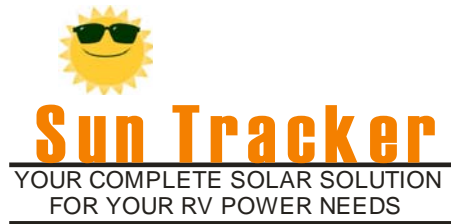




3165 West 4700 South
Salt Lake City, UT 84118
Phone: 801-597-0276
Fax: 801-963-1026

<http://www.OutDoor-Solutions.info>



INSTALLATION INSTRUCTIONS FOR THE SUN TRACKER

If you have questions please call 801-597-0276 or visit our web page at <http://www.OutDoor-Solutions.info>

Proper installation is the responsibility of the owner. Product failure due to improper installation is not covered under the Sun Tracker's warranty. See the owner's manual for warranty information. We recommend you seek a qualified RV service person for the installation.

Caution: Before you begin, read these instructions carefully and completely:

IMPORTANT: Save these instructions for future reference.

NOTE TO INSTALLER: Be sure to leave these instructions with the customer.

EXTREMELY IMPORTANT:

NEVER TRAVEL WITH YOUR SUN TRACKER IN THE RAISED POSITION.

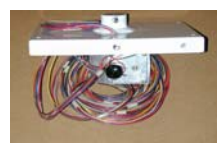
NEVER TRAVEL FASTER THAN 75 MPH.

DOING THE ABOVE WILL VOID THE WARRANTY.

PARTS INCLUDED



Stainless Steel Frame



Rotating Motor



Strobe Light



Riser Motor



Remote Control



Remote Transmitters



(2) 130 Watt Solar Panels



25 Amp Solar Controller



3000 Watt Sine Wave Inverter



Lighted Toggle Switch



1/4" X 3" Molly Bolts

MATERIELS NEEDED



5/8" Hole Saw



Drill



Felt Marker



Safety Glasses



Ratchet



7/16" Socket



Tape Measure



Solderless Terminals



Wire Stripper/Crimper



3/4" Wire Loom

Lap Sealant

- | | |
|---|--|
| <input type="checkbox"/> Determine the mounting area. Find an area on the roof of the RV where there is a minimum of 34" from center for clearance. | <input type="checkbox"/> Mount the strobe light to the solar panel frame. You will need to drill holes to mount the light. |
| <input type="checkbox"/> Clean the area thoroughly, remove any dirt or oils. | <input type="checkbox"/> Connect the RED wire from the strobe light to the GRAY wire located on the top of the plate. |
| <input type="checkbox"/> Attach the rotating motor to the base plate using the provided bolts. | <input type="checkbox"/> Wire the solar panels to the Sun Seeker's top plate. The Hot (+) wire will hook to the red wire on the top of the plate. |
| <input type="checkbox"/> Attach the solar panels to the Sun Seeker frame. The panels should be centered on the mounting rails. You may need to drill holes to have the panels match up to the mounting rails. | <input type="checkbox"/> Attach the black (-) wire of the solar panel to the ground post screw. |

IMPORTANT SAFEGUARDS

To reduce the risk of fire, electric shock and/or injury to persons, basic safety precautions should always be followed when using electrical appliances, including the following:

1. **READ ALL INSTRUCTIONS BEFORE USING THE Sun Tracker.**
2. **The Sun Tracker is NOT A TOY. It is to be used by Adults ONLY.**
3. **Turn the Sun Tracker OFF and lower the system when you plan to travel.**
4. **NEVER push more than ONE button on the transmitter at a time.**
6. **Do not operate more appliances than the inverter can handle.**
7. **Return this appliance only to the nearest Authorized Service Center for examination, repair or adjustment.**

ASSEMBLY

The Sun Tracker complete system will arrive in 6 boxes.

