



## V98 rechargeable li-ion Battery User Manual

**WE STRONGLY RECOMMEND THAT YOU  
READ THIS INSTRUCTION BEFORE USING  
YOUR BEBOB V98 BATTERY! PLEASE KEEP  
THIS MANUAL FOR FUTURE REFERENCE**

### Features

- A high capacity battery which is compact and lightweight. Direct fitting to a camera via V-Mount.
- Five-step LED power indicator (100% - 80% - 60% - 40% - 20%).
- From SN V9801744, full Capacity Status LED (green over 70%; yellow between 50% and 70%; red under 50%)

### Safety instructions

- Only for professional use! Keep batteries out of reach of children and personnel that has not been instructed in the use of high capacity Lithium-ion batteries!
- Use only with recommended charger.
- Keep the battery dry and do not immerse in water.
- Never open the case of the battery.
- Do not expose to temperature over 60°C.
- Do not expose the battery to fire! May explode if thrown into fire!
- Maximum Load 8.0A.
- Do not put the battery on a device when the red charging LED flashes.
- Handle with care! Do not throw! Do not drop!

## Charging

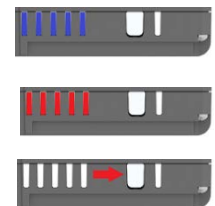
- Never leave batteries unattended while charging
- Wait 30 Minutes after discharge before you put the battery on a charger.
- The bebob V98 battery can be charged with an external bebob charger (or equivalent) with Lithium-ion (Li-ion) charging ability.
- Approximate charge time may vary depending on charger and temperature.
- bebob V98 can be charged in ambient temperature for optimum performance at 10°C - 30°C.
- bebob V98 batteries can be recharged in any charge condition.

## Discharging

- Maximum load is 8.0A. When using the battery with video or lighting equipment, power consumption of the equipment must be 8.0A or below. For the protection of the battery, a load of 8.0A or over may activate the internal protection circuit and stop supply of power. In this case the status led will turn red.
- The battery can be used in ambient temperature of - 20°C - + 55°C.

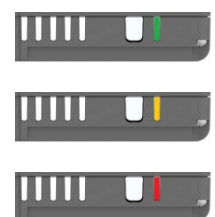
## Camera Data Communication

- Blue leds: Arri/Sony Data Protocol
- Red leds: Red Data Protocol
- To switch between both status, press the Check button for 5s



## Status led

- Status led lighting Green: Full Capacity over 70% of New
- Status led lighting Yellow: Full Capacity between 50% and 70% of New
- Status led lighting Red: Full Capacity under 50% of New



## Flash Light

- To switch On/Off press the Check Button Twice



## Storage

- Storage temperature range is - 20°C ~ + 35°C (<85% humidity).
- To store the battery for a long period (longer than 4 Weeks), the battery should be charged between 50% and 75%. The battery should be recharged every 4 Weeks.
- After storage some self-discharge will occur. Before re-use it is advisable to recharge the battery fully.

## Warranty

- The V98 is covered by a 2 years unconditional warranty on all parts, except the cells.
- The cells are covered by a 1 year warranty, 70% of the original capacity.
- For warranty issues or if you have any additional questions, please contact the appropriate bebob distributor listed at [www.bebob.de](http://www.bebob.de).

## Disposal

- The V98 battery has to be disposed within a dedicated collection container for used device batteries. Please be aware that only empty batteries are allowed for disposal in collection containers. In case the battery is not completely discharged, precautions against a potential short-circuit have to be taken.

## Specifications

Model	V98
Mount	V-Mount
Capacity	6,8Ah; 98Wh
Voltage	14,4V DC
Maximum Output Voltage	16.8 V DC
End Voltage	12.0 V
Cells	Lithium-Ion Trimix made in Japan
Max. Discharge Current	8.0A
Twist D-Tap	14.4V unreg. Max. 35W
USB Port	5V, 1.0A
Fuel Gauge	5-Step LED
Weight	0,625 Kg
Dimensions (WXHxD)	94x144x39mm
Chargers	bebob, idx, sony
Charging time (bebob VS2/VS4)	2 Hours
Operating Temp. Range	
Charge	+ 10°C ~ + 30°C recommended
Discharge	- 20°C ~ + 55°C
Storage	- 20°C ~ + 35°C (<85% RH )

## Transport as of April 1<sup>st</sup> 2016

- This Summary reflects our current Knowledge.

