

# **BACKSCATTER**

# **MINI FLASH**

## **Instruction Manual**

### **THE ULTIMATE COMPACT STROBE**

Thank you for your purchase of the Backscatter Mini Flash MF-1. Whether you are a seasoned underwater pro or a new shooter, we hope you enjoy your flash for years to come.

The Backscatter Mini Flash was designed by underwater photographers with underwater photographers in mind. If at any time you have any questions about your new flash, how to shoot it, or best shooting techniques, don't hesitate to call us. As fellow underwater photographers, we're here to help you get the best shots possible.

### **DON'T LIKE INSTRUCTIONS? WATCH OUR VIDEO!**

We understand that some people never read the instructions. However, it's critical that you fully understand the safety requirements for operating the MF-1. Go to [www.backscatter.com/MF-1](http://www.backscatter.com/MF-1) and download our latest instructional and technique videos prior to use. But for now... READ THESE INSTRUCTIONS!

### **BATTERY SAFETY, INSTALLATION AND MAINTENANCE**

The MF-1 is designed to only use high quality lithium ion 18650 batteries. NEVER USE AN UNAPPROVED 18650 BATTERY! Please see our Battery FAQ section for full details. To install a battery, twist off the battery compartment, remove the double o-rings and first clean the o-rings and the grooves on the battery compartment. Lightly grease the o-rings with the provided o-ring grease and re-install the o-rings on the battery compartment. Slide in your approved 18650 battery with the positive (+) button facing up. Inspect and clean the strobe body o-ring surface and then twist the battery compartment into place. Verify you have fully twisted the battery compartment until it stops. Lightly grease the battery compartment threads if you are a heavy user. IF YOU SEE WATER INTRUSION OR CORROSION IN THE BATTERY COMPARTMENT OR THE STROBE BODY, STOP USE IMMEDIATELY AND CONTACT US.

### **POWER ON / OFF**

To power on the Mini Flash, quickly press the silver button 5 times. To power off the strobe, turn the red dial to STBY and quickly press the silver button 5 times. The 5 presses must be performed within 3 seconds. While the off mode is a safety feature, never travel with a battery installed in the MF-1.

### **BATTERY STATUS LED**

When in STBY mode on the red dial, the LED around the silver button will flash green, yellow, or red to indicate the power level of the battery.

### **PLUG-IN FIBER OPTIC CABLE**

The MF-1 is compatible with any Sea & Sea style fiber optic cable. Plug in the cable to the MF-1 and the other end into the fiber optic adapter of the camera housing.

### **CONTROL FLASH POWER**

The red power dial has STBY (flash and LED off) and 6 power level settings. Keep the power dial set to STBY when you are not immediately using the strobe to conserve battery power. Select power levels 1-6 based on the proper exposure for the photo.

### **TEST FIRE TO SYNC YOUR CAMERA FLASH**

Depending on the camera model or settings, the camera's built-in flash will flash once or multiple times for every photo. The MF-1 will analyze your camera's flash and automatically synchronize after the first test flash. First power on the strobe and select any power level from 1-6 and take a single test photo. The MF-1 will analyze this test flash and memorize the proper setting for your camera. If you change cameras or flash settings on your camera, simply power off the MF-1, power on and take another test photo to synchronize with your new camera or camera settings.

### **CONTROL FOCUS LIGHT POWER LEVELS**

The MF-1 offers a focus light that makes it easier for you to see the subject and for the camera to autofocus in low light situations. The focus light also helps you aim the strobe when the OS-1 Snoot is installed. With the power dial set to level 1-6, press the silver button to toggle through focus light intensities of 25%, 50%, 100%, and a fourth press to turn it off. The focus light will turn off and reset when the power dial is set to STBY mode.

### **ACTIVATE MODELING FLASH FOR SNOOT AIMING**

If shooting in extremely bright conditions, the focus light might not be bright enough to help aim the OS-1 Snoot. Press and hold the silver button for 1 second and the flash will emit a bright and high frequency stroboscopic pulse for about 2 seconds. This rapid firing of the strobe will help aim the MF-1 snoot in high ambient light conditions such as a very shallow clear water. The modeling flash is also useful for skittish critters that shy away from the constant focus light.

### **SAFETY AUTO POWER OFF**

The MF-1 will automatically power off after about 20 minutes of inactivity. Simply press the silver button 5 times to power back on the strobe. This auto power off feature is designed to maximize safety and battery life.

### **SAFETY LOW POWER MODE**

The MF-1 is protected by a low power mode if the circuitry detects overheating, excessive rapid fires of the strobe, or a low battery power level. In safety low power mode, the indicator LED will flash yellow, the strobe will take longer to recycle, and the modeling flash feature will be canceled. Low power mode will remain in effect for a minimum of 1 minute unless the battery has a low charge, in which case the indicator LED will flash red indicating the battery should be recharged and replaced.

### ADVANCED FEATURES AND TROUBLE SHOOTING

Please review the advanced section in the tables below to learn more about the diagnostic features built into the MF-1 such as LED warning lights that address your battery health and any errors detected by the MF-1.

#### IN THE BOX:

Backscatter Mini Flash MF-1  
YS Style Arm Mount  
Standard Ball Mount  
Flat Diffuser  
Instruction Manual  
Battery Warnings and Battery FAQ

#### ADDITIONAL REQUIRED ITEMS:

Approved 18650 battery and charger. Battery must be rated for a continuous discharge up to 8A.

See [www.backscatter.com/MF-1](http://www.backscatter.com/MF-1) for approved batteries and chargers.

#### OPTIONAL ACCESSORIES:

Backscatter Optical Snoot OS-1  
Color filter sets for Backscatter Mini Flash MF-1 and Backscatter Optical Snoot OS-1  
Dome Diffuser for Wide Angle Photography

### ADVANCED FEATURES AND TROUBLE SHOOTING

#### BATTERY LEVEL INDICATOR LIGHT SUMMARY IN STBY MODE:

Battery Level	LED Indicator Mode
100% to 50%	Green Flashing
50% to 10%	Yellow Flashing
10% to 1%	Red Flashing
0%	OFF

#### NORMAL MODE AND SAFETY LOW POWER MODE INDICATOR LIGHT SUMMARY

Indicator Color	Signal Pattern	Description
Blue	Solid	Flash ready in On Mode
Blue	Flashing	Flash recycling in On Mode
Yellow	Flashing	Flash has entered safety low power mode for one of the following reasons: 1) temperature too high 2) rapid flashing 10 times in 25 seconds at power levels 5 and 6 3) repeated strobe flashing causes the battery's voltage to drop very low 4) battery level too low
Red	Quick flash 5 times	Fail to activate Modeling Flash in slow charging protection mode.
Red	Quick Flashing	Flash recycle charging circuit error
Red	Solid	Battery extremely low in On Mode. Flash is disabled and LED light is dimmed to 10% power level if on.
Red	Quick Flashing for 2 seconds and power off	Battery extremely low and auto power off occurs

This manual is available in other languages at [www.backscatter.com/MF-1](http://www.backscatter.com/MF-1)

#### DISTRIBUTED BY:

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