

SL-VBD64 / SL-VBD96

7.2V Lithium Ion Battery for Panasonic

Instruction Manual



Thank you for purchasing the SL-VBD64 / SL-VBD96 Li-ion Battery for Panasonic professional video camera. Prior to using the SL-VBD64 / SL-VBD96 we strongly recommend that you read this Instruction Manual on how to best use the SL-VBD64 / SL-VBD96 and keep this manual for future reference. If you have any additional questions, please contact the appropriate IDX office listed at the end of this manual.

Caution for safety use

Improper handling of this Li-ion battery may result in smoke, heat, fire, explosion or leakage as well as cause performance degradation or failure. Please be sure to observe the following precautions.

⚠ DANGER

May cause sudden serious injury and death.

- Charge with IDX battery charger only.
- Use with professional video cameras or other video equipment. Please contact IDX for more information.
- Do not short the contact pins with any metal object. Do not carry or store with metal equipment.
- Do not expose to heat and never throw the battery in a fire.
- Do not immerse in water. Keep the battery dry and away from excessively dry or humid environments.
- Do not leave the battery exposed to excessive heat such as in a car or directly under the sun light. Do not use outside of specified temperature ranges.
- Do not solder on the contact pins directly.
- Do not attempt to open the outer casing or break apart the battery.
- Do not subject the unit to extreme physical impact or pressure, or place any object across the terminals that could cause it to short.
- Do not pierce or drill into the outer casing of the unit.
- Do not attempt to use the battery if damaged.
- Do not use the battery in a corrosive environment. Damages occur from salt water, seawater, acid, alkali, corrosive gas, etc.
- Risk of explosion if battery cells are replaced by an incorrect type.

⚠ WARNING

May cause serious injury and death.

- Please note that the outside casing becomes hot when the battery is discharged in high temperatures or with high loads.
- Stop charging immediately if the battery fails to charge within the designated time. Refer to charger manuals for charge times.
- Do not use if the battery displays unusual characteristics (odd odor, discoloration, etc.) when in use, during charge or in storage.
- Keep away from fire if the battery leaks fluid or has an unusual smell.
- In case of leakage immediately wash your hands and face thoroughly with clean water and contact your IDX representative for further instructions.
- Immediately seek medical attention if battery fluid gets into contact with your eyes.

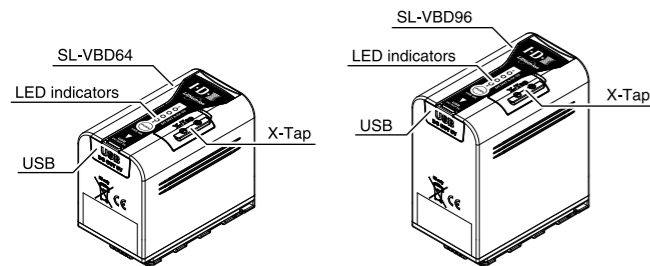
⚠ CAUTION

May cause injury or damage other equipment.

- Follow instructions on charging and discharging.
- Store in cool and dry conditions.
- During long periods of inactivity, please remove the battery from the equipment.
- Do not use, store or place the battery in an electrostatic area.
- Always keep the connectors clean.

Features

- Light weight, compact, high performance Li-ion battery with a durable design.
- Fore power status LED indicators accurately displays remaining power capacity. [Refer to Capacity display LEDs]
- DC output connectors for peripheral equipments. [Refer to X-Tap]
- USB power output for charging portable devices. [Refer to USB]



Charging

- Only charge with an IDX lithium ion charger and refrain from charging with third party chargers. Please refer to the charger manual for charging method information.
- Estimated charging times may vary depending on the charger and condition of the battery. Refer to our website or brochure for more details.
- The ambient temperature range for charging is 32~104°F (0~40°C); however, 50~86°F (10~30°C) is recommended for optimizing the charging performance. When the battery is charged in temperatures 32°F(0°C) or below, it may not fully charge, even if the designated charge time has elapsed.
- Charging outside of the recommended temperature range can accelerate cell deterioration.
- Lithium ion batteries have a slight self discharge; therefore, IDX recommends to charge prior to use.

Discharging

- When using the battery, the total power consumption should not exceed 30W 104°F (40°C) or less. Please carefully calculate the total power consumption of the equipment(s) connected to the battery prior to use. If power loads exceed 30W, an internal protection circuit will activate and stop discharging to protect the battery cells. Excessive power loads may generate excessive heat, which can damage or melt battery protection fuses.
- The battery life may diminish if high loads are applied frequently.
- Battery run-time may reduce when used in extreme high and low temperatures. IDX highly recommends to use the battery in ambient temperatures of 50~104°F (10°C~40°C)
- The battery will automatically stop discharging when the voltage reaches 5V. To extend battery life, IDX recommends to stop using before the battery reaches 6V.
- Microwave transmitters with 5W outputs or more should be kept as far away from the battery as possible. High power transmitters may disrupt or stop supplying power.

