

# DUO-150 Li-ion V-Mount Battery



Lithium Ion

## Instruction Manual

Thank you for purchasing the DUO-150 Li-ion V-Mount Battery. Prior to using the DUO-150, we strongly recommend reading this Instruction Manual on how to best use the DUO-150 and recommend keeping this manual for your reference. If you have any additional questions, please contact your local 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.

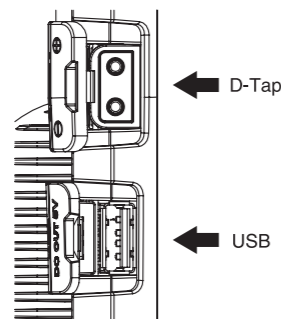
#### ⚠ CAUTION

##### 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.
- Five power status LED indicators accurately displays remaining power capacity.
- [D-Tap] DC output connectors for peripheral equipments. [Refer to D-Tap]
- [USB] USB power output for charging portable devices. [Refer to USB]

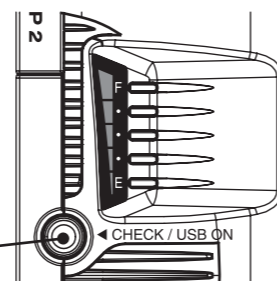


### Charging

- IDX's Lithium-ion battery should be used IDX chargers only. Refer the instruction manual for more detail.
- Estimated charging times may vary depending on the charger and condition of the battery. Refer the website or brochure for more detail.
- An ambient temperature range of charging is 32~104°F (0~40°C) however 50~86°F (10~30°C) is recommended for optimizing the charging performance. When battery charged in the 32°F (0°C) or below, it may not be fully charged even designated time has been passed.
- The battery incur small amount of self discharge therefore IDX recommend to charge prior to use.

### Capacity display LEDs

- Remaining capacity is shown with five LEDs. This is displayed as 20%, 40%, 60%, 80% and 100%.
- When battery capacity reaches less than 9%, the bottom Empty LED starts flashing.
- When the check button is pressed, the LEDs will light for approximately 2.5 seconds.

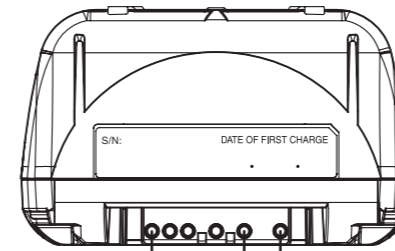


Capacity	Display	E	●	●	●	F
100~80%		●	●	●	●	●
79~60%		●	●	●	●	—
59~40%		●	●	●	—	—
39~20%		●	●	—	—	—
19~10%		●	—	—	—	—
9~0%	Flashing	—	—	—	—	—

### Discharging

- When using the battery, the total power consumption should not exceed 120W (104°F (40°C) or less). Please carefully calculate the total power consumption of the equipments connected to the battery prior to use. If power loads exceed 120W, an internal protection circuit will activate and stop discharging to protect the battery cells. Excessive power loads may generate an excessive heat which can cause the melt down of fuse to protect from severe damage of the battery.
- The battery life may be reduced if high load has been repeated frequently.
- Battery operation hour 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)
- Characteristic of discharge curve of Lithium Ion battery is very steady however it is sharply drops when it's reached 13V or low. For optimum use, IDX recommends that the battery alarm setting in the camera should be 13~13.5V. Refer battery manual setting of camera.
- Battery will automatically stop loading the power when the voltage reached at 12V. To extend battery life, IDX recommends stop using before battery reaches 12V.
- Microwave transmitters with 5W outputs and more output should be kept as far away from the battery as possible as it may disrupt or stop supplying power.

### Terminals



⊕ : Charging / Discharging ⊖ : Negative  
ID : Battery ID

### Protection circuitry

There are four types of protection circuits to ensure the battery is protected from Over-charge, Over-discharge, Over-current and Thermal protection. If the thermal fuse is blown, the battery is no longer operable. When temperature of inside of the battery reached 176°F (80°C), battery stops discharging automatically. Discharge will restart when the inside temperature becomes 140°F (60°C) or less.

### [D-Tap]

- Two D-Tap power output terminals available.
- A maximum power output is 50W each.
- The output voltage is a battery through. (12~16.8V)
- D-Tap output can be used for IDX portable lights and monitors.