- 1) **Box 1: Stainless steel frame and hardware.**
- 2) **Box 2: Rotating motor with wire harness**
- 3) **Box 3: Solar panels**
- 4) **Box 4: 3000 watt modified sine wave inverter**
- 5) **Box 5: 25 amp solar booster controller**
- 6) **Box 6: Strobe light and manual**

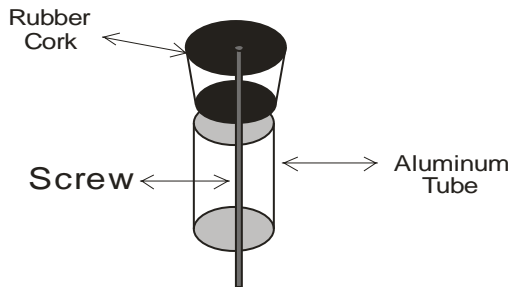
To assemble the Sun Tracker, remove the frame from box 1.

Next remove the rotating motor from box 2.

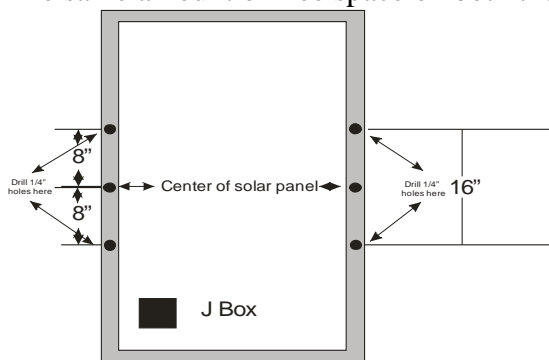
On the bottom of the frame there are 4- 12mm bolts. Remove the bolts, place the frame on top of the rotating motor and line up the holes in the bottom of the frame to the holes on the top plate of the rotating motor. Next take the 12mm bolts that you removed and screw them into the frame from underneath the top plate of the rotating motor.

Next open the small box of hardware and take out the 8- 1/4" bolts and slide them into the adjustable mounting track of the riser arms on the frame. Now, take out the stand-offs and

assemble them, see drawing below. There are 2 holes in the back of the frame, underneath the riser arms, to screw the stand-offs to. Lift the riser arms to install the stand-offs.



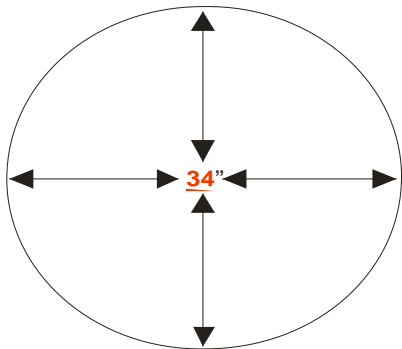
Solar Panels may need to be drilled for the mounting. If this needs to be done then you will need to drill $\frac{1}{4}$ " holes, 8" on each side of the center hole. This will give you a 16" center for mounting. Be sure not to drill the holes too close to the edge, leaving enough room for the nuts to spin freely. See diagram. Once this has been performed then you will be able to mount the solar panels to the frame. This is done by placing the $\frac{1}{4}$ " bolt that are in the adjustable frame into the holes of the solar panels. Once the bolts have been placed into the holes of the solar panels you can reach around the frame of the solar panels and put on the lock washer and nuts to the $\frac{1}{4}$ " bolts. Tighten them down firmly with a 10mm wrench. You should slide the panels on the frame so there is approximately. The same amount of free space on both the top and bottom of the riser arms.



Next you will want to wire the solar panels together. This is done by putting the positive leads together and the negative leads together. Now, you will wire the bottom solar panel to the rotating motor. Attach the positive lead from the bottom solar panel to the RED wire from the top of the rotating motor's top plate. **IMPORTANT:** When you run the wire from the bottom solar panel to the top plate make sure that you run the wire behind and under the frame. See photos. This is important so when the Sun Tracker rises or lowers you will not pinch the wire and cause a short in the system.



You will want to mount the strobe light next. This is done by attaching the strobe light to the stainless steel mounting plate, then take the mounting plate and align it to the top solar panel frame. Drill at least 2 holes in the mounting plate and frame to mount the plate. Attach the frame to the solar panel and use one of the mounting screws to attach the black wire from the strobe light to one of the mounting bolts for a ground. Then attach the RED wire from the strobe light to the GRAY wire from the top plate on the rotating motor together. The GRAY wire from the bottom of the rotating motor will lead to the switch in the RV.



