



VD-420

WIRELESS MANUAL FLASH

User Manual

Thank you for choosing Bolt.

The Bolt VD-420 Wireless Manual Flash puts creative control in your hands with manually adjustable power output settings. It can be used for wireless operation with up to sixteen individual channels, or as an optical slave. Use the flash on camera, or connect the included wireless transmitter to trigger it remotely. With eight power levels, up to 270° rotation, and -7° to +90° tilt, the Bolt VD-420 can help you get the perfect lighting for the perfect shot.

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Precautions



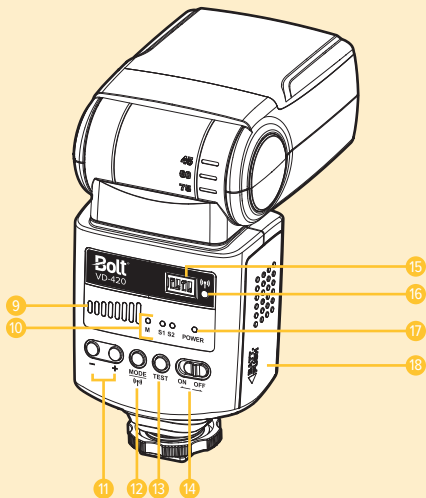
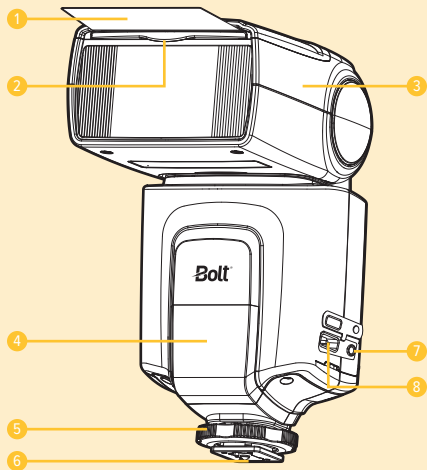
- Before using this product, thoroughly read the following safety notices to ensure safe use and help prevent damage to your flash or injury to yourself and others.
- Do not fire the flash at close range directly into the eyes of people or animals. This can cause damage to the retina and may even lead to blindness.
- To avoid overheating and damaging your flash unit, please wait for at least ten minutes after twenty-five 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 the reach of children.
- Use only the power sources specified in this manual.
- Always switch the flash off before changing the batteries.
- Always install batteries of the same type, brand, and age. Do not combine different types or brands, or old and new batteries. This can cause the batteries to leak, overheat, or explode. Install the batteries in the proper orientation, according to the indicator in the battery chamber. Installing batteries in the reverse orientation may cause them to leak, overheat, or explode.
- Do not use or store this product in flammable conditions (such as environments containing flammable gases or liquid chemicals). This can damage the flash, start a fire, or cause an electric shock.
- Do not clean this product 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 product sustain physical damage, 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 a burning smell, smoke, or excessive heat coming from the flash, immediately stop operation and remove the batteries to prevent the product from igniting or melting.
- Do not drop or otherwise cause a strong physical impact to this product, as this can cause a malfunction that may cause it to explode or ignite.
- For long-term storage, remove all batteries from this product 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 this product 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 can cause the batteries to leak corrosive liquids, generate heat, or explode.
- Images are for illustrative purposes only.

Overview

Flash

- 1 Reflection panel
- 2 Diffuser panel
- 3 Flash head
- 4 Wireless optical sensor
- 5 Locking wheel
- 6 Mounting foot
- 7 3.5 mm sync socket
- 8 HV power socket
- 9 Output level indicator
- 10 Mode indicator
- 11 Flash power level button (+/-)
- 12 Mode select button / wireless (on/off)
- 13 Test button
- 14 On/Off switch
- 15 Channel selector
- 16 Wireless indicator
- 17 Power/ready indicator
- 18 Battery compartment cover



