

Power Cartridge <PC-14> Rechargeable Battery Pack



Instruction Manual



IDX Technology thanks you for choosing the PC-14 Power Cartridges, and is sure that you will benefit from the unique features. The PC-14 Power Cartridges are designed exclusively for use in the ENDURA-ELITE Rechargeable Lithium Ion (Li-ion) Battery Pack. Please use this instruction manual to best maximize the use of your ELITE battery and to provide safe use of your PC-14 Power Cartridges.

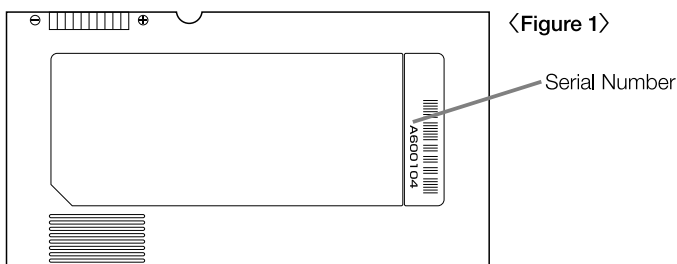
If you have any additional questions, please contact the appropriate IDX office or visit our website www.idx.tv

Caution

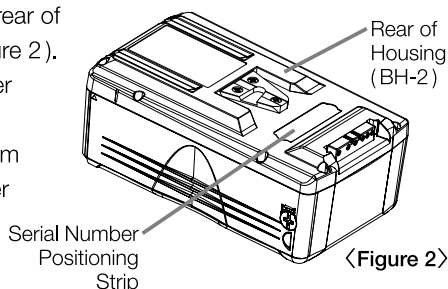
- Do not subject the Power Cartridges to extreme impact, pressure or place objects across the terminals that could cause a short.
- Do not throw the pack in fire or attempt to burn it.
- Do not immerse in water. Keep the battery pack dry and away from excessively dry or humid environments.
- Do not attempt to open or break apart the Power Cartridges.
- Stop charging immediately if the charging does not complete within the designated time.
- Store the packs under cool and dry conditions.
- Always keep the connectors clean.

Operating Instructions

- A pair of PC-14 Power Cartridges is designed specifically to be inserted together into an ENDURA-ELITE battery housing (BH-2). Always insert the same serial number Power Cartridges into the housing as one pair. The packs will not operate in different serial number combinations. However the Power Cartridges can be inserted into either slot in the housing and their positions are interchangeable.



- After inserting the Power Cartridges into the housing (BH-2) position the serial number label (included with the Power Cartridges) onto the rear of the housing (see Figure 2). Before inserting Power Cartridges in to the housing always confirm that the serial number of the Power Cartridges match that of the housing.



Caution : The ELITE battery pack will not charge or discharge if different serial number Power Cartridges are used and a warning LED code will show.

- When inserting a replacement pair of Power Cartridges in to a used housing, please refer to the ENDURA-ELITE instruction manual and follow new cartridge registration procedure.

Charging

- It is not possible to charge the PC-14 Power Cartridges except when they are inserted as a corresponding pair in the ELITE housing.
- It is not possible to charge the ELITE with only one Power Cartridge inserted.
- Use only IDX chargers with Li-ion battery charging capability. The ELITE can be charged on all IDX Li-ion capable chargers (except the ET-8 Tower charger). Refer to the specific charger instruction manual for charging procedure.
- The PC-14 Power Cartridge s should be charged in an ambient temperature range of 0~40°C but for optimal battery performance 10~30°C is recommended.
- Charge times vary depending on charge current and battery status. Refer to the charger's instruction manual or contact your IDX dealer or appropriate IDX office.
- If the battery is charged at temperature at or below 0°C or 50°C and above, the protection function operates and charging stops to avoid cell deterioration. Before the charge resumes, batteries should be returned to the recommended temperature range (10~30°C).