Area on Roof needed

PHOTO 1

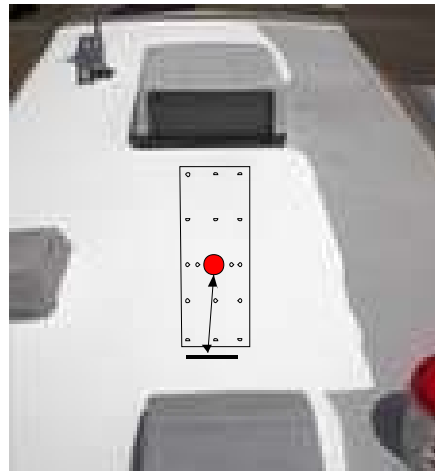


PHOTO 2

- 1) **Find an area on the roof that has a clearance of 34" from center.** You will have a clearance of 2 1/2" where the Sun Tracker will ride over sun roofs and vents. (See Photo 1)
- 2) Be sure to clean the surface thoroughly before attaching the mounting plate.
- 3) For best results try to find the studs on the roof. If you are unable to find the studs don't worry because the Butterfly anchors will lock up against the roof's plywood.
- 4) Place the base plate down and use it as a guide to drill the holes. Lay the base plate lengthwise (front to rear). (See Photo 2)
- 5) Mark All the holes in the base plate on the roof.
- 6) Remove the base plate and drill 3/8" holes where the marks are.
- 7) Place the Butterfly anchors through holes in the roof and slide the lock down tight against the roof.
- 8) Coat the bottom of the base plate with the Lap Sealant. (Make sure the base is clean and dry)

- 9) Place the base plate over the holes and bolt the base down to the Butterfly anchors attached to the roof.
- 10) Tighten the Butterfly bolts down tight.
- 11) Allow to dry for 12 hours.
- 12) Run the wires down the refrigerator or bathroom vent or drill a hole in the roof to put the wires down to the controller and battery box.
- 14) See “Wiring Diagram” for instructions for the wiring.

Wiring Directions For the Sun Tracker

The Sun Tracker’s riser motor comes prewired so there is no need to wire it. We have included these wiring instructions in case the wires are accidentally cut or the motor needs replacement.

TOP PORTION OF THE COLLECTOR

Your Sun Tracker Comes with the motors Prewired

Connect the WHITE wire to the Riser Motor’s BROWN wire

Connect the BLUE wire to the Riser Motor’s BLUE wire.

Connect the GRAY wire to the Strobe Light’s RED wire.

Connect the Strobe Light’s BLACK wire to the Solar Panel Frame for Ground.

Connect the RED wire to the HOT + Output of the Solar Panel.

Connect the Solar Panels Ground wire to the Top plate Ground Screw.

BOTTOM PORTION OF THE COLLECTOR

Connect the GRAY wire to the single pole switch. The other side of the switch goes to the battery Hot (+) for the strobe light.

