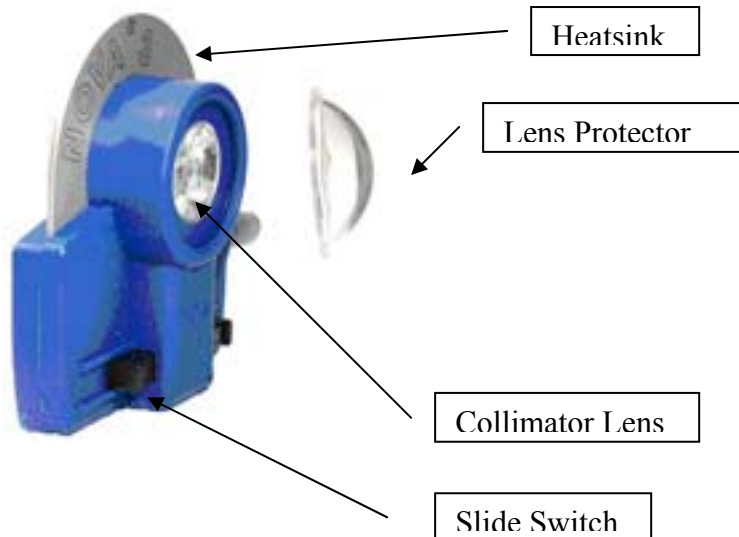


# NOVA 3 Instructions



## WARNING!

Your NOVA is a **VERY** bright light. Do not look directly at the LED. Do not direct into the eyes of others. Do not allow children to play with this light.

## NOVA Quick Start

1. Charge battery (see battery instructions) or place alkaline battery (MN 1203 recommended) in battery holder (observing polarity).
2. Connect Headpiece to battery . Fasten battery strap around both battery and plug (to secure plug in battery)
3. The magnetic slide switch has a centre off position. Moving it to one side turns the light on. High and Low power are on opposite sides of “off”

## SOME DO's and DONT's

### DO

1. Observe polarity
2. Use lens cover (supplied fitted) when lens may scratch (e.g. caving)
3. Use cable protector on short cables when caving
4. Clean accumulated mud from switch by rinsing in water while operating
5. Carry a backup light source when used for any potentially hazardous activity

### DON'T

1. Connect to anything other than a Speleo Technics battery or battery box
2. Connect to an FX5 or any battery over 3.6 Volts
3. Use with 4 x AA cell adaptor (use 3 X AA cell adaptor)
4. Leave connected to battery when in a rucksack or other container. The Nova could overheat if it is accidentally switched on.
5. Obstruct the aluminium heatsink
6. Use any adaptor cable other than those made by Speleo Technics
7. Use in flammable atmospheres

## **IMPORTANT– PLEASE READ**

Your NOVA light is a completely new concept. A bright, solid-state, waterproof, tough and controllable LED head torch.

Previous head torches (of any worthwhile power) have involved filament bulbs and reflectors. Provision always had to be made for replacing filament bulbs because of their short service life.

The NOVA's powerful 3 Watt LED will not require replacement so is sealed. Heat still has to be removed (it is a fallacy that LED's do not produce heat – those which produce very little also produce very little light!) which is why your NOVA has an aluminium heat sink. This should be unobstructed in use. If packing in a rucksack or other container it is recommended that the plug should be removed from the battery as damage to the NOVA or rucksack contents could occur if the NOVA accidentally switches on.

The NOVA can be retro-fitted to suitable Speleo Technics batteries. These are in two plug-compatible groups:-

1. FX3/Anglers Light (long cable)
2. Headlite, LX1, Nova Nickel and FX-ion. (short cable – same as NOVA Flexi)

The two types of cable are not interchangeable between battery groups

Your NOVA headpiece is waterproof to minus 50 metres. For (freshwater only) diving the only batteries recommended are the Speleo Technics FX3 or Anglers Light.

The LED light is focused by a collimator lens (which looks like a reflector) which is sealed into the NOVA. To protect it from scratching (as in caving) the transparent cover with which it is supplied should be left in place. This is easily and cheaply replaceable which the collimator is not. This cover is no part of the waterproofing system. For replacement, or draining any water which has entered, the cover can be removed by inserting a thumb nail or if in difficulty a (carefully used) screwdriver at the rim. For diving, where there is no risk of scratching the cover may be left off.

## **BATTERY INSTRUCTIONS**

### **NOVA 3 Flexi**

The NOVA 3 Flexi runs from an MN 1203 alkaline battery or 3 X AA cells (using optional adaptor). Alkaline batteries cannot supply a 3 Watt load for very long so high level should be used sensibly. Your NOVA 3 is in no way inferior to lower powered lights in this respect. They simply do not have the high power capability of the NOVA 3.

### **FX2, FX3, Anglers Light, Headlite and LX1 Batteries (all Nickel-Cadmium)**

Your battery will normally have been supplied in a fully discharged condition and will require a 16 hour charge on an appropriate Speleo Technics charger. After use a 16 hour (overnight) charge will be necessary. Modern NiCd cells are very robust and no timing of the charge is necessary (in normal consumer use) but they should not be left on permanent charge. Please ignore anything you may have read about "memory" effect.

Intelli-Pulse chargers are being introduced for these batteries. Please see the Intelli-Pulse instructions below.

