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GENERAL INFORMATION and INSTALLATION INSTRUCTIONS

For

GO COLLECTION SOLAR POWER SUPPLY SYSTEM

1. Introduction

Go Collection styles integrate solar power supplies suitable for charging personal communications devices (PCDs), such as cell phones and smart phones, and personal digital assistants (PDAs), such as MP3(4) players. Such "wearable" power provides the ultimate mobility by virtually eliminating the need to recharge at a wall socket ever again: POWER IS FREEDOM. Not only is the power system eco-friendly by virtue of using direct conversion of solar energy, but the best American integrated circuit technology is used to harness that energy in the most efficient way, as well. Output specifications are USB 2.0 compliant. The power supply hardware is easily installed in GO garments in less than one minute, and un-installed for cleaning just as quickly. Connections to the power supply are foolproof: just plug into any receptacle and the GO system takes it from there. Simple indicator lights show the status of the system. GO power supplies can also be used separately as carry-anywhere charging systems for hiking and picnicking, and can be left on the dashboard of the car or placed in the window of the office for complete internal recharging. We at Silvr Lining are proud that our fashion, solar technology, and electronics are designed and made in the USA.

More detailed information about the GO integrated solar power system is presented below. Section 2 provides general information about the integration of the power system in the garments. Standard power system components provided with each garment are presented in Section 3, and the availability of additional components is given in Section 4. Instructions for installing the solar power system into the garments are presented in Section 5. System monitoring and indicator lights are explained in Section 6. Section 7 addresses the preparation of the garments for cleaning. The use of the solar power system as a portable, carry-anywhere charger is described in Section 8. Proper care of the solar panels is discussed in Section 9. Finally, Section 10 addresses compliance with industrial standards.

2. General Function and Integration with Fashion

Batteries that power modern mobile PCDs and PDAs, such as Lithium ion and Lithium polymer batteries, are protected by sophisticated circuitry designed within the mobile device setting a very narrow window on the allowable voltage and current entering from a charging device. If this specified power is not sensed, charging will not take place, and the device might even shut off.

Solar panels do not produce constant power because sunlight illumination varies, such as when cloud cover changes. By themselves, solar panels are therefore not suited to charging personal devices. The GO Solar Power System contains a power regulator and energy reservoir connected in between the solar

panel and the device under charge (referred to as DUC throughout the remainder of this presentation.) Its function is to efficiently capture the electrical power generated by the solar panel, to store that energy in the reservoir, and to provide the DUC with a highly stable voltage and current at its output compliant with the requirements of the mobile device. The system features "Power Tracking" to condition the energy in a highly efficient manner making best use of the sun. The output voltage and current are automatically controlled by the regulator to the precise levels required by the DUC.

The GO Integrated Solar Power System is comprised of 6-inch by 8-inch solar panels (referred to as the "Small Panel", as shown in Figure 1) designed to fit pockets in the front of the garments. As these pockets contain windows to allow the sun's rays to impinge on the active side of each panel, the pockets are referred to as "frames". There are two frames in the GO Utility Vest, two in the GO Director's Jacket, two in the GO Myer's Topper, and two in the GO Cargo Pant that can accommodate panels.