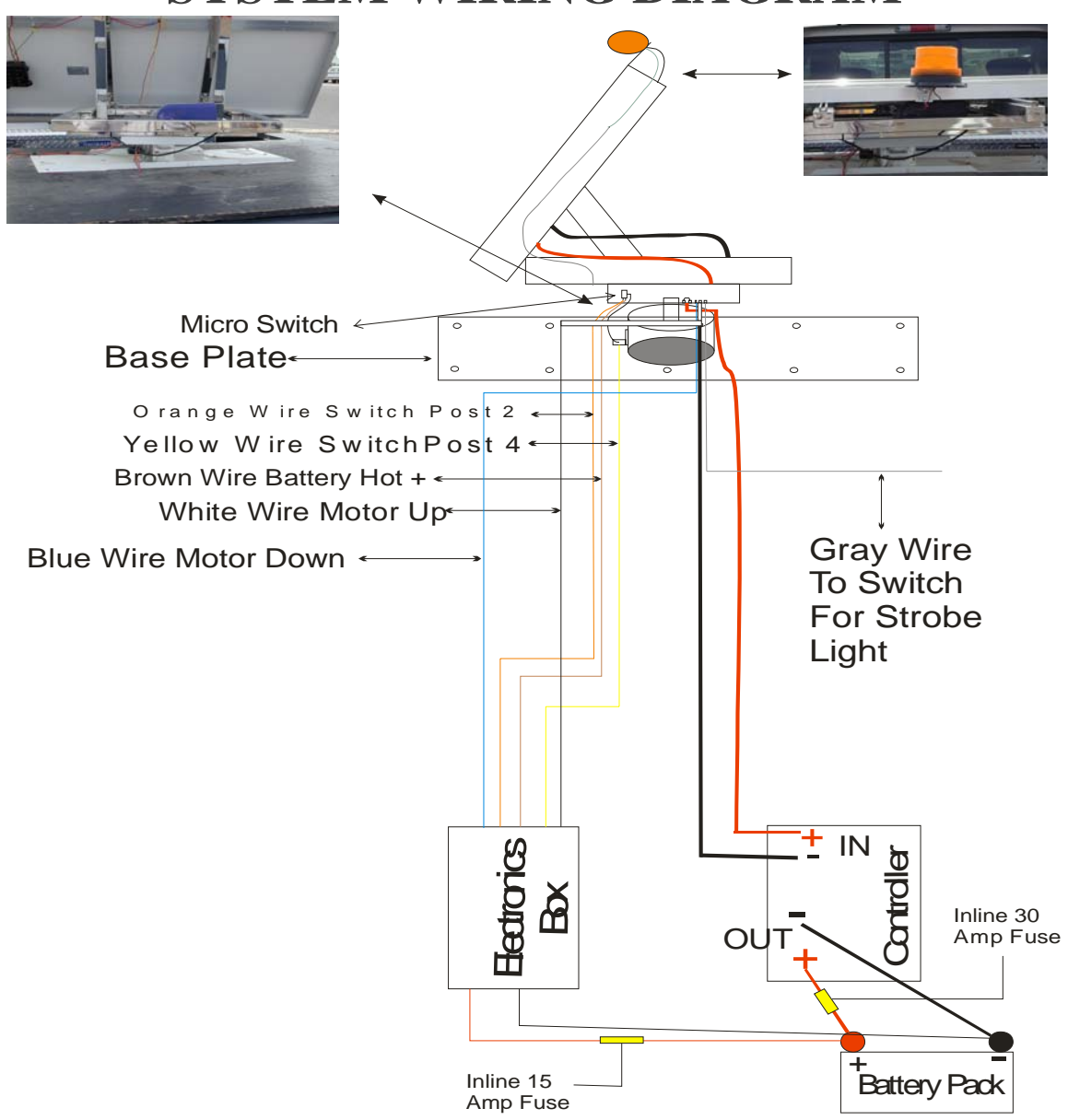
Connect the BLACK wire to the Controller “In Battery” Ground (-)

Connect the **RED** wire to the Controller "In Battery" Hot (+)
BLUE wire connects to the **BLUE** wire in the electronics box.
WHITE wire connects to the **WHITE** wire in the electronics box.
BROWN wire goes to the **BROWN** wire in the electronics box.
YELLOW wire goes to the **YELLOW** wire in the electronics box.
ORANGE wire goes to the **ORANGE** wire in the electronics box.

(Refer to wiring diagram 1)

