

## How to Maintain and Store Batteries

**Lithium Ion use:** top off or charge fully within 3-4 weeks of use (has very low self discharge).

**Lithium Ion discharge:** no discharge ever required, okay to top off.

**Lithium Ion short term storage:** store charged.

**Lithium Ion long term storage:** charge to 20-40% capacity every 3 months of non-use.

**NiCd use:** charge fully 1-4 days prior to use or notice reduced run time due to moderate self-discharge.

**NiCd discharge:** discharge every 5-7 uses.

**NiCd short-term storage:** batteries are very resilient, and no special battery storage is required.

**NiCd long-term storage:** batteries are very resilient, and no special battery storage is required.

**NiMH use:** charge fully the same day of use, or the day before (has very high self discharge).

**NiMH discharge:** discharge every 30 uses.

**NiMH short-term storage:** re-charge fully a day or two after use, and store charged.

**NiMH long-term storage:** charge fully every 1-2 months of non-use.

\* All batteries: store away from heat (i.e. do not store in automobile trunks)

## Chemistry Characteristics:

### Lithium Ion (Li-Ion)

**Benefit:**

- \* Powerful & Lightweight
- \* NO Memory Effect
- \* Lowest Self-Discharge
- \* Long Life
- \* Environmentally Safe

**Shortcoming:**

- \* Quick Roll-off at end

### Nickel Cadmium (NiCd)

**Benefits:**

- \* Mature & Understood Chemistry
- \* Fast Charging
- \* Economical

**Shortcomings:**

- \* Low Energy Density
- \* Memory Effect
- \* Toxic
- \* Heavy

### Nickel-Metal Hydride (NiMH)

**Benefits:**

- \* Higher Density
- \* Contains No Toxic Metals

**Shortcomings:**

- \* High-Self-Discharge
- \* Moderate Memory Effect
- \* Decreased Life
- \* Heavy