Transmitter

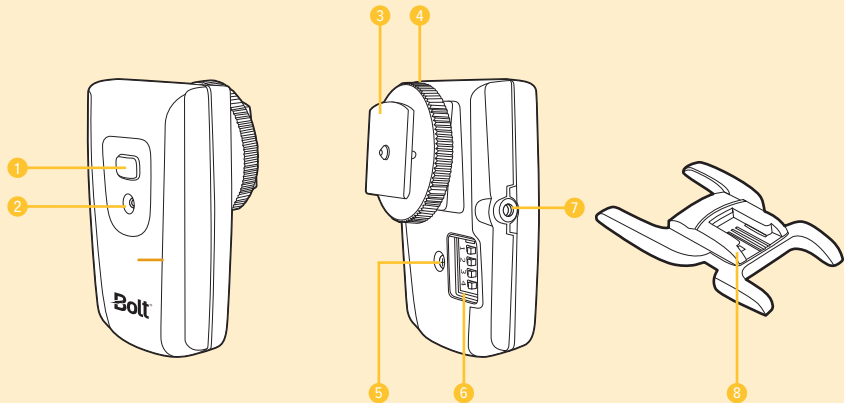
- 1** Trigger button
- 2** LED indicator
- 3** Mounting foot
- 4** Locking wheel
- 5** Battery compartment screw
- 6** Channel selector
- 7** 2.5 mm sync input

Stand

- 8** Stand / tripod mount

Also included

- Drawstring pouch



Installing Batteries

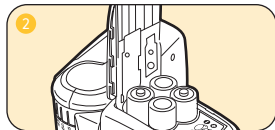
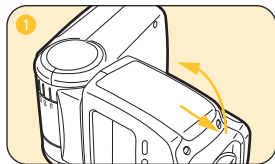
The VD-420 can be powered by four AA batteries:

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

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

To install batteries, make sure the VD-420 is turned off, and follow these steps:

1. Press down on the battery compartment cover and slide it in the direction of the arrow to open.
2. Insert batteries in the correct orientations.
3. Replace the battery compartment cover.

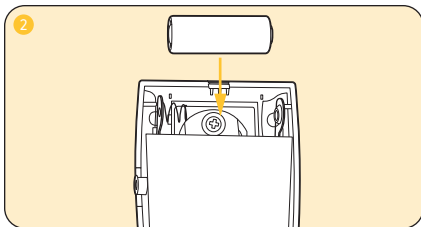
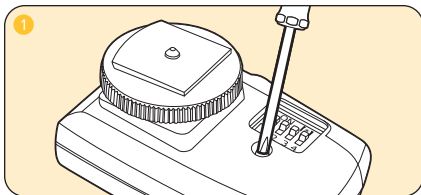


Powering the Transmitter

The transmitter uses an included 23 A 12 V alkaline battery that is user replaceable and can last up to two years.

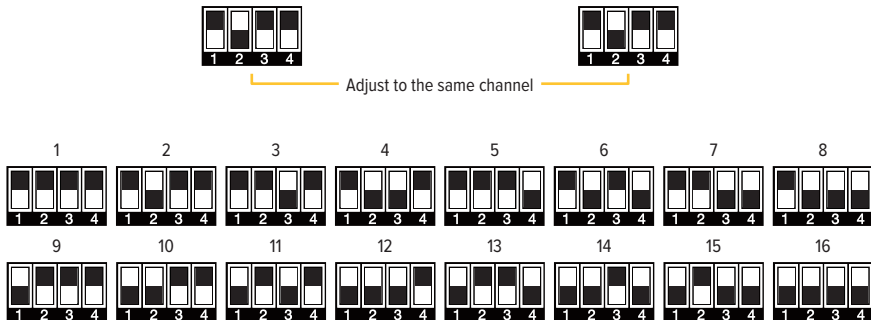
To change the battery:

1. Use a Phillips screwdriver to unscrew the battery compartment screw on the back of the transmitter.
2. Remove the old battery, and replace it with a fresh one. Make sure to install the new battery with the correct polarity.
3. Close the compartment, and tighten the screw on the back of the transmitter.