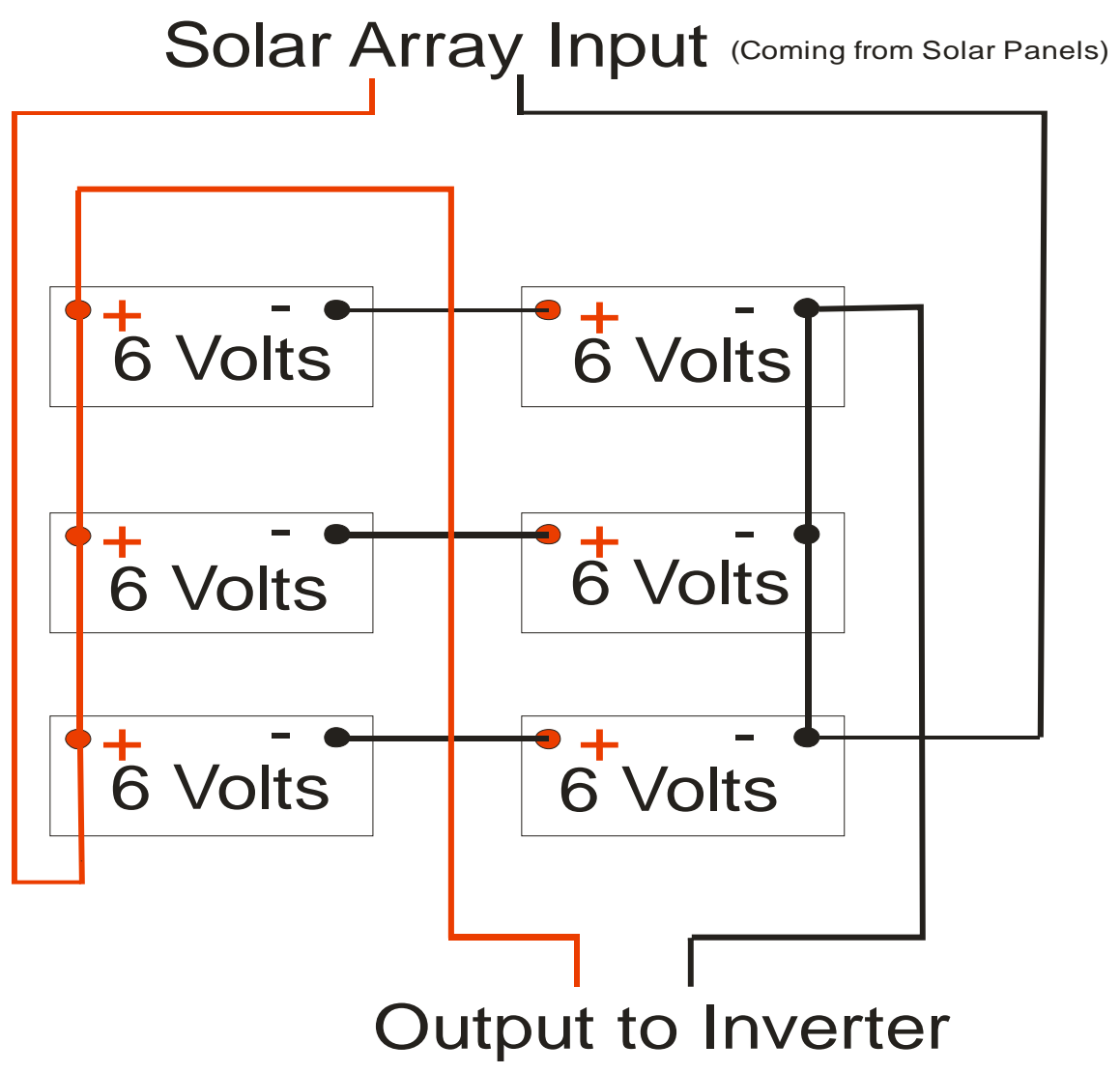
Wiring Diagram 1

SYSTEM WIRING DIAGRAM



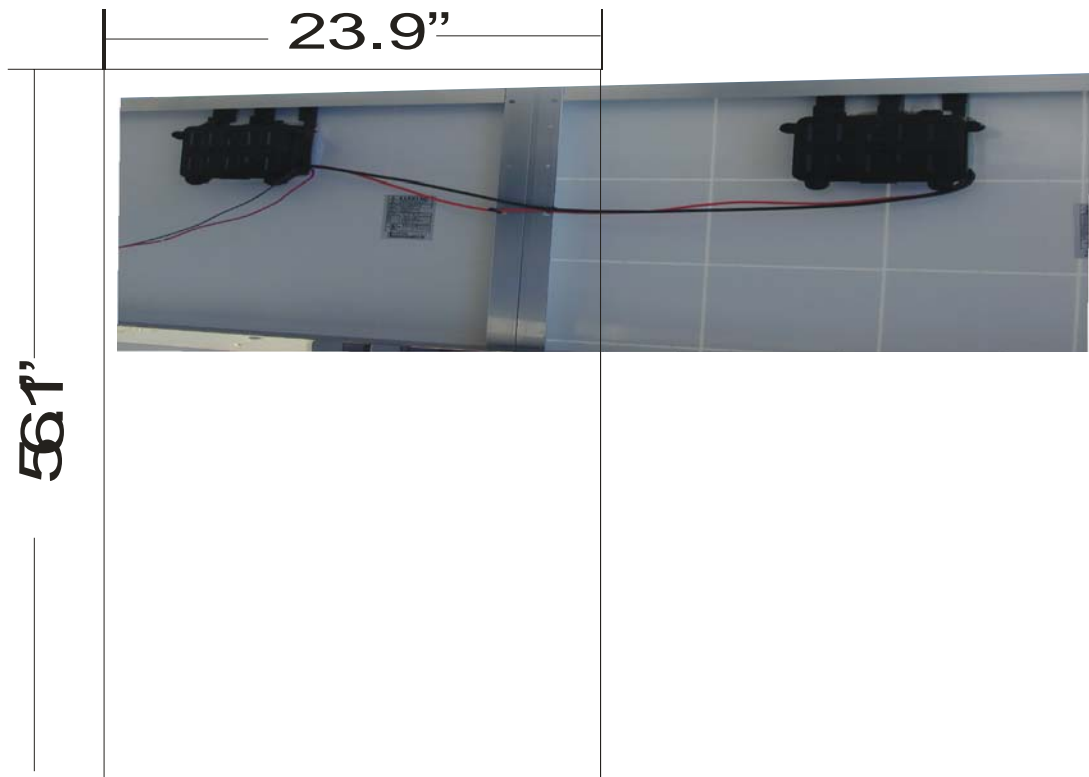
BATTERY WIRING DIAGRAM

Battery Pack using Six, 6 Volt Batteries
In Series & Parallel. The total output
is 12 Volts. This configuration will give
you the maximum amount of power.



