ENDURA ELITE

FAQ's

1. What is the IDX ENDURA ELITE battery?

The ELITE is the next generation, high capacity Lithium Ion battery for use with all professional shoulder mount cameras commonly in use in field production for ENG/EFP. It has a capacity of 142 Wh and is very light weight, weighing less than 2.75 lbs. It is also the highest capacity Li Ion battery designed to meet all IATA requirements for safe air travel. Each cartridge is in full compliance with the IATA air transport regulations for carrying lithium based products aboard an aircraft.

2. What are the unique features of the ELITE?

ELITE is feature packed. It is has all the advantages of the Li Ion chemistry, has a V-mount, can be rapidly charged on all existing V-Mount chargers and is rugged for typical field use. But by far the most unique feature is the removable Power Cartridges, which house the actual battery cells.

3. Why use removable battery cartridges?

Removable cell cartridges provide many benefits. When after years of long use the cells naturally reduce in capacity, the user can replace the cartridge set without having to replace the entire battery. Thus the battery is user upgradeable to like new condition, at a fraction of the cost of a new battery, by simply buying new cartridges. This provides the user a substantial cost saving over the life of the battery.

4. How many cartridges are in each ELITE battery?

Two.

5. Are the two cartridges physically identical?

Yes, and they operate as a matched pair. Each cartridge set is identified by its own serial number. Each of the two matched cartridges has this identical serial number.

6. How do you install the cartridges?

It's extremely simple. The ELITE Battery Housing has an access door which is easily removed. You remove the door, insert the cartridge set, replace the door and initialize the battery. Initializing the battery allows the battery electronics in the housing to become "aware" of the cartridge set, and to be able to "speak" to the electronics in the two individual cartridges. The initialization process takes a few seconds. Assuming the cells are fully charged, you are now ready to go with a battery of 142 Wh capacity, highly suitable for today's power consuming generation of Hi-Def cameras!

7. Must each cartridge be inserted into a particular slot in the ELITE housing?

No. There are two slots in the housing, and either cartridge can be inserted in either slot.

8. If I drop one of the cartridges and break it can I simply install another single cartridge?

No, the cartridges operate as a matched set. In the event of a single cartridge failure both cartridges must be replaced with a new matched set.

9. Why does the ELITE battery use matched sets of cartridges?

In one word, "balance."

All professional level batteries are constructed from individual battery cells, connected internally in series and in parallel. The series and parallel connections are arranged to achieve the required battery output voltage and the current delivering capability. But in manufacturing the cells, all the cells have slight variations in their voltage and current characteristics. That's just natural in the manufacturing process.

In assembling batteries, IDX carefully selects matched cells. That is, to minimize these slight variations, we select a set of cells that have the closest matching individual voltage and current characteristics. When assembled, this creates a battery with the best lifetime, as no cell is noticeably "weaker" than any other cell. This is one of the reasons IDX has achieved the reputation as the premier supplier of extremely high quality batteries.

IDX takes this sophistication one step further with the ELITE Power Cartridges. By using matched sets of cartridges, the user avoids a potential reliability problem. Should a user be able to install one new cartridge with a cartridge that is, say two years old, a load then applied to the battery would draw more current from the new cartridge, since it naturally has a higher voltage. This would prematurely reduce the life of the new cartridge. IDX constantly strives to enhance overall product performance, and the use of matched cartridges in the ELITE battery is another way we do this.

10. What is the maximum load I can put on the ELITE?

114 watts. The maximum discharge current is 9.6 amps.

11. Does ELITE have an external display showing the current level of charge?

Yes. The LED display on the side of the battery housing shows current capacity level, from 100% down to 0%, in increments of 10%.

12. Can ELITE display the battery charge level in my camera viewfinder?

Yes. The ELITE battery stores the current level of charge in the battery electronics. It can be sent to the camera viewfinder via one of two industry standard serial data protocols, the I2C or the SMBus (Smart Battery Bus) protocol. For example, the I2C protocol is used to display the battery charge level on Panasonic cameras. The SMBus is used with Sony cameras.

13. How can I switch the data protocols to match my camera?

The ELITE battery uses the I2C protocol as the default setting. To change to the SMBus protocol you simply depress the Capacity Display Button on the side of the battery for approximately 5 seconds. The Mode Display LED will flash amber. When you release the Capacity Display Button, the SMBus is now the serial data protocol.

14. Does ELITE have any error monitoring features?

Yes. The ELITE battery is very fool proof. It will indicate an error if:

- The voltage difference between the two cartridges is abnormally large.
- Only one cartridge is installed
- The two cartridges installed have different serial numbers
- If the two cartridges have a different serial number than the serial number registered with the battery housing (improperly initialized)
- If any of the cell temperatures during charge exceeds the temperature range
  of -20° C to +60°C

All this error monitoring makes the ELITE totally user friendly, and enables the user to avoid field failures.

15. Is ELITE compatible with the IDX i-Trax Battery Management System (BMS)?

Yes. Once the cartridge set is initialized with the ELITE battery housing, the electronics in the housing and the electronics in the cartridges record all the typical battery usage parameters that can be displayed on the BMS system. An ELITE battery can then be taken off the camera and put on the BMS system for complete battery analysis. This is an important feature for managers of fleets of batteries, to maximize their lifetime usage and Return on Investment (ROI) of the batteries and associated chargers.