

# RETRA FLASH PRO MAX USER MANUAL

TEMPORARY

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# CONTENTS

TECHNICAL SPECIFICATIONS.....	3
POWER SOURCE.....	4
BOOSTER.....	5
Mode: OFF.....	6
Mode: BATT/TEST.....	7
Mode: SOS/TURN.....	8
CHARGING – “CHG” SYMBOL.....	9
PILOT / TEST.....	10
SOUND.....	11
Mode: M – Manual.....	12
Mode: TTL (automatic illumination).....	13
OPTICAL SIGNAL QUALITY CHECK.....	14
Mode: U (Custom User Mode).....	15
Mode: HSS - High Speed Sync mode.....	17
ERRORS (LEAKAGE, OVERHEAT, ETC.).....	18
MAINTENANCE.....	20
WARRANTY AND DISCLAIMER.....	22

# TECHNICAL SPECIFICATIONS

Model	Retra Flash Pro Max
Energy	140 Ws
Dimensions (circumference, height)	Ø 102,5 mm x 148 mm
Dimensions (height with Booster)	Ø 102,5 mm x 173 mm
Housing	Monolithic Aluminium Alloy
Depth rating	-100 m
Weight on land (including 1" Mounting ball and 4xAA Eneloop PRO)	878 g
Weight on land (including 1" Mounting ball, Booster and 8xAA Eneloop PRO)	995 g
Weight in water (including 1" Mounting ball and 4xAA Eneloop PRO)	~60 g
Weight in water (including 1" Mounting ball, Booster and 8xAA Eneloop PRO)	~150 g
Color temperature	~4900 K
Number of flashes at half (50%) power with Booster	1000+
Number of flashes at full (100%) power with Booster	520+
Standby time with Booster	+24 hours
Optical Connector	Inon threaded connector / Sea&Sea plug connector
Leakage detection	YES
TTL	YES
HSS	YES
Bluetooth Connectivity	YES
Bayonet Mount	Classic A1

For the complete list of technical specifications please visit: <https://www.retra-uwf.com/>

## POWER SOURCE

The Retra Flash Pro Max uses 4x AA batteries (8x AA batteries with Booster) as the standard power source.

The Retra Flash can work with single-use Alkaline batteries, however the performance will be greatly reduced.

Take care of our planet and get the maximum performance from the Retra Flash by using high quality rechargeable NiMh batteries.

We recommend Eneloop and Eneloop PRO batteries. For the Retra Flash Pro Max it is highly recommended to use higher capacity Eneloop PRO batteries.

Use only NiMh or Alkaline batteries, never use any other battery chemistry (NiZn, LiFe, Li-ion etc.) because the high current required for powering the Retra Flash can cause damage to the battery or result in fire or injury in case of catastrophic failure.

Please consider that batteries will lose their maximum output and capacity with age and recharge cycles. If you are using old batteries the performance of your Retra Flash will be reduced.

Never mix different brands, old and new or charged and discharged batteries. Never use damaged batteries.

# BOOSTER

The Booster allows you to insert 8x AA batteries into the Retra Flash to extend battery life by 100% and lower the recycle time by 50%.

## Mounting the Booster

**Step 1:** Insert 4x AA batteries into the Retra Flash battery compartment and pay attention to the orientation of + and - terminals, indicated inside the battery compartment. Load additional 4x AA batteries into the Retra Flash keeping the same orientation as the bottom batteries.

*Always double-check the battery orientation before powering up Retra Flash.*

**Step 2:** Take the Booster and place it on the battery compartment. Start rotating the knob on the Booster, turning it clockwise in the “close” direction, indicated on the Booster. Continue to rotate the knob until the Booster is fully secured on the Retra Flash. When the Booster is correctly mounted it will not move inside the Retra Flash and will stay completely fixed.

## Removing the Booster

**Step 1:** To remove the Booster from the Retra Flash, start rotating the knob anti-clockwise in the “open” direction, indicated on the Booster.

**Step 2:** When the Booster lid is removed take out the batteries by tilting the Retra Flash. Always store the Booster inside the cloth bag provided when it is not in use in order to protect the contacts from damage.