Setting the Wireless Channel

The flash and transmitter can be set using the on-body channel selector switches. There are 16 individual channels available. Refer to the following chart to choose the channel and synchronize both the transmitter and flash by setting them to the same channel.



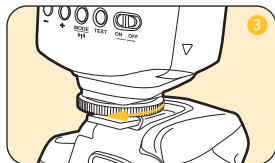
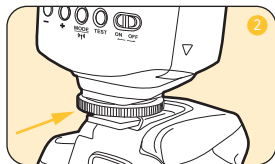
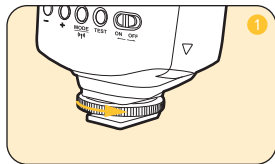
Mounting the Flash and Transmitter

To mount the flash or transmitter on your camera, make sure the VD-420 is turned off, and follow these steps:

1. Rotate the locking wheel counterclockwise to loosen it.
2. Slide the mounting foot all the way into your camera's hot shoe.
3. Rotate the locking wheel clockwise until snug, but don't overtighten.

Mounting the VD-420 on the included stand:

You can mount the VD-420 on the included stand in the same way you would mount it on your camera. This allows you to set up the flash on a flat surface or attach it to a tripod head, light stand, or clamp that has a compatible 1/4-20 screw mount.

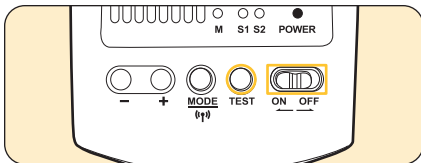


Turning On the Flash and Firing a Test

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

When the flash is ready to fire, the ready indicator will glow red.

To fire a test flash, press the Test button.



Testing Wireless Sync Between the Flash and Transmitter

Make sure the flash's wireless mode is turned on with the indicator lit blue. If not, press and hold the Mode button for about two seconds until the indicator turns on.

Press the Test button on the transmitter to trigger the flash.

Automatic Power-Saving Function

After 30 minutes of inactivity, the flash will automatically enter a power-saving mode to conserve battery life. The Ready indicator light will blink every three seconds, and other indicator lights will turn off.

To reactivate the VD-420, press any button on the control panel. When in S1/S2 modes (see Optical Slave Mode below), the flash will enter power-saving mode after 60 minutes of inactivity. During long periods of inactivity, use the power switch to turn the flash off completely.

Extended Interface

You can connect your VD-420 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 number of flashes and reduce the recycle time in between flashes. You will need a CZ type cable (not included).

Note: When the VD-420 is used with an external power source, the AA batteries must still be in the flash in order to operate.

3.5 mm sync

You can trigger your VD-420 via a PC cord between your camera and the VD-420's 3.5 mm sync socket. This lets you position the flash off-camera for more lighting options.

Note: The 3.5 mm sync socket on the VD-420 is only for synchronous signal input.

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 appropriate power cable into the external power-source socket.
 - b. For wired sync, plug a 3.5 mm cord into the sync socket.

Using the Flash

The VD-420 offers manual flash output adjustment.

You can set the VD-420's flash output level to 1/1, 1/2, 1/4, 1/8, 1/16, 1/32, 1/64, 1/128.

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. Make sure the Mode indicator is set to M.
2. Press the flash power level buttons (+/-) to set the desired flash output.
3. Set the exposure on your camera.
4. Take a test shot, and then check the exposure on your camera's LCD.
5. Adjust your camera's exposure settings and the flash output as needed.

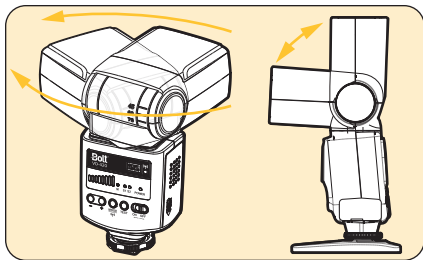
To avoid overheating the VD-420 and damaging it, wait at least 10 minutes after 20 continuous flashes at full power. The flash will automatically shut off if the internal circuit overheats. It will also alter the recycle time from 10 to 25 seconds until the flash bulb cools down.

