



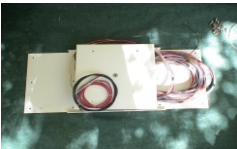
Index.....1
Parts Included.....2
Materials Needed.....3
Pre Installation Check List.....4
Mounting Procedures.....5
Mounting pictures.....6
Wiring Pictures.....7
Installation Instructions.....8-9
Wiring directions.....10
Wiring Diagram.....11
Battery wiring.....12
Solar panel wiring.....13
MC solar panel wiring diagram.....14
Appliance Consumption Worksheet.....15
Additional Resources.....16
Solar Seeker's Owner's Manual.....17
Solar Seeker Operation Manual.....18
Solar Seeker Maintenance.....19
Solar Seeker Warranty.....20
Safeguards and notes.....21

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Parts Included



Stainless Steel Frame



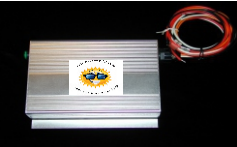
Rotating Motor



Strobe Light



Riser Motor



Electronics Box



2 Remote Transmitters



24 Amp MPPT
Solar Controller
Manufactures Varry



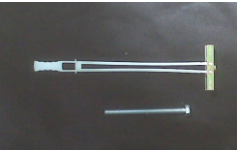
3000 Watt Pure Sine
Wave Inverter



2-140 Watt
Solar Panels



Lighted Toggle Switch



16 each 1/4" X 2.5"
Toggle bolts



Lap Sealant
Butyl Ruber

Materials 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
With Wire ties

Pre Installation Checklist

- ✦ Determine the mounting area. Find an area of the RV where there is a **minimum of 39" from center** for clearance.
- ✦ Clean the area thoroughly remove any dirt or oils from the surface.
- ✦ Attach the rotating motor to the base plate using the provided bolts.
- ✦ Attach the solar panels to the Solar 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.
- ✦ Mount the strobe light to the solar panel frame. You will need to drill holes to mount the light.
- ✦ Connect the RED wire from the strobe light to the GRAY wire located on the top of the plate.
- ✦ Wire the solar panels to the SunSeeker's top plate. The Hot (+) wire will hook to the RED wire on the top of the plate.
- ✦ 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 Seeker.
2. The Sun Seeker is NOT A TOY. It is to be used by Adults ONLY.
3. Turn the Sun Seeker 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.

Mounting Procedures

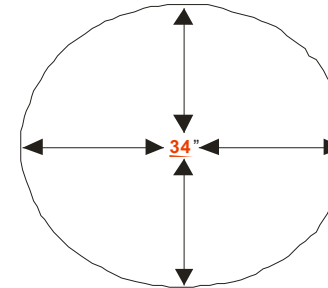


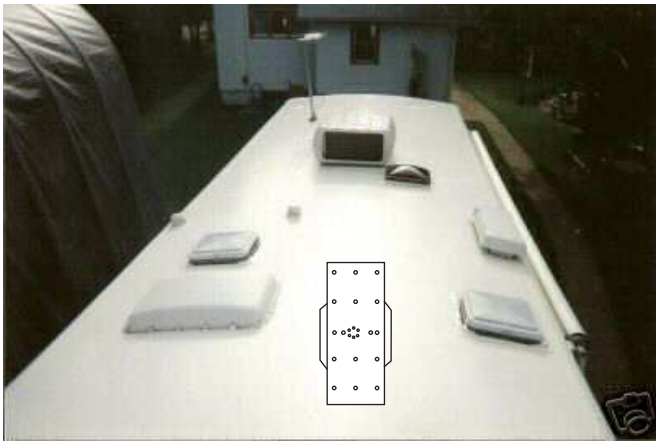
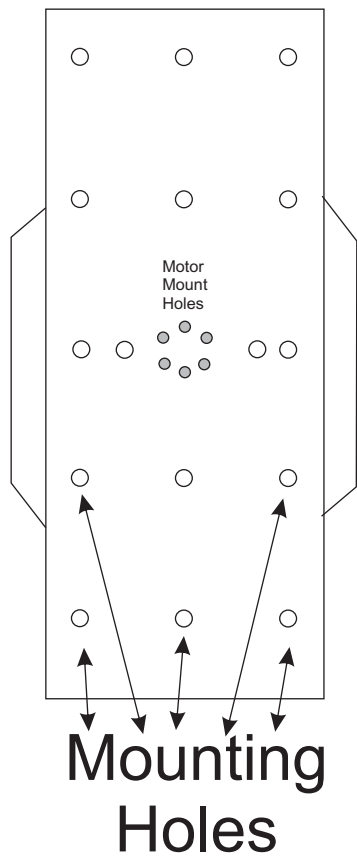
Photo 1: Area on Roof Needed