**IMPORTANT:** Use only NiMh or Alkaline batteries and NEVER use any other battery chemistry (NiZn, LiFe, Li-ion etc.) because the high current required for powering the Retra Flash can cause damage to the battery or result in fire or injury in case of catastrophic failure.

If the contacts on the Booster are damaged do not use the product. Please contact us for assistance.

Please consider that batteries will lose their maximum output and capacity with age and recharge cycles. If you are using old batteries the performance of your Retra Flash will be reduced.

Never mix different brands, old and new or charged and discharged batteries. Never use damaged batteries.

## Mode: OFF

In OFF mode the Retra Flash Pro Max has practically no battery consumption.

Despite this, we strongly advise taking out the batteries, if the Retra Flash will not be used for several weeks or during travel, to avoid accidentally turning on the Retra Flash and consuming the battery.

If the Retra Flash is accidentally turned on, it will consume the batteries until the batteries are empty.

In case the Retra Flash is left in BATT-TEST mode it will not turn off automatically. This will discharge the battery below the minimum voltage and cause damage to the batteries or the Retra Flash.

Make sure the batteries are removed from the Retra Flash before traveling.

Never leave empty batteries inside the Retra Flash as they might get discharged below their minimum voltage which can cause damage to the battery or result in fire or injury in case of catastrophic failure.

TEMPORARY

## Mode: BATT/TEST

The BATT-TEST mode on the Retra Flash Pro Max will take approximately 1-3 seconds to start up, after which the battery indication will be shown.

The battery status is calibrated only for Eneloop batteries and shows approximately 20 percent steps.

Exact battery charge depends greatly on temperature, battery age, etc.

The indicator provides an approximate status for your batteries and will become more useful once you gain experience with your batteries and the Retra Flash.

**TEST MODE:** By pressing the PILOT-TEST button in BATT-TEST mode the Retra Flash will emit a flash at the selected power level.

This feature is used to test if your Retra Flash is firing correctly or for creative lighting techniques with long exposures.

TEMPORARY

## Mode: SOS/TURN

The pilot light emits a morse code signal for help (SOS). This mode overrides all errors.

When in the SOS/TURN mode, you can flip the screen on the Retra Flash Pro Max by 180°.

To turn the screen, simply turn the mode dial on the Retra Flash Pro Max to SOS/TURN and rotate your Retra Flash by 180°.

TEMPORARY



## CHARGING – “CHG” SYMBOL

The Retra Flash will indicate that the capacitors are charging with a “CHG” symbol. Once the Retra Flash is ready to fire it will signal by producing a short sound and indicate the selected mode and power level.

The Retra Flash can be triggered while the capacitors are still charging, before the ready signal is triggered, however, the output power of the Retra Flash will be lower if the charging sequence has not been completed.

In some cases, the symbol “CHG” will continue to be shown after the capacitors are fully charged. If this occurs please keep using the Retra Flash normally and the indicator symbol will automatically reset. If the problem persists please move the MODE dial on the Retra Flash.

TEMPORARILY

## PILOT / TEST

The pilot light can be initiated by short pressing the PILOT-TEST button when the Retra Flash is in the following modes:

- BATT/TEST,
- M,
- TTL,
- HSS,
- U (Smart SL, Mlp, LED Adjust)

Short pressing the PILOT- TEST button will toggle between three different pilot light settings: OFF, 50%, 100%.

You can modify and customize the pilot light power levels in the ADVANCED FEATURES section in the Retra UWT Application (\*).

\*Pilot adjust is currently unavailable and will become available after the new Retra UWT application will launch.

## SOUND

You can toggle the sound of your Retra Flash ON or OFF inside the Retra UWT Smartphone App (currently unavailable in Retra UWT app).

You can also mute the sound on the Retra Flash by turning the mode dial on the Retra Flash to M. Then press and hold the PILOT-TEST button for approximately 3 seconds or until the Retra Flash emits a sound.

The current mode for sound will be indicated on the OLED screen on the Retra Flash Pro Max.