Bouncing Your Flash

Using flash to directly illuminate a subject often creates harsh, unattractive shadows. To avoid this, tilt or swivel the flash to aim it at a large white or neutral-colored surface, such as a ceiling, wall, or reflector. The light will bounce off the larger surface before striking your subject for softer illumination. The VD-420 flash head can tilt up at 45°, 60°, 75°, and 90° angles from the lens. It can also swivel horizontally 180° to the left and 90° 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 decrease. The farther away the bounce surface and your subject are, the more power you will need.

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

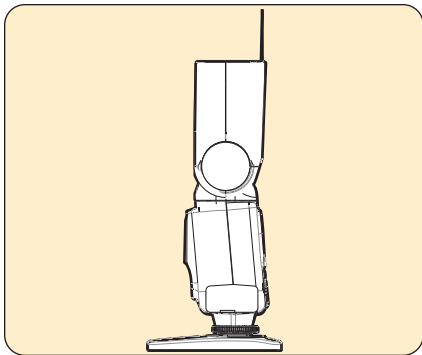
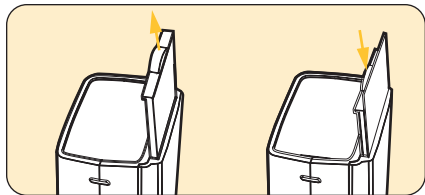


Using the Reflector Card

Use the built-in reflector card for indirect lighting. Tilt the flash up and pull out the reflector to bounce the flash into the frame and toward the subject. Catchlights can make the eyes appear more lively and captivating.

To use the reflector card, follow these steps:

Pull the built-in reflector and diffuser panels out of their slot in the flash head. Push the diffuser back in, and leave the reflector card extended.

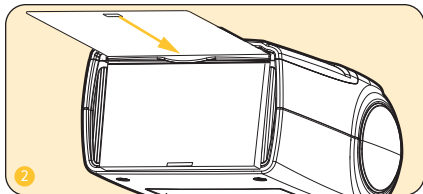
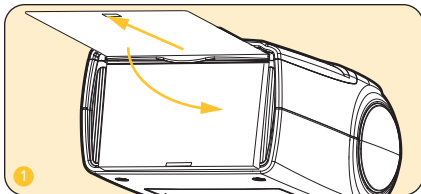


Using the Diffuser Panel

You can use the built-in diffuser panel to give the flash a much wider coverage area. The diffuser also softens the light, providing an alternative when no surface is available for bouncing the flash.

To use the diffuser, follow these steps:

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.



Optical Slave Mode

In optical slave mode, the VD-420 can be set to fire whenever it detects light from another flash. This works optically—the flash will instantaneously fire along with the master flash. For maximum compatibility, there are two modes available: S1 and S2.

In S1 Mode, the flash will fire on the first burst of light. Use this mode when the master flash does not use a pre-flash. If the slave flash is not set correctly, the pre-flash will trigger it to fire and fire before the camera's shutter opens.

In S2 mode, the flash will ignore one pre-flash, and fire on the next flash.

To use the VD-420 flash unit as a slave, follow these steps:

1. Press the Mode button until the indicator light highlights the S1 or S2 slave mode.
2. Use the (+) and (–) buttons to select the flash's power output (1/1 through 1/128).
3. Set the exposure settings on your camera and master flash.
4. Take a test shot and check the exposure on your camera's LCD.
5. Adjust your camera's exposure settings and the light output level of the flash as needed.