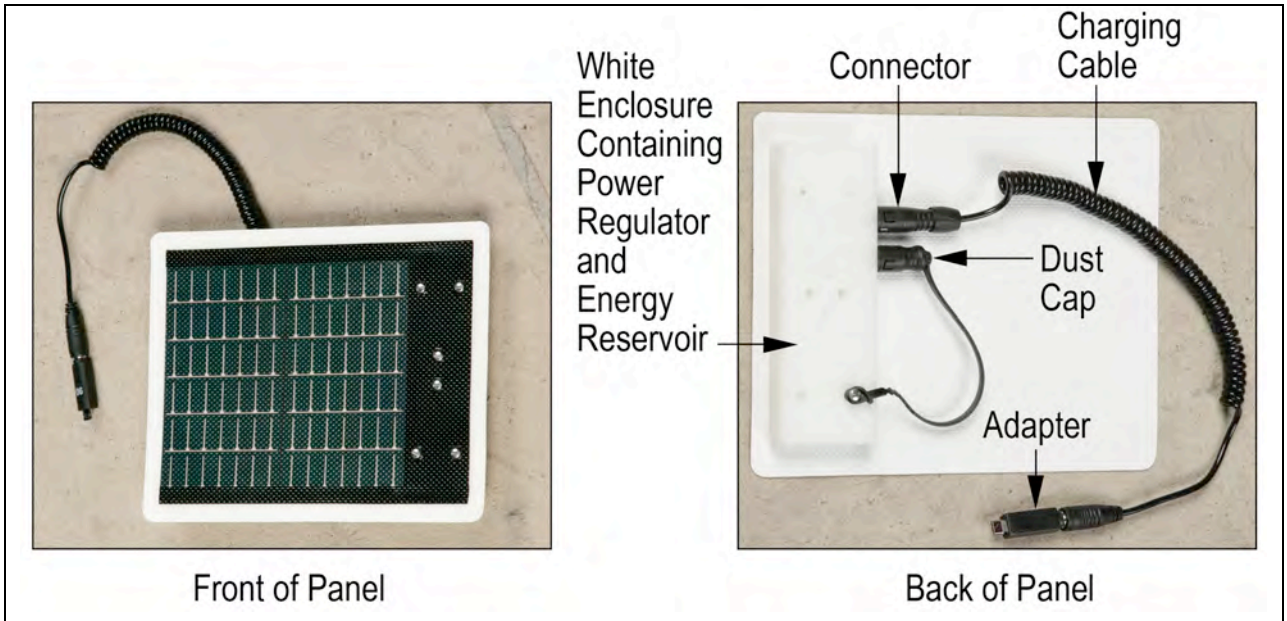

Figure 1. Small Panel front view (left) and back view (right). Front is "active" side, and converts sunlight into electrical power. The white enclosure (back view) contains power regulation electronics and energy reservoir. The Charging Cable (coiled, black cable) fits into a receptacle in the wall of the white enclosure at one end, and has an Adaptor tip customized to the PCD or PDA at the other.

Power conditioning electronics with energy reservoir are contained in the white electronics enclosure ("white enclosure") attached to the backside of the Small Panel. When the panel is exposed to sunlight, the reservoir is automatically charged. When the reservoir is connected to a DUC with the "Charging Cable" (Figure 1), the reservoir automatically charges the battery contained in the DUC if the battery so requires. Attached to the charging cable is an adaptor (Figure 1) customized for the particular PCD or PDA.

Note that the reservoir, when charged, will power the DUC in the dark until energy of the reservoir is depleted.

Also note that the output power of the supply is roughly equivalent to the power needed to operate a handheld flashlight.

The solar panels are constructed of rugged, flexible, and non-flammable materials able to withstand the sun's radiation, hot and cold temperatures, and wet and dry conditions. Cable assemblies, including cables, connectors, and receptacles, and electronics enclosure are also waterproof.

3. Standard Components Included With Purchase

Table 1 shows standard components of the GO Solar Power System included with purchase.

Table 1. Standard Solar Power System Components Provided With GO Garments.

Quantity	Part Name	Part Description	Fig. No.	Silvr Lining Part Number
2	Small Panel	Solar panel with integrated power regulation and energy reservoir, 6 inches by 8 inches	1	PWRSUP-05V-*5A-001
1	Charging Cable	Connects power regulator to mobile device	2	PWRCAB-000-000-xxx
1	Adaptor	Mates mobile device to Charging Cable	3	PWRADR-000-000-xxx
sold separately	Booster Panel	Large panel with cable and connector, 7.5 inches by 11.25 inches	6	PWRPVA-07V-*2A-001

The adaptor is customized to your PCD or PDA. The make and model of your device must be conveyed to Silvr Lining when placing the order, and instructions are provided in the shopping cart.

4. Additional Component Availability

Customers may wish to charge more than one make/model of phone or PDA. Additional adaptors are available for $20.00 each. These can be ordered at the time of original purchase, or by contacting customerservice@silvrlining.com at any time.