### [USB]

- USB connector for power supply. (DC5V/1A)
- USB connector is A type. (USB Cable should be A type as well).
- To activate the USB power output, push the CHECK/USB ON button for more than three seconds and confirm three LEDs light for three seconds. (E, middle, and F)
- USB power will turn off automatically 30 minutes after the USB cable is removed.
- USB power is inactive while battery is charging.
- This terminal does not provide data, only power.

### 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.

### Specifications

- Cell chemistry : Li-ion
- Nominal voltage : DC 14.8V
- Capacity : 9.8Ah/146Wh \*1
- Charge voltage : DC 16.8V
- Charge current : Max 4.9A
- Maximum discharge rate : 10A / 120W (104°F (40°C) or less) \*2
- End voltage : 7.9A / 95W (104~113°F (40~45°C)) \*2
- Battery protection circuit : Over-charge, Over-discharge, Over-current, Thermal protection
- Ambient temperature
- Charge : 32~104°F (0~40°C) (50~86°F (10~30°C) recommended)
- Discharge : -4~113°F (-20~45°C) (50~104°F (10~40°C) recommended)
- Storage : -4~122°F (-20~50°C) (One month)
- Dimensions / Weight : 97(W) × 146(H) × 59(D)mm / approx, 1050g
- D-Tap output voltage : 3.82(W) × 5.75(H) × 2.32(D) inches / approx, 2.31lbs
- maximum load : Battery through voltage (D-Tap1, D-Tap2)
- USB output voltage : 50W (per D-Tap) \*2
- Maximum current : DC 5.0V
- connector type : 1.0A \*2 (5W \*2)
- auto power off : USB Type-A (Receptacles)
- : 30 minutes after detection of less than 30mA

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

\*2. Maximum load is the sum of D-Tap, USB and Camera loads (Total must be less than 120W).

### 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.

### 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, 2013)

The battery is classified as Class9 Dangerous Goods product by Dangerous Goods Regulations of the International Civil Aviation Organization (ICAO) and International Air Transport Association (IATA). This battery will be required to follow certain procedures at times of shipping and/or transporting.

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

- 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 batteries exceeding a Watt-hour rating of 100Wh but not exceeding 160Wh.
- The Watt-hour rating must be labeled on the outside of the battery case. As for lithium ion battery, it is necessary to indicate the Watt-hour rating on the case exterior.

DUO-150 has passed the tests for United Nations Recommendations on the Transport of Dangerous Goods. DUO-150 is labeled as exceeding a Watt-hour rating of 100Wh but less than 160Wh.

### For carry-on baggage

Bringing batteries on an aircraft as carry-on baggage is permitted if approved by the airline; IDX recommends checking airline rules and regulations before traveling.

If the battery is attached to equipment, it can be checked-in baggage or carry-on baggage. Spare batteries are permitted for carry-on but are limited to 2 batteries per person.

Be sure to protect the battery terminals by covering them with tape or inserting the battery in a plastic bag.

DUO-150 cannot be checked-in and must be carried onboard.

### For cargo

- Battery only (Packing Instruction 965 Section I .A)
- Battery packed with equipment (Packing Instruction 966 Section I )
- Battery contained on / in equipment (Packing Instruction 967 Section I )
  - Packing must follow Class 9 Dangerous Goods regulations.
  - There is no limit to the number of batteries per package.
  - For passenger plane transportation, the package must be 11 lbs (5 kg) or less.
  - For cargo plane transportation, the package must be 77 lbs (35 kg) or less.
  - Batteries must meet the Packing Group II performance standards.
  - Use a strong cardboard box to meet Packing Group II .
  - The packages will require
    - Class9 label.
    - Name and address of shipper and consignee.
    - Proper shipping name,
    - UN number (UN3480 Lithium ion batteries or UN3481 Lithium ion batteries packed with equipment or UN3481 Lithium ion batteries contained in equipment)
  - When battery package weight exceeds 11 lbs (5 kg), the CAO label is necessary.
  - In addition, a dangerous goods declaration that contains the sender and consignee information must be submitted to the transporter.



http://www.idx.tv

Design and specification are subject to change without notice.

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EU only