Pressing and holding the PILOT-TEST button for approximately 3 seconds while in M mode turns the sound on the Retra Flash ON and OFF.

TEMPORARY

## Mode: M (Manual)

In M mode, the Retra Flash is triggered via a built-in optical sensor. The power output of the flash can be adjusted manually, with the power dial.

The power dial features 13 power levels with steps of approximately 0,5 F-Stop per step. The numbers around the dial represent power in percentage from 1 to 100.

Rotating the power dial clockwise will increase the output power, while rotating anti-clockwise will decrease the output power.

At power settings below 12% power the flash output may vary approximately 0,2 - 0,6 F-stop.

The optical sensor on the Retra Flash is compatible with the Sea&Sea plug connectors and Inon thread connectors.

The high sensitivity of the optical sensor on the Retra Flash may produce false triggers on land with the presence of static electricity.

## Mode: TTL (Automatic Illumination)

In TTL mode, the Retra Flash is triggered via the built-in optical sensor. In this mode, the ideal exposure is automatically calculated with a pre-flash. If the subject is too close or too far away from the Retra Flash during pre-flash, it may result in unexpected exposure.

In this mode, the power output of the Retra Flash can be adjusted with the power dial. You can change the power output from -3 to +3, indicated by the numbers on the power dial.

The steps from -3 to +3 do not represent F-stops and are only relative power adjustments.

Setting the power dial to position 0 will give unadjusted TTL exposure. In some cases, adjusting TTL exposure + or - may result in unexpected exposure.

If you require maximum power from the TTL system, please move the power dial to position '+3', which will increase the exposure by approximately +0,5 F-stop.

Using position +3 for normal exposures will most likely result in overexposed images.

**If the images are too bright** - The distance from Retra Flash to subject may be too short. Try setting the power dial to minus (-) positions OR increase the distance from Retra Flash to subject.

**If the images are too dark** - The distance from Retra Flash to subject may be too long. Try setting the power dial to plus (+) positions OR decrease the distance from Retra Flash to subject.

When using rear curtain sync in TTL mode, the Retra Flash will not fire in a range of shutter speeds from approximately  $1/6$  to  $1/2$ , but will work at faster and slower shutter speeds.

Please use manual power mode if you wish to use rear curtain sync at all shutter speeds.

The high sensitivity of the optical sensor on the Retra Flash may produce false triggers on land with the presence of static electricity.

The optical sensor on the Retra Flash is compatible with the Sea&Sea plug connectors and Inon threaded connectors.

# OPTICAL SIGNAL QUALITY CHECK

To check the signal quality through the optical cable:

- Unplug or unscrew the optical cable about 2-5 millimeters and check if the Retra Flash still fires reliably.
- If you are getting a reliable trigger signal when the optical cable is slightly undone, this means the signal quality will most likely be uninterrupted when the cable is fully connected.
- If you can not trigger the flash when the optical cable is slightly undone, this might indicate a possible issue with the cable assembly or the power of the LED or flash trigger on the camera.

The high sensitivity of the optical sensor on the Retra Flash may produce false triggers on land with the presence of static electricity.

**IMPORTANT:** Never look directly into the flashtube from a close distance when the Retra Flash is operating. Looking into the flashtube while the device is in operation may result in eye damage or other serious injury.

## Mode: U (Custom User Mode)

The Retra Flash Pro Max enables you to customize the (U) user mode via the Retra UWT Smartphone App and tailor your Retra Flash experience to suit your specific needs.

To set advanced features, the Retra Flash Pro Max must be connected to the Retra UWT App via smartphone or tablet. Follow the instructions for connectivity and set advanced custom user modes for position 'U' by clicking the settings wheel in the top right corner of the application.

### **Smart SL - Smart pre-flash cancellation mode**

If the camera emits only TTL light with pre-flash and you wish to set the Retra Flash with manual exposure, the Smart SL mode will automatically detect the number of pre-flash (1-10) and ignore them.

To set the Smart SL as the custom user mode, please connect the Retra Flash with the Retra UWT app on your smart device. Then, click on the setting wheel in the top right corner of the application and click on "Smart SL".

