



OPERATING INSTRUCTIONS

scout / shine / video



OPERATING INSTRUCTIONS



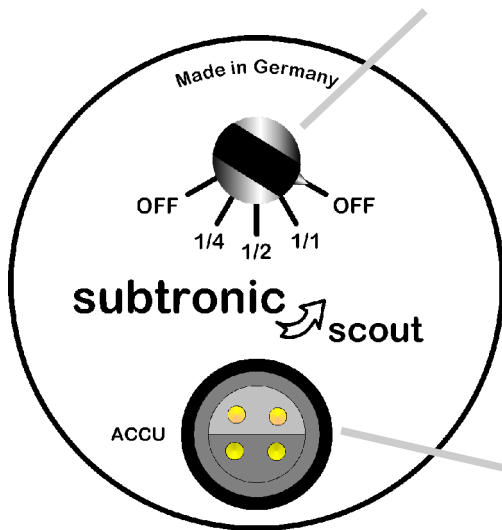
Please read this operating instructions carefully, before you use the equipment.

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control panel

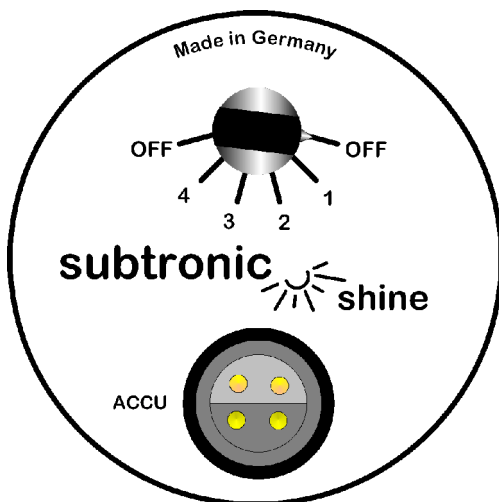
powerselector switch



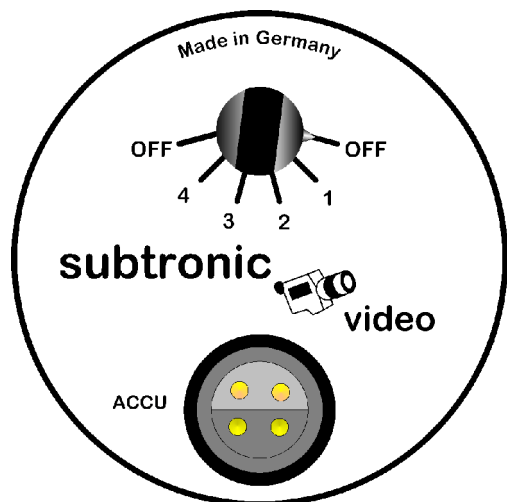
1/1 = 100% Performance
 1/2 = ca. 50% Performance
 1/4 = ca. 25% Performance

connector for
 external
 accumulator

subtronic scout



subtronic shine



subtronic video

1 = 100% Performance
 2 = ca. 80% Performance
 3 = ca. 60% Performance
 4 = ca. 45% Performance

The data refer to the used current not to the delivered quantity of light.

external Accumulator



external Accutank 1,4 Ah

charging the Accu

for charging the accu, connect the S4-connector of the charger-unit with the connector of the accumulator

Please consider the following points while the loading:



- Load if possible at room temperature.
- Don't store the accumulator or the charger before and during the loading procedure directly in the sun. If the temperatures over 40°C or under 0°C the performance of the Akkus sinks.
- As soon as the announcement switched to „green“, separate the battery charger from the accumulator.
- Use only the original-battery-charger. In the case of use other battery chargers the accumulator can be damaged.

status indicator	function	time
orange	quick charge	ca. 2 h
grün	charging finished	

Info.:

The used lithium manganese cells are extremely robust and reliable.

With a malfunctioning e.g. loss of a cell, with overloading or by aging does not exist a danger of a lithium cobalt reaction (metallic fire like an explosion) as with lithium polymer or lithium ions Akkus.

These at the moment most modern lithium accumulator technology made possible the construction of a very safe, small and above average high performance external accutank.

These cells have a substantially higher power density like NiMh cells and need less place and save weight. They do not have a MEMORY effect. The accumulator does not need to be unloaded before recharging.

START-UP

connect the S4 connector from the accu with the **S4 Plug** on the LED Lamp. connect without force. the contacts can be connected easy.