### 1. Transport by Commercial Airline / Carry-on Luggage

- You can transport in your **carry-on luggage** a V98 attached to the camera or equipment it powers.
- You can transport in your **carry-on luggage** an unspecified number of spare V98:
  - Put tape over the contacts.
  - Put each single battery in a plastic bag before packing it in your **carry-on luggage**
- **V98 do not need to be discharged to 30% SoC for transport as personal luggage, this is only a requirement of cargo shipments.**
- Carry a copy of the [bebob UN Transport Documentation](#) and [V98 UN Certificate](#)
- We recommend that you confirm with your carrier of choice, to determine any further restriction or local policies, before travelling. **You will find the actual regulation of your carrier of choice in the bebob transport information system [www.fly-lithium.com](http://www.fly-lithium.com),**

### 2. Transport by Commercial Airline / Checked-in Luggage

- You can transport in your **checked-in luggage** a V98 attached to the camera or equipment it powers and a maximum of 3 V98 spare packed in the same piece of luggage
- **V98 do not need to be discharged to 30% SoC for transport as personal luggage, this is only a requirement of cargo shipments.**
- Carry a copy of the [bebob UN Transport Documentation](#) and [V98 UN Certificate](#)
- We recommend that you confirm with your carrier of choice, to determine any further local restriction or policies, before travelling. **You will find the actual regulation of your carrier of choice in the bebob transport information system [www.fly-lithium.com](http://www.fly-lithium.com),**

### 3. Transport as air-, road- and sea-freight

- Li-Ion batteries, and so bebob V98, when shipped by air, road or sea are classified as dangerous goods class 9 and subject to special UN certified packaging.
- Air transport authority training and authorisation (PK 1) are required for packing any more than 2 V98, for an air cargo shipment.
- **Li-Ion batteries for air cargo must have a state-of-charge of no more than 30% for shipping, means only one out of the five fuel gauge led lights up.**
- We recommend that you confirm with your carrier of choice, to determine any further local restriction or policies, before travelling. **You will find the actual regulation of your carrier of choice in the bebob transport information system [www.fly-lithium.com](http://www.fly-lithium.com),**

## CERTIFICATION FOR LITHIUM BATTERY

### TRANSPORTATION CERTIFICATE

Concerning the transport according to the dangerous goods regulations of the different transport modes as in force since January, 1st 2003 and changes effective from 2015

WE HEREWITH CERTIFY THAT EACH BATTERY OF THIS TYPE IS PROVED TO MEET THE REQUIREMENTS OF EACH APPLICABLE TEST IN THE UN MANUAL OF TESTS AND CRITERIA, PART III, SUB-SECTION 38.3, REV. 5, AMEND. 2

<b>CERTIFICATE/REPORT NO.:</b>	<b>BU-2015-03104-2-UN</b>
<b>UN No. / Shipping name:</b>	<b>UN 3480 LITHIUM ION BATTERY UN 3481 LITHIUM ION BATTERY packed with equipment / contained in equipment</b>
<b>Certified Product:</b>	<b>LITHIUM ION BATTERY (rechargeable)</b>
<b>Model Designation:</b>	<b>4S2P NCR-18650GA (14.4V/6.8Ah)</b>
<b>Article Number:</b>	9044 (V98)
<b>Certificate Holder:</b>	<b>bebob factory GmbH</b> Höglwörthstr. 350 · D-81379 München · Germany


PERFORMED TESTS	RESULTS
38.3.4.1 Test 1: Altitude Simulation	passed
38.3.4.2 Test 2: Thermal Test	passed
38.3.4.3 Test 3: Vibration	passed
38.3.4.4 Test 4: Shock	passed
38.3.4.5 Test 5: External Short Circuit	passed
38.3.4.6 Test 6: Impact/Crush	not applicable
38.3.4.7 Test 7: Overcharge	passed
38.3.4.8 Test 8: Forced Discharge	not applicable

► Watt-hour rating of the battery: 97,92 Wh ◀

As the Watt-hour rating of the battery is not more than 100 Wh, this lithium ion battery is not subject to other provisions of ADR, RID, ADN and IMDG-Code if shipped in compliance with Special Provision 188.

Effective January 1, 2013 this lithium ion battery can be shipped by air in accordance with ICAO-TI or IATA-DGR, Section II or Section IB, Packing Instructions (PI) 965 (Lithium Ion Batteries), PI 966 (Lithium Ion Batteries, packed with equipment) and PI 967 (Lithium Ion Batteries, contained in equipment) as appropriate.

29.Oct.2015  
Date of issue

  
Signature: Sven Bauer, CEO

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The regulation listed here reflects the status at the time of the release of this certificate.