Every time you enter the Smart SL mode on position 'U', the Retra Flash will first enter the calibration procedure.

### **Calibration procedure:**

1. Follow on-screen instructions
2. A pulsating light will appear indicating the Retra Flash is ready.
3. Trigger the camera once and wait for 2 seconds.
4. If the light stops flashing, the Retra Flash has now been calibrated and will fire with manual power settings, same as in the mode M - Manual.

If the calibration was not successful, simply exit the mode 'U' and try the calibration procedure again.

The "rear curtain" synchronization is limited to approximately one fifth of a second when using Smart SL mode.

### **Manual Low Power Mode (Mlp) - Low power flash**

In Manual low power mode (Mlp), the Retra Flash will reduce the voltage of the capacitors and decrease the power of the flash by approximately 1 F-Stop on all power levels. Please note that power output between different power settings may vary 0,2 - 0,6 F-Stop.

To set the Manual low power (Mlp) as the custom user mode, please connect the Retra Flash with the Retra UWT app on your smart device. Then, click on the setting wheel in the top right corner of the application and click on "Mlp (low power flash)".

To enter Manual low power (Mlp) mode, please turn the mode dial to 'U' position and follow instructions on the screen on the back panel of the Retra Flash Pro Max.

The Manual low power (Mlp) mode operates the same as Manual (M) mode.

### **LED Adjust - Pilot light output adjust**

The Retra Flash Pro Max allows you to adjust the intensity of the pilot light at each power level. Short pressing the PILOT-TEST button once turns on the pilot light at first power level. Short pressing the PILOT-TEST button a second time activates the second power level of the pilot light. Short pressing the PILOT-TEST button again turns off the pilot light.

To set the LED adjust as the custom user mode, please connect the Retra Flash with the Retra UWT app on your smart device. Then, click on the setting wheel in the top right corner of the application and click on "LED adjust".

### **How to adjust pilot light output:**

1. Connect Retra Flash with Retra UWT app.
2. Click the setting wheel at the top right corner of the Retra UWT app and select "LED Adjust".
3. Rotate mode dial to 'U' position.
4. Short press the PILOT-TEST button to activate pilot light at first power level.
5. Turn the power dial from 1-100 until you are satisfied with the intensity of the pilot light.
6. Short press the PILOT-TEST button to activate pilot light at second power level.
7. Turn the power dial from 1-100 until you are satisfied with the intensity of the pilot light.
8. Short press the PILOT-TEST button to turn off the pilot light.

Please note that the pilot light is adjusted for all modes (not just 'U' mode).

The chosen pilot light intensity is saved for the selected power level, even if the Retra Flash is turned off and the batteries are removed.

The default power levels for the pilot light are at positions 12 and 100 respectively.



## Mode: HSS - High Speed Sync mode

The Retra Flash Pro Max is capable of emitting a long flash pulse required for HSS photography.

The successful operation of HSS synchronization depends on the capability of underwater camera housing electronics OR the onboard camera flash to emit a HSS synchronized light pulse.

If a light emitting trigger can synchronize with the camera to shoot with faster shutter speeds (HSS) this trigger signal may be used to fire the Retra Flash in HSS mode. Consult your manufacturer of housing - LED trigger - camera onboard flash products to learn if your device can emit a HSS trigger pulse.

With HSS the flash duration is much longer compared to a normal flash pulse. Even at lower power settings the actual power output in HSS mode is much higher compared to a normal flash pulse. The Retra Flash will take longer to recycle at any power level in HSS mode.

Power levels in HSS mode can be adjusted with the power dial. The power dial features 13 power levels with steps of approximately 0,2-0,3 F-Stop. Rotating the power dial clockwise will increase the power output, rotating anti-clockwise will decrease the power output.

In some cases when using power levels below 50% in HSS mode there is a chance of a misfire. If you are experiencing misfires regularly please complete the following checklist:

1. Make sure the capacitors are NOT charging when the trigger is made. The Retra Flash must complete the recycling process to ensure a successful flash.
2. Check your optical connection to make sure there is no reduction of light signal through the optical fiber cable. Please check the topic "OPTICAL SIGNAL QUALITY TEST".
3. If one Retra Flash is problematic please use the other Retra Flash to trigger it and confirm that the misfire is not occurring due to optical signal issues or insufficiently charged capacitors.