If the rotary switch is turned in position 1, the LED lamp shines with maximum intensity. on the next positions the intensity is reduced by electronic circuit. There are two „OFF“ Positions. So the Lamp can be switched on on maximum power or minimum power.



always switch off the equipment , before you unscrew or install the external accu.

undervoltage protection

In the case the accuvoltage falling under the programmed minimum the electronics switch off the Lamp. Thus the Accumulators cannot become over-discharged, for an extension of the accu life time. in this case switch off the equipment and load the accumulator soon. Despite under-voltage-monitoring, the electronics needs still a small current, which would continue to unload the accumulator. In any case turn the power-switch from the lamp in „off“- position and/or separate the external accumulator before storage the lamp.

over-temperature-monitoring (shine and video)

Due to the high power density the models shine and video become warm to prevent an overheating over water, these models are supplied with a temperature protector. Reaches the case temperature a value of approx. 45°C, the output-power will reduced automatically. The performance of the lamp changes to the adjusted power step, if the case temperature falling under approx. 35°C.

do not use a neoprene cover or anything like that



!! Heat sink !!

for a safe operation of the lamp do not cover or close the cool-fingers

do not use a neoprene cover or anything like that !!

MAINTENANCE AND SERVICING!!

All parts of the equipment consist of sea water-resistant anodized aluminum or plastic. Nevertheless it is recommendable to clean the equipment after seawater diving in fresh water. This is particularly important for the back side with the switch. The S4 Accu cable should be only removed from the lamp-head after cleaning.

- ❗ Never dip the Equipment without plugs or protection-caps on the S4-socket or without cap on the S4 cable of the Accus into the water

replacing the O-rings and the Accus

We recommend, to send the equipment after approx. 5 years to our company for replacing all o-rings and to check the accumulator performance. The O-rings at the S4 connectors can be controlled and replaced by the user.

connector thread and O-rings should be greased always slightly.

checking the cables

The used cable is sea-water-resistant and requires no special care. However the cable should be checked regularly for cuts and tears. That prevents, water in the cable and accu tank.

if you use not correctly-mounted and clean connectors with the lamp, water can arrive at the contacts. The accu-connector on the lamp-head is sealed inside the lamp-housing, so that no water can arrive in the equipment, even if the cable is not correctly fastened.

! seawater on the contacts can damage the accumulator !

- Always check before each dive the correct assembly of all parts.
- if you don't use the lamp, place your equipment in such way that it does not deform the cable or connections!
- breaks of Cables result mainly, by pulling strong at the cable.
Be carefully , that you destroy the cable under water.
- be sure while turning up the cap, that you hold the plug and not the cable, otherwise it you twist the cable in the plug entry and that can lead to a cable break.

CABLE – CONNECTIONS

In unused condition the socket in the lamp head is to be closed with a blind stopper. O-rings in the socket and the connector should be always greased easily.

- ❗ **WITH THE TRANSPORT OF THE DEVICE THE LOADING PLUG OF THE EXTERNAL ACCUMULATOR IS ABSOLUTELY TO BE CLOSED WITH A PROTECTION CAP TO AVOID A POSSIBLE SHORT CIRCUIT OF THE ACCUMULATOR BY METAL PARTS.**

SECURITY TIPS

- Do not beam directly with the very intensive LED light in the eyes of people and animals. This can lead to visual disturbances and perhaps cause Retina damages .
- Use only the provided battery charger, it is tuned precisely to the built-in accumulators. The usage of foreign devices can lead to the destruction of the accumulators or the battery charger.
- do not expose accu to the excessive warmth like sunshine, fire and the like.
- do not open the device. by improper mounting, exists the risk of an leak . In case of saltwater burglary the electronics is destroyed.

Should water leakage in the lamp housing, proceeded as follows:

- **switch off the device and separate the accumulator of the device.**
- **remove the rear wrap ring. (This ring does not have any densely function, it safeguards only the back wall.)**
- **Through pull at the accu connector or at the switch you open the lamp.**
- **Remove the water.**
- **remove the electronics from the case and wash up these under fresh water or with an alcohol solution.**
- **close the cover again and send the equipment as soon as possible to us.-**
By user opening of the housing the warranty claim expires.
Except the above case arises due to a production error during the guarantee period.

Please Note:

damage by water entrance by the cable or by a wrongly installed plug exclude a warranty. Each part of the equipment will be tested several hours under pressure by us.

IMPORTANT CHECKLIST BEFORE DIVING TRIP.

- Test your equipment before your vacation.
- check the cable.
- Take the equipment in the hand baggage.
- Examine the Ball-arm. Grant to it some grease at the locking levers and screws.
- Rinse the equipment regularly in fresh water.
- Take the equipment after the vacation also in the indoor swimming pool, so that salt crystals under pressure are dissolved.
- we recommend to ship the equipment after approximately 5 years of using for a check to us. O-rings and accumulator have a limited lifetime.

What do in the case of loss?