Heavy users of mobile devices may also want to consider purchasing either one or two additional Small Panels for the Director's Jacket. The unit cost is $ 175.00. These can also be ordered either at the time of original purchase or by contacting customerservice@silvrlining.com at any time.

Additional units may also be of interest as carry-anywhere charging systems, as described in Section 8.

5. Installation of Solar Power System into Garments

Small Panels easily fit into the frames of the GO Utility Vest, the GO Director's Jacket, and the GO Myer's Topper, and the cargo frames of the GO Cargo Pant. Simply unbutton the frame and slide the panel all the way down to the bottom with the active side facing away from the body, and the white enclosure at the bottom. This installation can be carried out either while the garment is being worn or laid out on a flat (and clean) surface.

It is recommended that the Charging Cable be connected to the white enclosure before inserting the Small Panel into its frame. Hold the white enclosure in one hand, and holding the black connector of the Charging Cable in the other hand, align the white mark on the black connector to that on the receptacle located in the side of the white enclosure, and push the connector into the receptacle. The system is designed to be foolproof, so either receptacle can be used. The cable can be tucked into the frame with the Small Panel as the panel is inserted. Charging is activated when this connection is completed.

After charging is completed (see section 5) it is highly recommended that the Charging Cable be disconnected from the white enclosure, and cover the receptacle with the dust cap. This action places the regulator in the most effective storage mode. Even if a DUC is not connected to the Charging Cable, the cable itself has built in electronics, which may slowly deplete the reservoir over a period of a few days.

The DUC is connected to the Charging Cable at the adaptor. Device manufacturers general have their own connectors for which adaptors are available. All adaptors are interchangeable with our charging cable.

The DUC may be carried in three ways: (1) it may be hand held; (2) it may be carried in the frame containing the Small Panel to which the Charging Cable is attached, in which case the cable would be concealed; (3) it may be carried in another frame, in which case the Charging Cable would be visible as it would run from one frame to the other.

6. Solar Power System Monitoring and Indicator Lights

Most PCDs and PDAs have charging indicators in the displays, which will indicate that the GO Solar Power System is charging the battery of the DUC in the same way as a wall charger.

The system itself has two LED indicators, red and blue, visible on the side of the white enclosure. When the blue LED is on, irrespective of whether the red LED is on or off, the solar panel is charging the internal energy reservoir. This condition will occur under moderate to high sunlight conditions. The blue indicator turns off when the reservoir is completely charged. This indicator tells nothing about whether or not the DUC is being charged, and only reflects the exchange between the solar panel and the reservoir.

When the red indicator is on, the internal reservoir has been depleted to a critical level, and the power regulator automatically shuts off the connection to the DUC to prevent any further discharge of energy. When this occurs, it is time to switch the Charging Cable to another panel on the garment, and allow the reservoir with depleted reservoir to recharge by the solar panel. Although it is not critical, it is strongly recommended that the Charging Cable be disconnected from the white enclosure when the red indicator is on. Even if a DUC is not connected to the Charging Cable, the cable itself has built in electronics, which may slowly deplete the reservoir over a period of a few days.

When both red and blue indicators are on, the internal reservoir is being charged, but the external charging function is off. When only the red indicator is on, there is insufficient sunlight to charge the reservoir. The red light will stay on for few hours if charging does not occur. Eventually the system will go into deep sleep mode, and exposure of the panel to strong sunshine will be needed to reactivate the system.

7. Preparing Garments for Cleaning

All panels and cables must be un-installed and removed from a garment before the garment is cleaned. The process of un-installation is essentially that of Section 4 in reverse. The DUC is first removed from the frame in which it was being carried. Then the Small Panel(s) is removed from the frame(s). The Charging Cable should then be disconnected from the white enclosure to prevent any loss of energy. Finally, place the dust caps on the respective connectors and receptacles.

Re-installation of the solar power system after cleaning would follow Section 4.

8. Use as a Portable Carry-Anywhere Power Supply

Due to the drop-in design and light weight of the Small Panel, these panels can serve as portable, self-contained solar chargers for occasions when GO garments are not being worn. For example, panels could be carried to the beach or picnic ground, or taken on hiking trips. They could also be left on the dashboard of the car, or left against the office window to charge the internal energy reservoir.