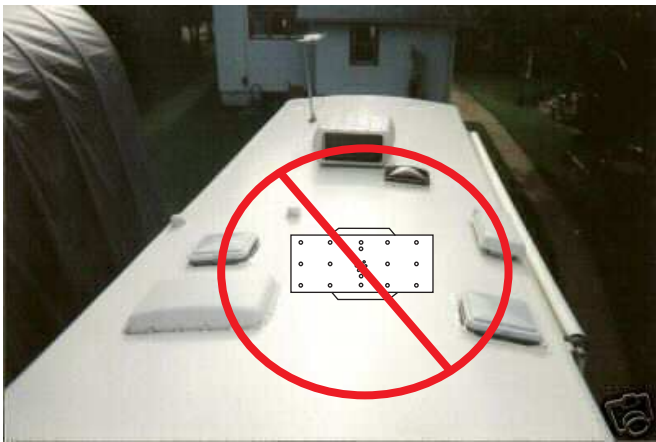
Photo 2: Placement Example

1. **Find an area on the roof that has a clearance of 39" from center.** (Most vents and sun roofs will clear) You will have a clearance of 4 1/2" where the Solar Seeker 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 bolt of Butterfly anchors through holes in base plate and screw Butterfly anchors to the bolts
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 slide the Butterfly anchors all the way down.
10. Tighten the Butterfly bolts down tight.
11. Allow to dry for 12 hours.
12. Place the top plate of the Solar Seeker on the shaft, make sure to tape the limit switch so it is depressed, not doing this could break the limit switch, and bolt down.
13. Run the wires down the refrigerator or bathroom vent to the controller & battery box.
14. See "Wiring Diagram" for instructions for the wiring.

MOUNTING PICTURES

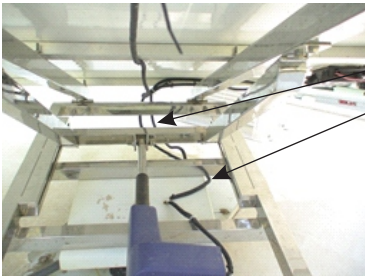


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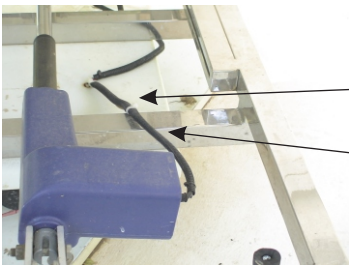
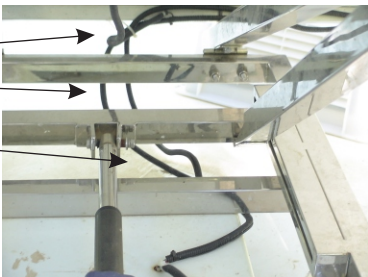


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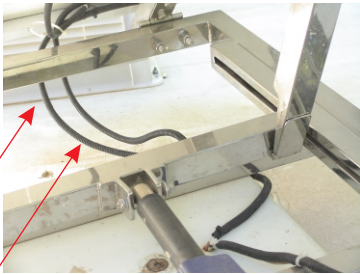
WIRING PICTURES



Make sure the solar wires go underneath the frame.



Be sure the motor wires are tight.