If you continue to experience regular misfires in HSS mode please contact us at: [develop@retra-uwat.com](mailto:develop@retra-uwat.com)

# ERRORS (LEAKAGE, OVERHEAT, ETC.)

**Error override function** - To override any of the below listed errors: press and hold the PILOT-TEST button in any mode (except SOS and OFF) and wait until a message is displayed on the screen, then release the button.

When the message appears, the Retra Flash will operate normally and will not indicate any errors. When the Retra Flash is turned off it will reset this mode and all errors will start indicating again. Use this function at your own risk. Using the error override function repeatedly may damage the product and void your warranty.

Please write to us if you are having issues with false error indication at: [develop@retra-uwat.com](mailto:develop@retra-uwat.com)

**Battery low** - Battery low symbol is displayed on the screen. If the batteries are weak and unable to charge the Retra Flash OR the battery voltage drops below a certain value the low battery alarm will be triggered.

**Leakage detection** - Water droplet symbol on screen with Pilot light turned ON - If there are at least 2 milliliters of water inside the battery compartment of the Retra Flash the built-in leakage detector will be triggered.

The battery compartment on the Retra Flash is sealed away from the electronics.

Follow all diving safety protocols and check the battery compartment at your earliest convenience. Remove the batteries and use fresh water and mild soap to clean the battery compartment after a flooding incident.

Before and after each dive, position the Retra Flash vertically with the dome facing down and check the front dome for any kind of indication of water or moisture inside the Retra Flash. If there is any kind of water present inside the Retra Flash DO NOT use the Retra Flash, remove the batteries and contact us for assistance at: [develop@retra-uwat.com](mailto:develop@retra-uwat.com)

If the leakage detector is triggered and there is no water present inside the battery compartment, the battery surface may have come in contact with the housing due to damaged wrapping on the batteries. Reposition your batteries and try again. The batteries may need to be replaced if the problem persists.

If the leakage detector is triggered and there is no water present inside the battery compartment or the Retra Flash and the batteries do not appear to have any damage to the wrapping please contact us for assistance at: [develop@retra-uwat.com](mailto:develop@retra-uwat.com)

**Overheat mode** - Heat symbol on screen - Retra Flash features an advanced temperature monitoring system with multiple temperature sensors built-in. If the

temperature on critical components is too high the Retra Flash will automatically reduce the power of the flash or the pilot light to prevent damage.

To reduce the chances of throttling the power and with consideration to the subjects you are photographing please consider shooting in intervals with pauses of 30-60 seconds to allow cooling.

If the Retra Flash overheats, an overheat symbol will appear on the screen. Once the temperature is reduced the lights will stop blinking and the flash may be used again.

TEMPORARY

# MAINTENANCE

Taking care of your Retra Flash and accessories will prolong their life and reduce the chances of malfunctions.

**Before & After Each Dive** - Before and after each dive, position the Retra Flash vertically, with the dome facing down. Carefully inspect the front dome for any signs of water or moisture inside the dome.

Open your Retra Flash battery compartment lid and take out the batteries. Carefully inspect the Retra Flash to make sure there is absolutely no water present inside the battery compartment.

If you find that water is present in the battery compartment, wipe it with a cloth or towel and leave the battery compartment open and wait for it to dry completely before using the Retra Flash.

After each diving session, it is recommended to place the Retra Flash into lukewarm freshwater so that it is submerged completely. Leave submerged for 15 minutes.

Push the buttons and turn the power and mode dials on the back panel to make sure all salt water is removed from the Retra Flash.

**DO NOT** use the Retra Flash if water or moisture is present within the front dome. Remove the batteries and contact us for assistance at: [help@retra-uwf.com](mailto:help@retra-uwf.com)

Always keep your Retra Flash turned on when submerged in water. If the Retra Flash is turned off the leakage alarm is not operational.