Silvr Lining also offers the “Booster Panel”, a stand-alone panel (Figure 2) with cable assembly that connects to the receptacle of the white enclosure in the Small Panel. The area of the Booster Panel is about twice as large as the Small Panel. When connected, the Booster Panel would cut in half the charging time of either the reservoir of the Small Panel or a DUC connected to the Small Panel.

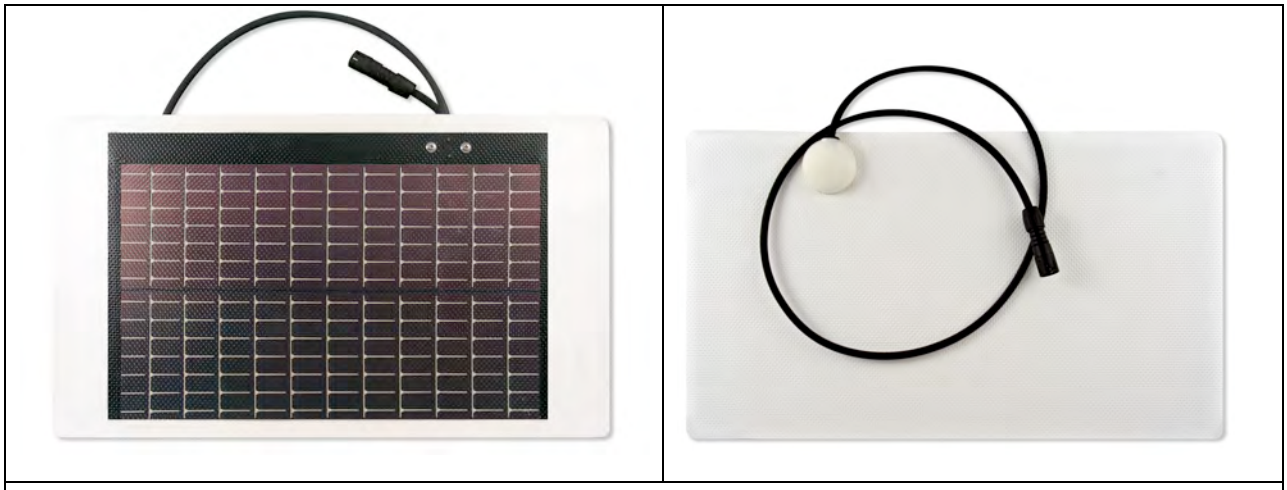

Figure 2. Booster front view (left) and back view (right), with cable and connector.

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9. Care of Solar Panels

Panels are constructed of rugged material designed for outdoor use. They can be cleaned by using damp or dry cloth. The materials should not be intentionally exposed to solvents or oils, but can be washed with a mild, water-based detergent if necessary. Connector dust caps provided on the white enclosure should be installed when units are not in use to prevent dirt and moisture from penetrating the

receptacles. Finally, although the white enclosure is waterproof when dust caps are in place, it should not be intentionally submerged in any liquid.

10. Compliance with Industrial Standards

The USB (Universal Serial Buss), which is sanctioned by ANSI (American National Standards Institute), was designed for the transmission and reception of data, and is today the most widespread and convenient means of data connectivity for computers and communications devices. Contained in the original USB specifications 1.x and 2.0 are provisions for the transmission of power as well as data. Since busy people are often at a desktop or laptop when not using a mobile device, the USB connection in the computer has become a common means of charging mobile devices. USB 2.0 specifies a supply voltage of 5 volts and 500 milliamps (one half ampere). The GO Solar Power Supply is compliant with this specification.

In November, 2008, USB 3.0 was introduced, which allows for up to 900 milliamps of supply current at 5 volts. Although not yet widely adopted, some new mobile devices are being designed for this standard because higher current flow reduces charging time. Battery protection circuitry built into the mobile devices is very sophisticated, and will not allow unacceptable charging conditions. Most devices compliant with USB 3.0 will work with USB 2.0 ports. Under such circumstances, the display of the mobile device may message that a different standard is recognized, but charging will take place.