Wire tie the solar wires to the frame



Installation Instructions

- 1) Find an area on the roof that has an unobstructed area of 64" from center clearance.
- 2) Be sure to clean the area where the Solar Seeker is to be mounted.
- 3) Be sure to anchor your roof mounts securely
- 4) Place the base plate on the roof mounting plate and use it to mark the holes. Mark all the holes with a felt pen.
- 5) Remove the base plate and drill 3/8" holes where you marked the base plate holes at.
- 6) Place the base plate back over the holes you just drilled and bolt the base plate securely to the roof mounting plate.
- 7) Attach the stainless steel frame to the top plate of the Solar Seeker. Tighten the bolts from the underside of the top plate.
- 8) Attach the solar panels to the riser arms using the included 1/4" stainless bolts. Slide the bolt head into the channel of the riser arm and place the solar panel over the protruding bolts. Slide the flat washer and lock washer over the bolts and apply the nut and tighten all the bolts down.
- 9) Wire the solar panels to each other. See Solar Panel wiring diagram. Attach the **RED** wire from top plate to the **+** (**Positive**) post of the bottom solar panel. Next, attach the **-** (Negative) lead from the top plate which is attached to the side of the top plate to the **-** (Negative) post of the bottom solar panel **Make sure you run All the wires from the top plate under the frame before attaching them to the solar panels. Don't leave much slack on the wires so they don't drag and get tangled in the motor.**
- 10) Wire the riser motor to the Blue and White wires on the top plate. Wire Blue to Blue and White to Brown. Make sure the wires are snug and don't drag on anything. See pictures pg. 8-9
- 11) Measure the distance on the roof from the rotating motor to the point where you are putting the wires through the roof. Cut the flexible conduit to length., Run the wire harness through the flexible conduit up to 6" from the rotating motor. Take the loose end and feed it through the roof. Seal the roof. Run the wires down to the electronics box. Wire the electronics box. Match the colors of the wire harness to the colors on the electronics box. The Red and Black wires on the electronics box to one of the 12 Volt batteries. The Red wire goes to the positive post of the battery and the Black wire goes to the negative post of the battery.
- 12) Take the 12 gage wires from the wire harness and wire them to the Solar Controller. See the solar controller installation manual for wiring diagram. Wire the output from the solar controller to the battery pack. See Batteries in Series pg. 12. Make sure to wire the Positive (RED +) wire to one side of the battery pack. Wire the Negative (BLACK -) wire to the opposite end of the battery pack on the negative post.
- 13) Wire the output of the grid tie inverter to the fuse box. **We HIGHLY suggest you hire a qualified electrician to do this. We will not be held responsible for any damage to the system or harm to any individual in the wiring of the inverter.**