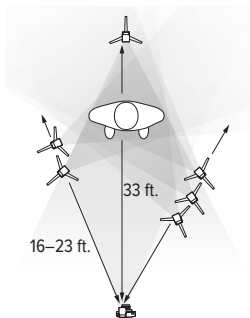
Important! Some cameras, when set to red-eye reduction, will emit a series of quick flashes lasting a second or more. This may not work properly with any slave mode. We suggest you avoid using red-eye reduction when the VD-420 as a slave.

Positioning Remote Flash Units

You can create a multi-light setup by positioning remote units individually or in groups to function as main, fill, and accent lights.

When positioning wireless slaves in S1 and S2 mode to light a subject, keep in mind the following:

- The wireless sensors are on the front of the VD-420. Make sure the sensor is facing the master flash, and there are no obstructions 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, don't use more than three flashes in a single group.

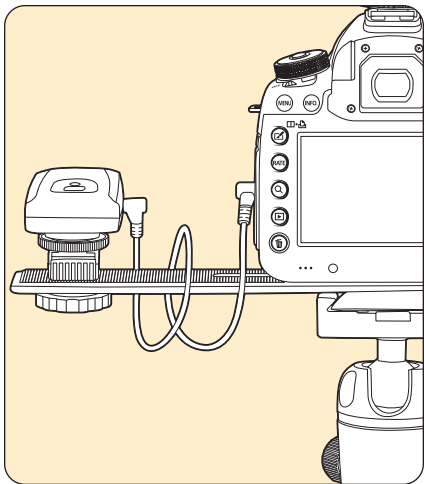


Wired Camera Triggering

You can connect the transmitter to your camera via a PC sync to 2.5 mm cable (not included).

1. Plug a PC cord into your camera's PC sync port and the transmitter's 2.5 mm sync input.
2. Press your camera's shutter-release button to fire the flash. The LED will flash red, and the flash will fire to confirm signal transmission.

Note: Some camera models do not have PC ports. A hot-shoe PC adapter is required for off-camera wired connections.



Specifications

Guide number	108.3 ft. (33 m) ISO 100
Flash duration	1/300 to 1/20,000 sec.
Flash recycle time	0.1 to 5 sec. (AA, NiMH)
Manual mode power output	1/1, 1/2, 1/4, 1/8, 1/16, 1/32, 1/64, 1/128
Wireless frequency	433 MHz
Wireless channels	16
Wireless transmission range	Up to 49 ft. (15 m)
Optical slave modes	2
Slave timing modes	Instant sync, skip one pre-flash
Transmitter power source	12 V 23 A battery

Flash power source	4 AA lithium, NiMH, or alkaline batteries; HV external power source with CZ type cable
Tilt positions	-7°, 0°, 45°, 60°, 75°, 90°
Swivel range	Right 0° to 90°, Left 0° to 180°
Transmitter dimensions	1.1 × 1.6 × 2.4 in. (28 × 42 × 61 mm)
Flash dimensions	7.3 × 2.8 × 2.1 in. (186 × 73 × 54 mm)
Transmitter weight	1.09 oz. (31 g)
Flash weight	10.9 oz. (310 g) without batteries

Troubleshooting

Problem	Solution
The flash is turned on but won't fire.	Make sure fresh batteries are installed and in the proper orientation. (see <i>Installing Batteries</i>)
The flash is set up as an optical slave but won't fire.	• Make sure 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 sensors. (see <i>Optical Slave Mode</i>) • The ambient light may be too high. (see <i>Positioning Remote Flash Units</i>)
The flash is set up as an optical slave, but the light is not noticeable in the picture.	Make sure the flash is set to the appropriate power level. (see <i>Using the Flash</i>)
The edges of the images look dark.	Make sure the diffuser is deployed to spread the light into a wider area.
There's a whining sound coming from the flash.	This is normal and is the sound of the flash recycling for the next exposure. It does not indicate a malfunction.

FCC Compliance

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.
2. This device must accept any interference received, including interference that may cause undesired operation.

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 or call Customer Service at 212-594-2353.

Product warranty provided by the Gradus Group.

www.gradusgroup.com

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