page 34)
The edges of images look dark.	Make sure that the flash zoom setting corresponds to the focal length of your lens. (Page 23)
There's a whining sound coming from the flash.	This is normal and does not indicate a malfunction. When the flash becomes warm from continuous use, vibrations inside the unit may cause this sound. It will dissipate as the unit cools.

## Specifications

*Type:* On-camera and wireless TTL automatic and manual flash

*Compatible cameras:* Sony cameras with TTL flash system support and a Sony-Minolta style hot shoe

*Guide number (at 50mm focal length, ISO 100):* 141 feet / 43 meters

*Flash coverage:* 24mm–105mm (18mm with diffuser panel)

*Flash duration:* 1/1,000–1/20,000 second

*High-speed synchronization:* Yes

*Flash recycle time:* 0.5–9 seconds (AA Ni-MH)

*Manual mode power output:* 1/1, 1/2, 1/4, 1/8, 1/16, 1/32, 1/64

*Wireless transmission method:* Optical pulse

*Wireless transmission range:* Up to 33 feet (10 meters)

*Wireless channels:* 4

*Controllable wireless slave groups:* 3

*Slave timing modes:* Instant sync, skip one pre-flash, skip two pre-flashes

*Power source:* 4 AA lithium, Ni-MH, or alkaline batteries; optional external power source

*Tilt positions:* 0°, 45°, 60°, 75°, 90°

*Swivel range:* Right 0°–120°, Left 0°–180°

*Dimensions:* Approx. 2.5" × 3.9" × 4.7" (65 × 100 × 120 mm)

*Weight:* Approx. 9.2 oz. (260 g) without batteries

## Guide Number Chart\*

Zoom Position	GN - Meters	GN - Feet
24mm	34	112
28mm	36	118
35mm	38	125
50mm	43	141
70mm	45	148
85mm	47	154
105mm	50	164

\*at ISO 100

## **FCC notices for customers in the U.S.A.**

Tested to comply with FCC Standards for home or office use.

### **FCC Statement**

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.

### **CAUTION**

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, which can be determined by turning the equipment off and on, the user is encouraged to try to correct to the interference by one or more of the following measures: re-orient or re-locate 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; or consult the dealer or an experienced radio/TV technician for help.

You are cautioned that any changes or modifications not expressly approved in this manual could void the user's authority to operate the equipment.

### **ICES notices for customers in Canada:**

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

## One-Year Limited Warranty

This BOLT product is warranted to the original purchaser to be free from defects in materials and workmanship under normal consumer use for a period of one (1) year from the original purchase date or thirty (30) days after replacement, whichever occurs later. The warranty provider's responsibility with respect to this limited warranty shall be limited solely to repair or replacement, at the provider's discretion, of any product that fails during normal use of this product in its intended manner and in its intended environment. Inoperability of the product or part(s) shall be determined by the warranty provider. If the product has been discontinued, the warranty provider reserves the right to replace it with a model of equivalent quality and function.

This warranty does not cover damage or defect caused by misuse, neglect, accident, alteration, abuse, improper installation or maintenance. EXCEPT AS PROVIDED HEREIN, THE WARRANTY PROVIDER MAKES NEITHER ANY EXPRESS WARRANTIES NOR ANY IMPLIED WARRANTIES, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. This warranty provides you with specific legal rights, and you may also have additional rights that vary from state to state.

To obtain warranty coverage, contact the BOLT Customer Service Department to obtain a return merchandise authorization ("RMA") number, and return the defective product to BOLT along with the RMA number and proof of purchase. Shipment of the defective product is at the purchaser's own risk and expense.

For more information or to arrange service, visit [www.boltflashes.com](http://www.boltflashes.com) or call Customer Service at 212-594-2353.



Product warranty provided by the Gradus Group.

[www.gradusgroup.com](http://www.gradusgroup.com)

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[www.boltflashes.com](http://www.boltflashes.com)