Motor drives allow you to track celestial objects easily. There are two types of optional motor drives. One is a single-axis motor drive and the other is a dual-axis motor drive.

### Single-Axis Motor Drive

- **Power Switch**
- **16X-Speed Control Buttons**
- **Power-On Indicator**
- **2X-Speed Control Buttons**

**Power Source** - DC6.5V to 12V

1. **Dry Cell Battery**
   - Place 6 C-size batteries into the battery case, making sure not to put them in the wrong way.
2. **Car Battery**
   - To get power from a cigarette lighter receptacle, use a car battery cord with a cord plug illustrated below.
3. **Household AC Outlet**
   - An adapter is needed to plug into an AC outlet. Use an AC adapter with an output of DC6.5V to 12V and with a cord plug illustrated below.

### Dual-Axis Motor Drive

- **Power-On Indicator**
- **R.A. Control Buttons**
- **Controller**
- **N-S Switch, Power Switch**
  - N: for the northern hemisphere
  - S: for the southern hemisphere
- **Speed Mode Selector**
- **Decl. Control Buttons**

**Power Source** - DC9V to 12V

1. **Dry Cell Battery**
   - Place 8 D-size batteries into the battery case, making sure not to put them in the wrong way.
2. **Car Battery**
   - To get power from a cigarette lighter receptacle, use a car battery cord with a cord plug illustrated below.
3. **Household AC Outlet**
   - An adapter is needed to plug into an AC outlet. Use an AC adapter with an output of DC9V to 12V and with a cord plug illustrated below.
Vixen DD-1 DUAL AXIS HAND CONTROLLER NOTES

POWER CONSERVATION
The Vixen DD-1 hand controller can be set to slew at 1.5x, 2x and 32x as need. Be advised that power consumption for tracking and slewing is much increased at the 32x setting. To increase field-battery life, it is advisable to leave the speed selector at 1.5x or 2x when tracking objects and select the 32x position only momentarily for high-speed slewing. This precaution will increase field-battery life.

CAUTION
Make sure the power-supply voltage does not exceed 12-Volts. Fully charged field-batteries may exceed this limit and cause damage to the controller.

Vixen SD-1 SINGLE AXIS HAND CONTROLLER NOTES

POWER CONSERVATION
While the Vixen SD-1 hand controller can tolerate up to 12-Volts input, it is not necessary to exceed 9-Volts to run the motor. This precaution will extend field-battery life and extend controller life.