DO NOT charge the battery below freezing without prior consultation with Speleo Technics.

OBSERVE POLARITY - DO NOT SHORT-CIRCUIT

### **Nova Nickel Battery (Nickel/Metal-Hydride)**

Your battery will normally have been supplied in a fully discharged condition and will require charging on the Speleo Technics Intelli-Pulse charger. After use charge again. See Intelli-Pulse charger instructions below

DO NOT charge the battery below freezing without prior consultation with Speleo Technics.

OBSERVE POLARITY - DO NOT SHORT-CIRCUIT

### **FX-ion Battery (Lithium-Ion)**

#### CHARGING

The “smart” FX-ion charger will charge the cell automatically. It should be switched off or disconnected from both the mains and cell for 10 seconds before charging to re-set its logic circuits. Connect to the mains and the green LED will illuminate. When the cell is fully charged the red LED will illuminate.

Charging will take approximately 6 hours

DO NOT charge the battery below freezing without prior consultation with Speleo Technics. DO NOT use this battery for diving or caving

#### IN USE

Lithium-Ion cells must operate within a strict voltage “window” and your battery has an under/over voltage protection circuit incorporated. **As the battery nears full discharge it will switch off suddenly.** Please be aware of this and have a backup light source available if engaged in any potentially hazardous activity.

### **ItelliPulse Chargers**

These “smart” chargers are the only ones available for the Nova Nickel (NiMh) battery and are being progressively introduced for the FX3, Headlite and LX1 batteries. These are specific to the battery type so please see the charger label.

Intelli-Pulse Chargers are full-maintenance 24/7 plug-in-and-forget “smart” chargers.

The red LED gives steady illumination to indicate that the charger has power. It flashes rapidly when the battery is connected, indicating the connection and that the timed main charge is occurring. When this has timed out (approx. 16 hours) it will start to flash slowly to indicate that the battery is fully charged and that the pulsed maintenance charge is taking place. The battery may be used at this point or may be left on pulse charge until it is required.

### **HEALTH & SAFETY INFORMATION (all Batteries)**

- Use the appropriate charger for the battery. All Speleo Technics chargers have rating plates which detail their compatibility. Use of an incorrect charger could cause damage/injury.
- This equipment is not approved for flammable atmospheres
- Do not short-circuit the output contacts or charge with reversed polarity
- Use only accessories manufactured by Speleo Technics for use with this product
- Dispose of carefully and in accordance with environmental rules. Do not cut open, puncture or incinerate.

## ATTACHMENT OF HEAD MOUNTED BATTERIES

Headlite, LX1, FX-ion and NOVA Flexi

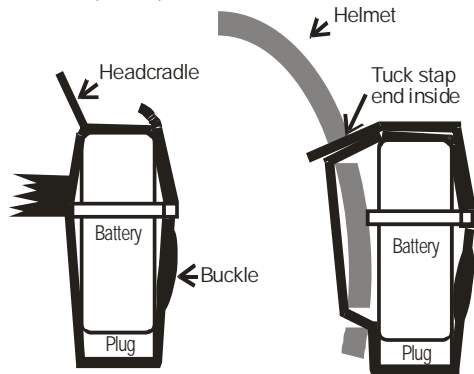


Fig 1

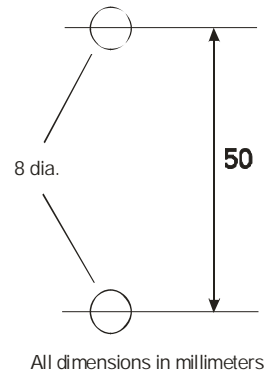


Fig. 2

Figure 1 illustrates how these batteries are retained on either the elastic headcradle or a helmet. The retaining strap, in each case, passes around the battery and plug which retains the plug on the battery. It should be passed through the moulded loop on the battery top moulding so that a slightly slack strap will not result in the loss of the battery.

Figure 2 illustrates the drilling dimensions for holes on the back of the helmet for the retaining strap. **Very great care should be taken that none of the internal fastenings nor the helmet structure are damaged.**

### Approximate Duration Times (hours)

Battery	Low level	High Level	See Note (1)	See Note (2)
Nova Nickel	18	8	*	
FX-ion	22	10	*	
Headlite (mk II)	12	5	*	
FX3	50	13	*	
Alkaline (MN 1203)	50	30		*
Alkaline ( 3X AA)	25	15		*

These figures are only approximate. If duration time is vital to your safety you need to test your NOVA on the cell(s) concerned.

We at Speleo Technics choose a very conservative illumination end point for duration purposes. Many manufacturers choose a lower limit which enhances duration figures.

For fuller information on duration please see our Technical Information leaflet or visit [www.speleo.co.uk](http://www.speleo.co.uk)

Note (1)

## **Rechargeable vs Alkaline**

Rechargeable cells give increased brightness because they can supply higher current. We particularly recommend our Nova Nickel (NiMh) battery for maximum performance. Alkaline cells give lower brightness for longer duration.

### **Note (2)**

#### **Use with Alkaline Battery**

#### **Choice of battery**

Alkaline cells vary widely in quality and capacity. Good quality ones are essential to getting worthwhile performance from your NOVA. We recommend the MN 1203. This has much greater capacity than 3 X AA cells.

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