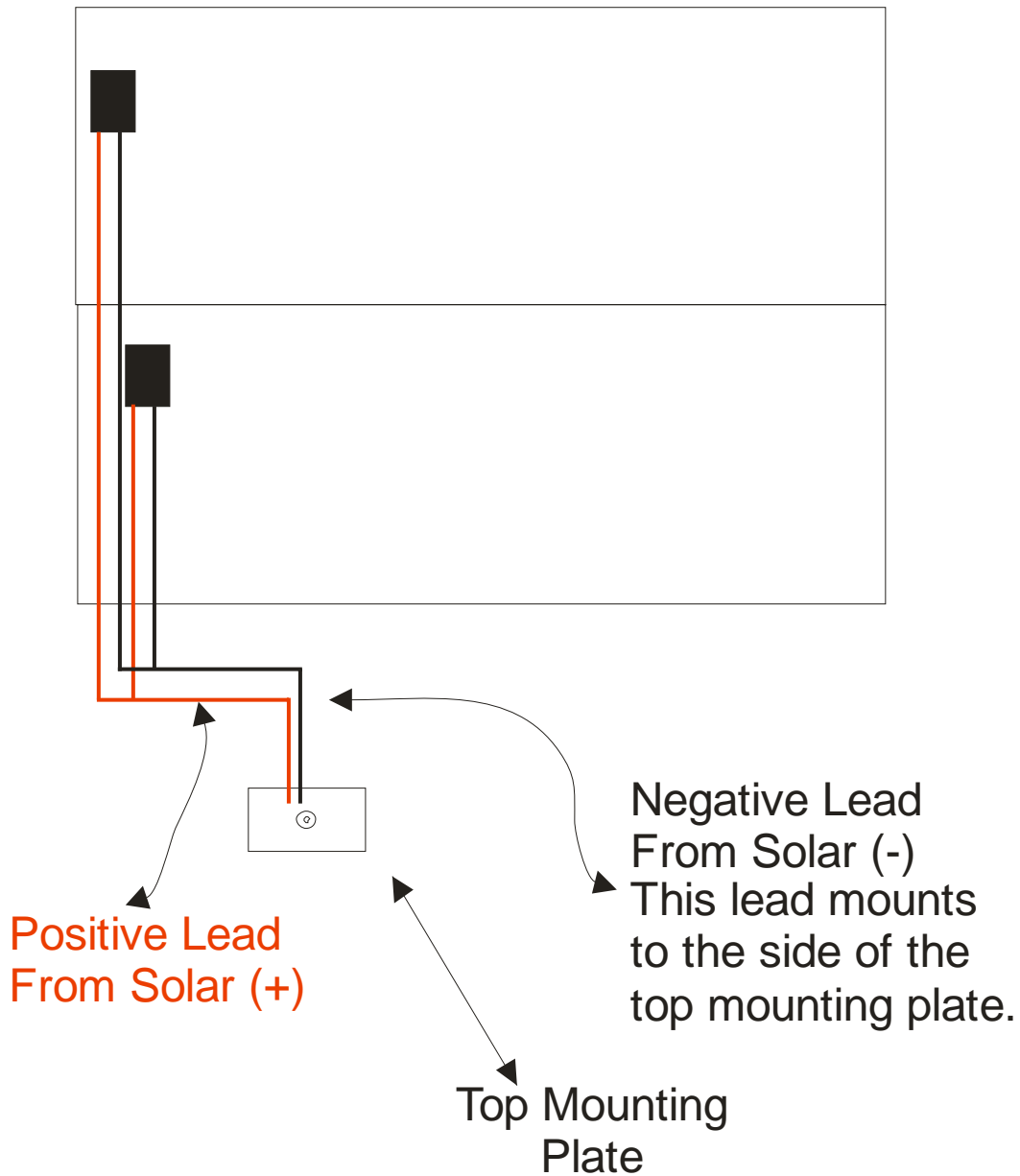
SOLAR PANEL WIRING DIAGRAM

Wire the panels together in Parallel, Positive to Positive and Negative to Negative. Connect the wires to the Junction box as show in the picture. Wire the Sun Tracker Red wire (+) from the top mounting plate to the bottom Junction Box, + to + and run a Negative wire from the bottom Junction Box to the Sun Tracker Top mounting plate on the side to the Ground Screw.



MC CONNECTOR WIRING

Connect the Positive lead from one panel to the Positive lead of the other panel. Then Connect the Positive lead from the top plate to the positive leads of the solar panels. Next connect the Negative lead from one panel to the Negative lead of the other panel then connect the negative lead to the side of the top mounting plate on the ground screw.



APPLIANCE CONSUMPTION WORKSHEET

You can also find this worksheet on Our web page at: <http://www.outdoor-solutions.info/subpage1.html>

<u>Appliance</u>	<u>Approx.Current (amps@12volts)</u>	<u>Hrs/day</u>	<u>Amp Hours Consumed</u>
Lights			
Incandescent			
1 bulb (25 watt)	2	X _____	= _____
1 bulb (50 watt)	4	X _____	= _____
Quartz halogen (25 watt)	2	X _____	= _____
Fluorescent			
1 tube (15 watt)	1	X _____	= _____
2 tubes (30 watt)	1.6	X _____	= _____
Entertainment			
9-in color TV	3	X _____	= _____
12-in B&W TV	1.1	X _____	= _____