Wiring Directions

Top Portion of the Collector

Your Solar Seeker Comes with the motors Pre-wired

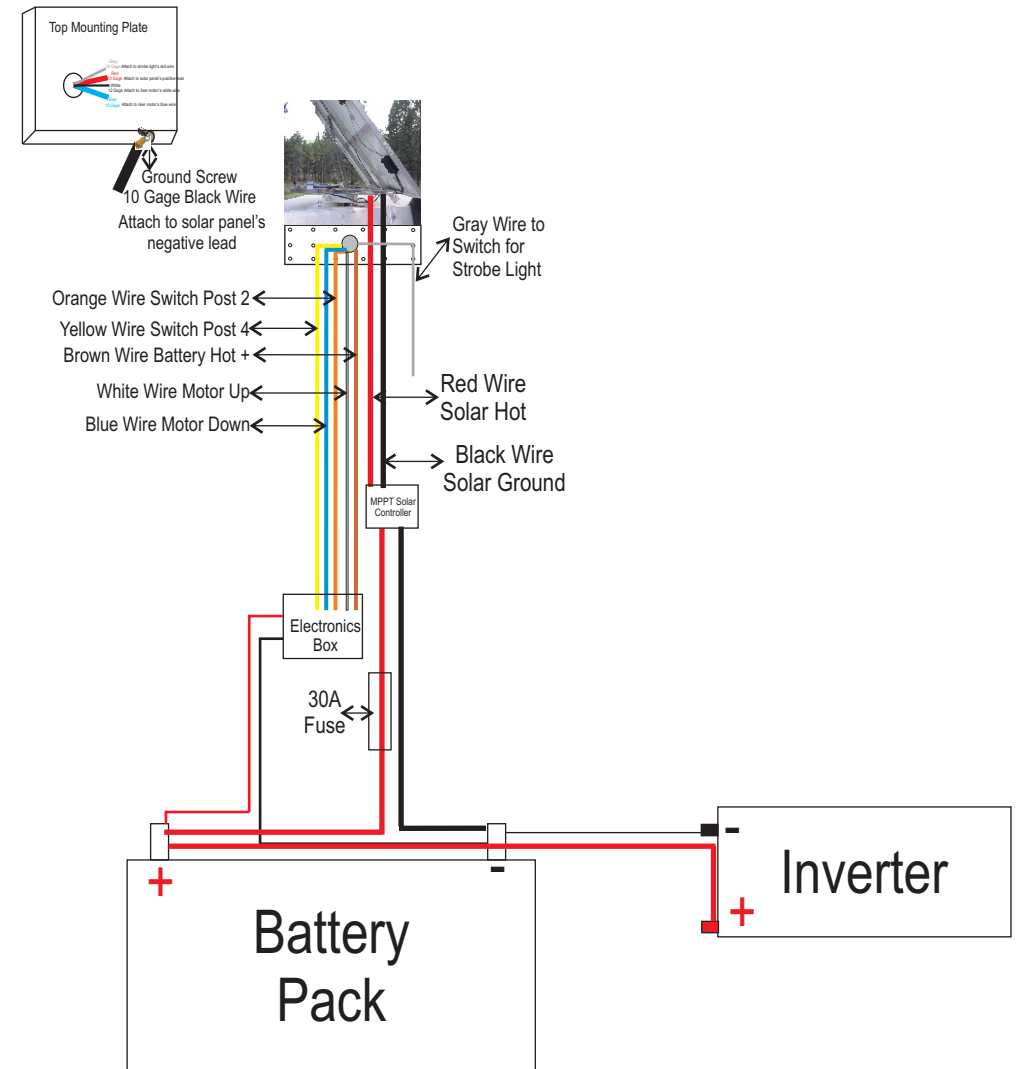
Connect the WHITE wire to the Riser Motor's BROWN wire
 Connect the BLUE wire to the Riser Motor's BLUE wire.
 Connect the GRAY wire to the Strobe Light's RED wire.
 Connect the Strobe Light's BLACK wire to the Solar Panel Frame for Ground.
 Connect the RED wire to the HOT + Output of the Solar Panel.
 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.

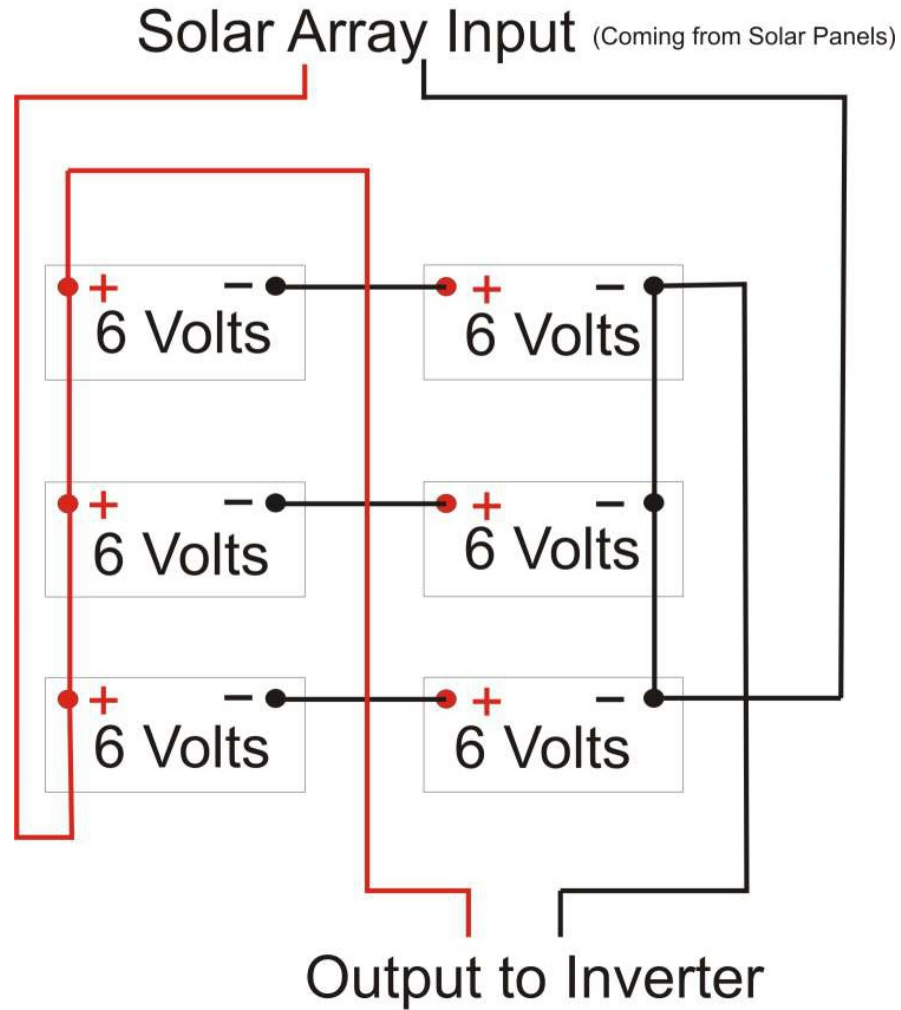
For further reference please refer to wiring diagram 1

