

Specifications and Charging Performance

Your Solar Panels and Power Pack are designed to work together. The output of the Solar Panels (voltage, current) is matched to the input charging requirements of the Power Pack. The nominal output of the Solar Panels is 5.6 volt DC, 4.2 watt, 750 mA (milliamp).

The charging performance of a solar panel is impacted by many factors: hours of sunlight, cloud cover, orientation of the panel toward the sun, geographic location, season and ambient temperature. (See Maximizing Solar Performance at the bottom of this document.) The variety of factors involved makes it impossible to provide an exact measure on how long it may take to recharge your Power Pack via the Solar Panels. Rather than providing technical specifications under optimum solar conditions, here are some useful, real world guidelines:

- With sunny conditions and panels mounted on a horizontal surface, exposed from early morning to late afternoon, expect a recharge time from 6 to 12 hours. Thus, under good solar conditions, your Power Pack can be fully recharged during a day or two of outdoor activity.
- With intermittent clouds, overcast periods, and panels mounted on a horizontal surface, from early morning to late afternoon, expect a recharge time from 10 to 14 hours. Thus, under mediocre solar conditions, your Power Pack can be fully recharged during two to three days of outdoor activity.
- Heavy overcast cloud and rain for several days – consider using the AC Adapter or the CLA Auto Charger if possible.

Remember that you may not require a full charge of the Power Pack in order to recharge a given device. Also, in an emergency situation, you may be able to operate a depleted cell phone while the Power Pack itself is being charged.

The lithium-ion rechargeable battery in your Power Pack is rated at 3600 mAh (milliamp hour). The Power Pack supports DC output voltages of 5.2 volts, 6.2 volts, and 7.2 volts directly via a voltage selector switch with a direct current output ranging from 1200mA to 1700mA. However, when using the universal cable for camera or universal adaptor for mobile phone and PDA, the output current is typically regulated by the charge control circuitry of the device being charged; for example, a typical Nokia cell phone would require an output of 350 mA at 5V. As well, via the supplied cigarette lighter adapter (CLA), your Power Pack will support a 12 volt load at no more than 300 mA current (about 3.5 Watts).

Charge times for individual electronic devices will vary. Here are some approximate charge times based on use of the 12 V CLA at 300mA:

<u>Device</u>	<u>Charge Time</u>
2 AA Batteries	3 to 4 hours
2 AAA Batteries	2 to 3 hours
Cell Phone	2 to 3 hours
Digital Camera	2 to 4 hours
Digital Camcorder	2 to 5 hours
MP3 Player/iPOD	2 to 4 hours
Portable Video Game	2 to 4 hours
PDA	2 to 4 hours

These charge times are typically shorter (30% to 50%) if the device can be charged directly from the Power Pack using one of the supplied adapter/connector combinations.

Tips for Getting the Best Performance from Your Solar Rider

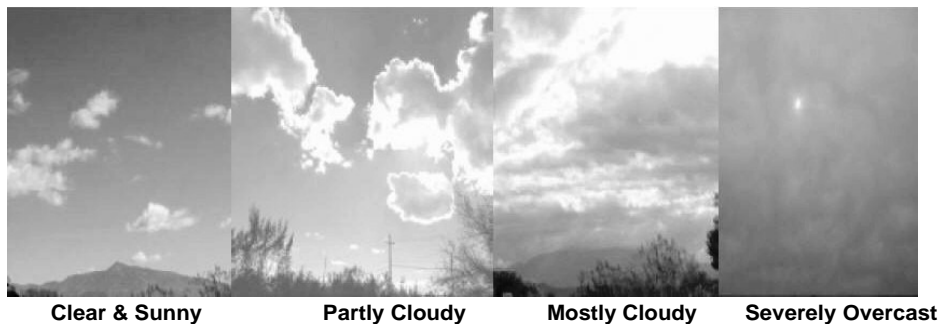
As an experienced outdoor enthusiast, you know that knowledge and planning are key to getting the best from your equipment and enjoying your outdoor pursuits to the fullest. To ensure the best performance from your **Solar Rider™ Solar Charger and Power Pack** follow these important charging and usage tips:

Maximizing Solar Performance:

Maximum performance of the solar panels is obtained when unobstructed sunlight strikes the panel with the sun's rays at 90° (perpendicular) to the panel surface. While you cannot control cloud cover, fog, or rain, you can assist charging performance by tilting the solar panel to directly face the sun. However, always ensure that the Solar Panel Holder is safely and securely fastened to your bicycle, motorcycle, or other vehicle. Make sure that the panel will remain secure at speed and that no connector wires or any part of the Solar Panel Holder will contact any moving or hot vehicle surfaces.

Natural sunlight – not indoor artificial light – is necessary for your Solar Charger Panels to function properly.

Solar panel performance is impacted by the extent of available sunlight striking the panel surface. The photographs and chart below illustrate the percentage of sun energy available to be absorbed by the solar panel during different daytime weather conditions. (Data and photographs provided by Global Solar Energy, Tucson, Arizona.)



Clear & Sunny*	Misty	Partly Cloudy*	Mostly Cloudy	Overcast	Severely Overcast
~90% to ~115%	~85% to ~100%	~60% to ~120%	~30% to ~100%	~20% to ~60%	~10% to ~40%

Reflection from nearby clouds can enhance

Planning a Trip:

Prior to a trip, we recommend that you ensure all your portable electronics – cell phone, music player, camera, PDA – are fully charged. Fully charge your Solar Rider™ Power Pack as well. This avoids the frustration of a dead battery in one of your electronics and insufficient capacity available from your Solar Rider™ Power Pack to recharge the device. Obviously this recommendation has nothing to do with science or electronics; it just makes life on the road easier.

Traveling with Your Solar Rider™ Solar Charger and Power Pack

Although the Solar Rider™ Solar Charger and Power Pack uses state-of-the-art solar panels, there are technical limits to how quickly solar energy can be captured, converted and stored within the Power Pack. Since the energy required to fully recharge specific electronic devices varies, it is important to manage your use of the Solar Rider™ Solar Charger and Power Pack. Make sure you take advantage of solar conditions to continually “top up” the Power Pack and don’t plan to recharge all your discharged devices in a single session. While the Specifications and Charging Performance section provides guidelines, the best approach is to use the Solar Rider™ Solar Charger and Power Pack and gain experience with the power demands of your electronics. You’ll soon develop a feel for the sequence of charge and recharge cycles that work best as you travel.

For the global traveler, the AC adapter supplied with your Solar Rider™ Solar Charger and Power Pack is rated for 120 - 240 volt, 50 to 60 Hz. (You may require a plug adapter depending on your country of travel.)