CB receiver	0.5	X _____	= _____
Stereo am/fm	1	X _____	= _____
Satellite receiver	2	X _____	= _____
Cooling/Heating			
500 cfm fan	1.2	X _____	= _____
750 cfm fan	2.5	X _____	= _____
1000 cfm fan	5	X _____	= _____
750 cfm fan	2.5	X _____	= _____
Forced-air furnace	5-8	X _____	= _____
Vent & range hood fan	2	X _____	= _____
RV water pump	8	X _____	= _____
DC compressor refrig	6	X _____	= _____
3-way frig on 12 V	35	X _____	= _____
_____	_____	X _____	= _____
_____	_____	X _____	= _____
Microwave oven	125	X _____	= _____
Blender	15	X _____	= _____
Computer	4	X _____	= _____
13-in color TV	7	X _____	= _____
B/I vacuum	100	X _____	= _____
Electric broom	60	X _____	= _____
Hair drier 1200w	95	X _____	= _____
Satellite receiver	3	X _____	= _____

Total amp hours used per day = _____

RESOURCES

Outdoor Solutions Web Site:

<http://www.Outdoor-Solutions.info>

Our web page will provide you with information on operation and repair centers for the Sun Tracker.

Solar Rebates Nationwide:

This resource will provide you with all the Solar rebates available per state as well as federal rebates.

<http://www.dsireusa.org/>

Azimuth and Elevation:

This link will provide you with the Latitude and Longitude of the sun in your current location. This is especially helpful to determine the exact position of the sun to aim your Sun Tracker.

<http://www.jgiesen.de/azimuth/index.html>