Capacity display LEDs

- The remaining capacity is shown with four built-in LEDs. F indicates 'fully charged' and E indicates 'empty' or 'need to charge'.
- To check the remaining capacity, press the check button. The LED lights will emit and reflect the battery charge level.
- If the battery voltage is below 6V the LED will blink three times after pressing the check button.

※ Please be aware that LED indicates approximate amount of capacity when not providing power, and this varies by age and condition of battery.

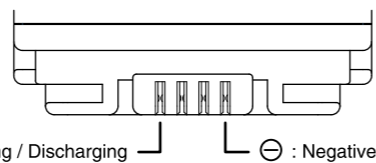
Battery capacity display LEDs Check button



Protection circuitry

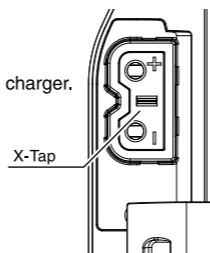
There are three types of protection circuits to ensure the battery is protected from Over-charge, Over-discharge, and Over-current. If the protection fuse is blown, the battery is no longer operable.

Main connector



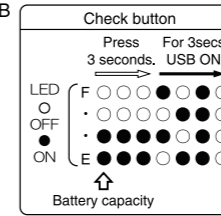
X-Tap

- X-Tap power output terminal available.
- The maximum power output is 20W.
- The output voltage is a battery through (8.4V~5.0V).
- Do not draw power from X-Tap while charging as it may interrupt charging, cause a charger error, or damage the charger.



USB

- USB connector for power supply. (DC5V/1.5A)
- USB connector is A type. (USB Cable should be A type as well).
- To activate the USB power output, push and hold the CHECK / USB ON button for more than three seconds (see diagram to the right).
- If the voltage of the battery is below 6V, the USB output will not be active.
- If the voltage of the battery reaches 6V while the USB is in use, the bottom LED will blink and the USB will become non active.
- USB power will turn off automatically 35 seconds after the USB cable is removed.
- Do not draw power from USB while charging as it may interrupt charging, cause a charger error, or damage the charger.
- This terminal does not provide data, only power.



Specifications

	SL-VBD64	SL-VBD96
Cell chemistry	Li-ion	
Nominal voltage	DC 7.2V	
Capacity	6,400mAh / 47Wh ※1	9,600mAh / 70Wh ※1
Charge voltage	DC 8.4V	
Charge current	2.9A	
Maximum discharge rate	30W / 3.5A (8.4V) ~ 6.0A (5.0V) ※2	
Main Connector	25W / 2.9A (8.4V) ~ 5.0A (5.0V)	
X-Tap	20W / 2.3A (8.4V) ~ 4.0A (5.0V)	
USB	7.5W (1.5A x 5.0V)	
End voltage	5.0V	
Battery protection circuit	Over-charge, Over-discharge, Over-current	
Ambient temperature	Charge	32~104°F (0~40°C) (50~86°F (10~30°C) recommended)
	Discharge	-4~104°F (-20~40°C) (50~104°F (10~40°C) recommended)
	Storage	-4~122°F (-20~50°C) (One month)
Dimensions	41.2(W) x 61.2(H) x 69.5(D) mm 1.62(W) x 2.41(H) x 2.74(D) inches	41.2(W) x 80.5(H) x 69.5(D) mm 1.62(W) x 3.17(H) x 2.74(D) inches
	Weight	approx, 250g / approx, 0.55 lbs

*1. Measured capacity of battery is a minimum rating at 20°C.

*2. Maximum load is the sum of X-Tap, USB and Camera loads.

Storing

- Store in cool and dry conditions.
- Do not store or leave in temperatures of 122°F(50°C) or above.
- For long-term storage, please store with about 20~30% of capacity and recommend for re-charging every five months.
- Deterioration of battery performance will be accelerated when the battery stored in a high ambient temperature and/or stored for long period without used.

Life cycle

- Life may vary depending on frequency of use, storage and operational temperature environment.
- Life will be reduced if frequently used with high load applications.
- Life is also reduced if stored in fully charged and/or empty conditions for extended periods.

Compensation for recorded content

Recorded content cannot be compensated for if recording or playback is disabled due to a malfunction of the battery pack or other devices.

