

Sunny the Solar Roller

Sunny is the City of Aspen's portable solar PV system designed to power portions of local special events. Sunny is sponsored by a grant from CORE, and is maintained and run by the City's Environmental Health and Sustainability department.

Sunny provides 500 watts of power for 7-8 hours or up to 2,500 watts for 1-2 hours. The system includes batteries for power storage, educational signage and a cord to connect it to the grid for back-up power. The back-up grid power option ensures that events won't lose power if their devices use more than expected or if it's a cloudy day.

How to Reserve: Sunny is FREE to borrow for special events! To check availability, contact: Liz Chapman at Liz.Chapman@cityofaspen.com (970) 429-1831.



Sunny Instructions for Use

Set Up

1. Block wheels of trailer with rocks or other heavy objects.
2. Align trailer so panels face south when open.
3. Lift trailer tongue to drain water off back.
4. Release latches, unlock and open lid.
5. Set up educational sign.
6. Check the storage area for additional signs/tools.
7. Use towels and cleaner to clean display cover or panels.

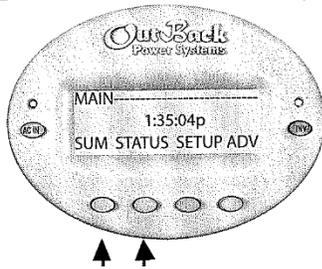
Instructions continued...

Display

1. Check that MATE display is in SUM mode. You will know that it is in SUM mode if you see one of these screens.

E F	
Battery Discharging	
State of Charge	100%
DC Now	25.4V 100%
In	0.1A 0.000 kW
Out	0.4A 0.010kW
Bat	-0.3A 0.010kW
DC BAT	25.4V 100%
Bat	-0.3A -0.010kW
Net	0AH 0.00kWH
Days Since Full	1.1
DC TODAY minSOC	97%
In	102AH 2.70 kWh
Out	93AH 2.44kWH
Bat	9AH 0.26kWH
FX Total	12.6V 97%
Inverting	0.000kW
AC Loads 	0.000kW
Buying \$	0.000kW

If you do not see one of the above screens, find the main screen by pressing the first two keys at the same time from any screen. From the main screen, press the SUM key.

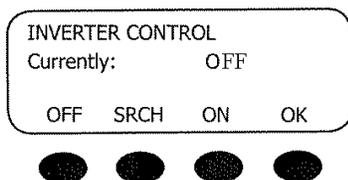


2. Check that inverter is on.

The inverter is on if the green light above the inverter key is on.



If inverter is off, press the INV key to see this screen.



Press the third key to turn ON and then press OK

- After pressing OK, you will return to the main screen.
Press SUM to return to the SUM screen.

Plugging In

- Use the extension cord found in the storage area. Plug it into the outlet marked 'Power in and Back Feed' (it also says 'Warning'). Plug the other end of the cord into the 'grid'. This is either your back up generator or an outlet at the park or street.
- Plug in equipment (IMPORTANT: Do not plug in anything that has not been pre-approved by the City of Aspen for use).
- Check the display screen to make sure all loads work. If the trailer is working properly you will know because this screen will display a number next to 'AC loads'. In some cases, devices may not pull enough electricity to show up on this screen.

FX Total	12.6V	97%
Inverting		0.000kW
AC Loads 		0.000kW
Buying \$		0.000kW

This number represents the amount of kilowatts you are using. Use this chart to see approximately how many hours of power you will have. If you are plugged into the grid, you will not run out of power.

Kilowatts	2.5	2.0	1.0	0.5
Run Time- no sun	1.5 hrs.	1.9 hrs.	3.7 hrs.	7.5 hrs.
Run Time – sun	1.8 hrs.	2.2 hrs.	4.4 hrs.	8.7 hrs.

Look at the power rating on your equipment.
amps x volts = watts & watts/1000 = kilowatts

After the Event

- Unplug all equipment.
- Unplug trailer from grid.
- Put away all signs.
- Turn inverter off.
- Close, latch, and lock lid.

6. Lock up trailer behind City Hall.

If **error codes** appear, refer to the MATE user guide or call Mike Tierney 379-6902.

If **raining**, close the lid. Trailer will still generate power, but inside components are not weatherproof.

Sunny FAQ's

How much power does Sunny provide?

Sunny will provide 500 watts of power for 7- 8 hrs or up to 2,500 watts for 1-2 hrs at 20 amps at 120 volts

watts				
Time- no sun	hrs.	hrs.	hrs.	hrs.
Time w/ sun	hrs.	hrs.	hrs.	hrs.

How does Sunny store energy?

Sunny takes energy from the sun and stores it in 4, 12 volt, 210 amp hour batteries until needed.

Why is Sunny plugged in?

The trailer is connected to the electric grid for back up power. Sunny will only use grid power if the batteries are drained and sells back unused energy to the grid.

Who built Sunny?

Aspen Solar built the trailer with a \$10,000 grant from CORE (retail price may vary). This trailer is a prototype owned by the City of Aspen to be used for education at local events.