Discharging

- The maximum continuous discharge load applied to a single Power Cartridge is 57W (maximum discharge current 4.8A). However, as two Power Cartridges must always be used together, the maximum discharge load becomes 114W (maximum discharge current 9.6A).
- Do not discharge if a load exceeds 114W. Before use, confirm the maximum power consumption of the equipment used does not exceed 114W.
- A load above 114W may activate the internal protection circuit and the battery performance will deteriorate.
- Battery pack discharge capabilities are reduced in extreme low / high temperature environments. Operating times may shorten depending on the load of the equipment used. This is most noticeable with older, heavily used battery packs. Discharge at ambient temperature of 10~40°C is recommended.

- The normal usable voltage range of a Li-ion battery under load is 13.0~14.5V. At the end of discharge and below 13V the battery voltage drops sharply. For optimal use, it is recommended to set a battery voltage alarm at 13.5~13.0V in older camera menus that use voltage based warnings.
- Power Cartridges discharge down to 12V but excessive low discharge accelerates deterioration of the battery life. To extend the Power Cartridges' life cycle, it is recommended to stop discharging at 12.0V or above.

Storage

- Deterioration is accelerated with higher ambient temperatures and the longer the storage period. 20°C or below is recommended when the PC-14 Power Cartridges are stored for longer than a month.
- Do not store or leave the battery pack in temperatures of 60°C or above.
- To store the battery pack for a long period the battery should be charged up to 20% of capacity and left in this condition.
- If stored for a long period in a discharged condition, the battery pack may deteriorate faster due to over-discharging. Check the charge status periodically and keep the 20% capacity condition.

Life Cycle

- The life cycle of the battery pack reduces with frequency of use and the application of high loads.
- Life cycle is also reduced if used and stored under high temperatures, or if stored in fully charged condition for extended periods.

Specifications

- Cell Chemistry : Li-ion
- Maximum Voltage : 16.8V
- Nominal Voltage : 14.8V
- Nominal Capacity : 4.8Ah (9.6Ah/one pair)
(at ambient temperature 40°C)
- Maximum Discharge Current : 4.8A (9.6A/one pair)
- Maximum Discharge Load : 57W (114W/one pair)
- Discharge Termination Voltage : 12.0V
- Battery Protection Function : Over-charge Protection, Over-discharge Protection, Over-current Protection, Temperature Protection

- Ambient Temperature : To charge 0~40°C
(10~30°C recommended)
To discharge -20~50°C
(10~40°C recommended)
Storage 0~20°C recommended
-20~60°C (within a month)
-20~40°C (within 3 months)
-20~20°C (within a year)
- Dimension : Approx. 82(W)×153(H)×21(D) mm /
Approx. 3.2(W)×6.0(H)×0.82(D) inches
- Weight : Approx. 420 g / Approx. 0.93 lbs

Li-ion Battery Air Transport Compliance (ICAO)

PC-14 Power Cartridges are not subject to the International Civil Aviation Organization (ICAO) and the International Air Transport Association (IATA) regulations. They have passed the United Nations Hazardous Goods Transport Control (2003) Test and they can be transported by air as non-hazardous goods.

Caution : The pack cannot be transported if two Power Cartridges remain in the Housing (BH-2). One or both Power Cartridge(s) must be removed prior to air transportation.

ICAO & IATA Regulations for Air Transportation as Non-Hazardous articles.

(IATA DGR Res 618 / Atch "A" / 44th Edition)

[A] Section 4.4 Special Provisions for Transport (Provision A45) Lithium cells and batteries offered for transport are not subject to the provisions of these Regulations if they meet the followings:

- (b) For a Li-ion battery, the aggregate Lithium-equivalent content is not more than 8g.
- (c) Each cell or battery is of a type proved to meet the requirements of each test of the UN Manual of Tests and Criteria Part III, subsection 38.3.
- (d) Batteries are separated and packed so as to prevent short circuit.
- (e) No more than 12 Li-ion battery packs are transported in one single package.

[B] Section 2.3.5.10 Goods acceptable as Carry-on.

There are limitations on Li-ion battery packs, which can be taken on aircraft as carry-on. These limitations apply only to battery packs with an aggregate equivalents Lithium content of more than 8g. All IDX Li-ion Battery Packs contain an aggregate equivalent Lithium content of less than 8g.

Therefore the PC-14 Power Cartridges are not subject to these limitations and, when individually protected against short circuit, may be carried as carry-on subject to no quantity limitation.



Li-ion

