

## Battery Chargers

### 1) How do we choose the right charger for rechargeable batteries?

It depends on application needs. For digital camera Ni-MH batteries, we suggest using Rapid Smart Chargers such as IC-1012-ADV or IC-1029-ADV because it is design to fast charge cells without damaging cells. In addition, they support trickle charge modes. For Ni-Cad batteries, it is best to choose a smart charger with discharge function like IC-6006 charger to prevent memory loss effect and ensure longer life cycles.

### 2) What does it mean by 'trickle charge' mode?

This is a feature design to help charging cells to maximum capacity with very safe current without damaging the cells.

### 3) How fast does battery charger charges batteries?

Most Battery Chargers specification provides a chart on charging time. Overnight chargers usually are suitable for Ni-Cad and Ni-MH, but it will take 5 to 10 hours to fully charge Ni-MH cells. Rapid chargers are more suitable for charging Ni-MH cell because Ni-MH cells are designed with fast charging capability.

### 4) Can I mix Ni-Cd and Ni-MH batteries while charging?

Some chargers allow mix charging of Ni-Cd and Ni-MH batteries. It depends on whether or not your battery charger supports independent channel charging like IC-1012, IC-1029, IC-109V. Please refer to the charger device manual for charging instructions.

### 5) What is a 'smart' charger?

Smart charger is design with either timer based or negative delta V detection to prevent overheating and overcharging on cells.

### 6) What does conditioning mean?

Some chargers have conditioning mode – which means it discharged the batteries first before recharge them. Conditioning helps the batteries to reach maximum capacity. It also prevents Ni-Cad batteries from suffering 'memory effect'.

### 7) Battery charger safety tips

- a) Do not use metallic objects or any type of water-based cleaners to clean batteries, as it will cause the battery charger to malfunction or even explosion.
- b) Do not charge damaged or deformed batteries.
- c) Refer to the charger device manual for charging instructions and compatibility with battery chemistry.
- d) If your battery charger doesn't support independent charging per channel/bank. It's highly recommended to insert same type/brand/capacity of cells in pairs.