For China only



这些标志根据2006/2/28公布的“电子信息产品防止污染管理办法”以及“对于电子信息产品污染控制标示的要求”，是适用于在中国销售的电子信息产品的环境保护使用期限。

环保使用期限 注意) 环境保护使用期限在正常的条件下有害物等不泄漏的期限, 不是保证产品功能性能的期间。

有毒有害物质的名称, 含量, 含有部位的标示

品名	有毒有害物或元素					
	铅 Pb	汞 Hg	镉 Cd	六价铬 Cr ⁶⁺	多溴联苯 PBB	多溴联苯醚 PBDE
机构部件	○	○	○	○	○	○
主体 电气部件	×	○	○	○	○	○

○ : 表示该部件材料的所有均质材料中有害物质含量均在SJ/T11363-2006标准所规定的限量要求以下。
× : 表示至少该部件材料有一个均质材料中该有害物质含量超过了SJ/T11363-2006标准所规定的限量要求。



Design and specification are subject to change without notice.

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Battery recycle

This Li-ion battery can be recycled. Please follow the regulations in your country or contact your local IDX office for further details.

Li-ion Battery Air transport Compliance (as of Jan 1st, 2015)

International Civil Aviation Organization (ICAO) and International Air Transport Association (IATA) rules, regulations and requirements:

- Battery is proven to meet the requirements of each test in the UN Manual of Tests and Criteria, Part III, subsection 38.3.
- Lithium ion battery is less than 100Wh.
- Lithium ion battery capacity Watt-hour rating is labeled on the outside of the battery case.

SL-VBD64 / SL-VBD96 ICAO and IATA

The SL-VBD64 / SL-VBD96 has met the requirements for United Nations Recommendations on the Transport of Dangerous Goods. The SL-VBD64 / SL-VBD96 capacity is less than 100Wh which is illustrated on a label located on the exterior of the battery housing.

SL-VBD64 / SL-VBD96 Classification

The SL-VBD64 / SL-VBD96 battery is classified as a "Class9 Dangerous Goods" product by the International Civil Aviation Organization (ICAO) and International Air Transport Association (IATA). This battery is required to follow certain procedures at times of shipping and transportation. Below are guidelines for properly preparing the shipment and transportation of the SL-VBD64 / SL-VBD96.

For aircraft carry-on baggage

An unlimited number of carry-on batteries are permitted; IDX recommends isolating the battery terminals by taping or put the spare battery into plastic bag. IDX recommends checking with the airline company prior to traveling. Some airline companies may have additional rules and regulations for transporting lithium ion batteries.

For aircraft check-in baggage

If the battery is attached to a piece of equipment, such as a camera, monitor, recorder, etc. it can be checked-in baggage. If the battery is not attached to a piece of equipment, it must be carried-on.

For cargo

- Battery only (Packing Instruction 965 Section II)
Two batteries that are less than 100Wh in one packing box can be transported by cargo. This will exempt the package from being classified as hazardous material. To qualify for this exemption, the package used for transportation must pass a 1.2 meter drop test.*3 In addition, a lithium ion battery caution label is required on the shipping package. To finalize the exemption, a declaration of exemption for Dangerous Goods materials must be submitted to the cargo company.

- Battery only (Packing Instruction 965 Section I.B)
When transporting three or more batteries in one packing with a total NET weight batteries of 22 lbs (10kg) or less, the package must be classified as "Class 9 Dangerous Goods". The package used for cargo must pass a 1.2 meter drop test. In addition, it is necessary to label the following on the package: lithium ion battery caution label, Class9 label, UN number "UN3480 Lithium ion Batteries", name and address of shipper and consignee. Lastly, a declaration of exemption for dangerous goods materials should be submitted to the cargo company.

- Battery packed with equipment (Packing Instruction 966 Section II)
When the battery is packed with equipment and the net weight of a battery (battery weight only) in the package is 11 lbs (5kg) or less, this package may be transported as an exemption of the dangerous goods article. However, one package is limited to the minimum quantity of batteries required to operate the equipment and two spare batteries. To qualify for this exemption, the package used for cargo must pass a 1.2 meter drop test.*3 In addition, a lithium ion battery caution label is required on the shipping package. Lastly, a declaration of exemption for dangerous goods materials should be submitted to the cargo company.

- Battery contained in equipment (Packing Instruction 967 Section II)
If the battery is installed in the equipment and the net weight of the battery (battery weight only) is 11 lbs (5kg) or less, this package may be transported as an exemption to the dangerous goods article. A caution label and declaration are not required if there are two or less batteries installed in the equipment and is packaged with firm packing material. If more than two batteries are installed in the equipment, the package must have a lithium ion battery caution label and a declaration of exemption for dangerous goods article should be submitted to the cargo company. A drop test for this package is not required.

*3. IDX's standard shipping package has passed the drop test; however the individual battery package has not tested.

If the above requirements are not met, all packages are subject to the classification of Dangerous Goods product (class9).

Dangerous Good regulations are subject to change. Please comply with the most updated regulations.

EU only