**Storing Your Retra Flash** - Before storing your Retra Flash for longer periods of time, always remove the batteries from the battery compartment.

Check the front dome and battery compartment of the Retra Flash for any signs of water or moisture. If water is present in the battery compartment, wipe it with a cloth or towel and leave the battery compartment open and wait for it to dry completely before storing your Retra Flash.

If you have Bumpers installed, remove them and inspect the bayonet mount and inside of the Bumpers to make sure no water is present.

Water trapped below the Bumpers may cause unwanted corrosion.

Remove the Bumpers and dry them completely before storing the Retra Flash.

**DO NOT** store your Retra products in dry boxes or dry cabinets with humidity under 40 percent.

**DO NOT** leave your Retra Flash in direct sunlight or high/low temperatures (-20° to +35° Celcius) for longer periods of time.

**O-Ring Maintenance** - After exchanging the batteries approximately 20 - 40 times, it is recommended that you inspect and re-grease the o-rings of the battery compartment.

Before greasing the o-rings, make sure there is no debris on the o-rings or grooves of the battery compartment and that the o-rings are not damaged.

To re-grease the o-rings, apply the supplied silicone grease from your Retra Flash kit using the following method:

1. Dispense a very small amount of silicone grease onto the tip of your finger.
2. Spread the silicone grease across the o-rings until they attain a glossy appearance.
3. Make sure that the silicone grease is spread uniformly and that no chunks of silicone grease remain on the o-ring.

*Please avoid direct application of silicone grease onto the o-rings.*

**Warning:** Silicone grease does not act as a sealant in itself. Using too much silicone grease can result in reduced sealing or even flooding.

**Bayonet Mount** - Do not force a Retra accessory onto the bayonet mount, if the bayonet mount is difficult to operate.

Remove the Retra accessory and carefully inspect the bayonet mount and accessory for any debris.

If there is no debris and the Retra accessory is still difficult to lock, please use silicone grease (supplied with your Retra Flash) and very lightly lubricate the bayonet mount or the Retra accessory.

If the bayonet mount is still difficult to operate after completing the steps above, your Retra Flash accessory or the bayonet mount may be damaged. Please contact us for assistance at: [help@retra-uwat.com](mailto:help@retra-uwat.com)

**Front Dome** - The front dome of the Retra Flash is made out of plexiglass and can be polished with any kind of plexiglass certified polish solution.

To wash the front dome, use only lukewarm freshwater or a very mild mixture of freshwater and cleaning soap.

Please note that scratches on the dome do not affect the quality of the light output of the Retra Flash. Please avoid polishing the dome, if possible.

**IMPORTANT:** Never use any kind of alcohol based cleaning solutions on the front dome. Use only freshwater or a very mild mixture of freshwater and cleaning soap.

Should you require a replacement of the front dome please contact us at:  
[help@retra-uwat.com](mailto:help@retra-uwat.com)

## WARRANTY AND DISCLAIMER

By default the Retra Flash is included with a 1 year Retra warranty.

During the warranty period all repairs or replacements covered by this warranty are free of charge, excluding costs of shipping and import/export duties and charges.

Keeping your Retra Flash up to date with the latest firmware via the Retra UWT App automatically extends your warranty by 1 additional year to a total of 2 years of warranty.

Make sure to enable notifications for our app and update your Retra Flash as soon as new firmware becomes available.

This warranty does not cover any damages caused by misuse, neglect, accidents, abrasion, exposure to extreme temperatures, solvents, acids, corrosion, normal wear and tear or transport damage (by airlines for example). Flooding of the battery compartment is not covered by this warranty. Improper or incorrectly performed maintenance or repairs void this warranty.

If you encounter a problem, please contact us via email: [help@retra-uwat.com](mailto:help@retra-uwat.com)

By using the Retra UWT App you agree that we access and process the usage statistics for all connected Retra Flash products and the Retra UWT App.

Usage statistics are stored on our servers and are linked with the product serial number.

All information we gather is used solely for the purposes of developing our products and solving any technical issues.

For more information concerning our privacy policy please visit our website:  
[www-retra-uwat.com](http://www-retra-uwat.com)

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