- Pack the equipment into a stabil box with sufficient place on all sides for protecting material.
- Remove all attachments from your equipment we not needed for repair.
- for problems during the charging, please send the battery charger too.
- Cables with penetrated seawater corrode inside the wires and break off then after short time. Here repairs are not meaningful.
- attach a **letter** with an small **error description**, your **complete address**, your **phone number** and your **e-mail address** in the parcel. If you stand before an vacation trip, indicate to us a date for the return of the equipment. normally we need about two weeks for an repair and calculate also the dispatch time.
- We normally dispatch by UPS or DPD. for all other modes of shipment we need an written order from you.
- if you send away by post office, send us the equipment as registered parcel.
- As consumers you are legally obligated to supply used Akkus to the recycling system. We dispose of irreparable devices professionally and free of charge.

CONTACT

Office hours :
9.00 bis 12.00 und 13.00 bis 16.00
Tel: 07023 74669-0 Fax:-16
Email: service@subtronic.de

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Visit us in the Internet : <http://www.subtronic.de>

technical Datas

technical Datas	scout	shine	video
LED Chips	3 x 3 W	1x ostar 22W	6 x 7W (16/9)
Comparable halogen performance	25 W	60W	115W
power steps in %	25, 50, 100	45, 60, 80, 100	45, 60, 80, 100
using time with 100% performance	75 Min./ 1,4Ah	65 min / 2,4 Ah	75min. / 7,2Ah
using time with minimum performance	160 Min 1,4 Ah	120 min. / 2,4 Ah	150 min / 7,2Ah
lightning angle o.W.	40°	40°	16/9 square
Accumulator current on 100%	1,13 A	2,6 A	5A
colortemperatur over Water	5800K	5800K	5800K
Housing, sealing by O-rings	Aluminium, harteloxiert, technograu		
maximum depth	80m		
dimensions Length/diameter	102mm / 70mm	102mm / 92mm	
weight without accumulator	375g	500	500
mechanical connector	winding M8		
further mechanical connectors	stainless steel handle for Cord		
electronical undervoltage protection	yes	yes	yes
electronical temperature protection		yes	yes
energy source	Wechselakkusystem		Tank
accu container: external LiMg Accumulators 7,2V with S4 connector-system, short circuit resistant, capacity Standard on delivery	integratet in the Armsystem 1,4Ah	integratet in the Armsystem 2,4Ah	Tanksystem only 7,2 Ah
container dimensions	290x25mm	290 x 35mm	140 x 70mm
ball diameter	24mm	24mm	
cable-length	400mm	400mm	
weight	340g	450g	900g
electronical charger , very lightly, processor suportet quick-charge technic,	100-240 V, 1,3A recycle time 1,5h	100-240 V, 1,3A recycle time 2,5h	100-240 V, 2,7A recycle time 3,5h
chargeindicator twin LED on charger	yes	yes	yes

All data approx. values.
technical changes reserved.

Version: 12/2008

WARRANTY

- 4 The warranty conditions apply exclusively to purchases made in the Federal Republic of Germany.
- 5 The warranty stipulations of the respective country or the warranty conditions of the vendor apply to purchases made abroad.
- 6 The warranty period begins with the conclusion of the purchase agreement or on the date of delivery of the device to the purchaser (consumer).
- 7 We grant a function and impermeability warranty for a period of 24 months on devices supplied by subtronic. Excluded Accumulators (Warranty 6 Month)
- 8 The function and impermeability warranty shall become void, however, in the event of damage caused by an accident or by the device being dropped, if the device is opened, in the event of negligence or improper usage, in particular with regard to damage to the cabling and water penetration at improperly fastened screw connections, in the event of non-observance of the operating conditions, or in the event of failure to comply with the operating manual. Improper handling and intervention by the purchaser or a third party shall exempt subtronic from all warranty obligations and all other claims.
- 9 Under the terms of the warranty, devices that become defective as the result of an acknowledged manufacturing or material defect shall either be repaired free of charge or replaced should the repair costs be disproportionately high. A more extensive liability is excluded. **subtronic** shall not be liable for **indirect damages** and reserves the right of decision with regard to repairs or replacement. The provision of warranty services shall not represent a reason for either extending the warranty period or granting a new warranty period for the replaced or repaired parts.
- 10 Furthermore, wear and tear, usage, as well as excessive use, are likewise excluded from this warranty. The following parts are covered by the aforementioned stipulation: Flashtubes, accumulators, socket contacts, connecting cables. The accumulators used by our company are subjected to a multi-stage selection process, and the capacity of the accumulators is verified several times prior to delivery. We shall not provide any services under the terms of this warranty for accumulators that have been improperly used, e.g. storage in a discharged condition, or long storage periods without charging resulting in exhaustive discharging.
- 11 Please return faulty devices either to your specialist retailer or directly to subtronic GmbH together with the proof of purchase, in transport-proof packaging, and accompanied by a full and accurate description of the complaint. Devices are sent by, and returned to, the purchaser at own risk.

subtronic GmbH Weilheim a. d. Teck

Device number

Sales date

Retailer stamp