System Wiring Diagram: Wiring Diagram 1



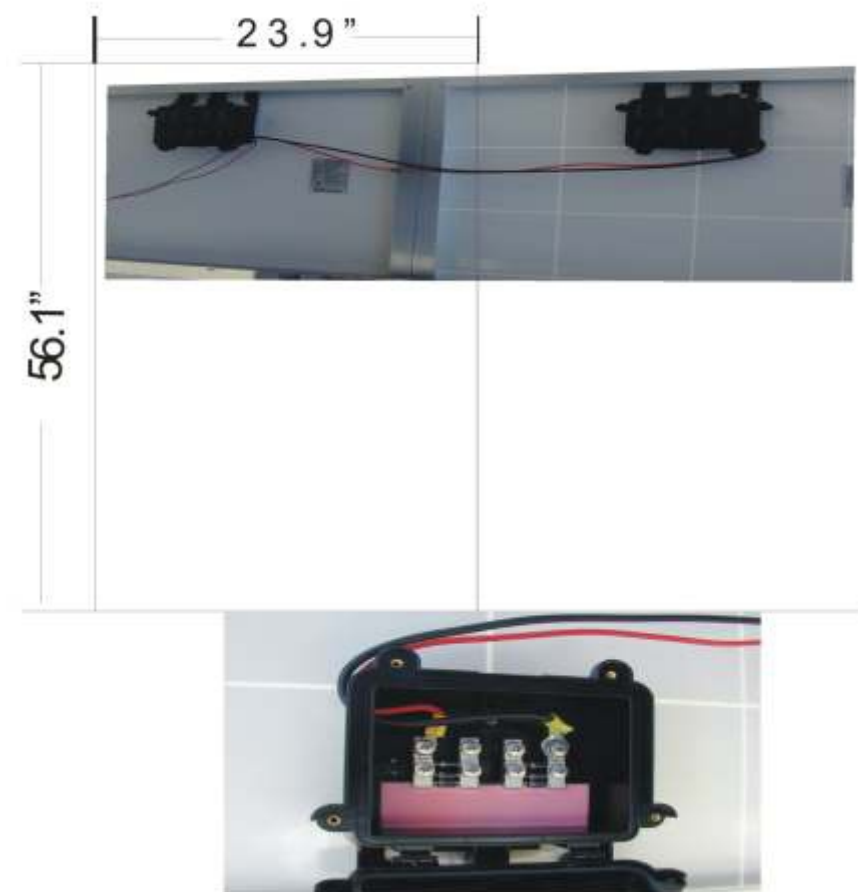
Battery Wiring Diagram

Battery Pack using Six (6) 6 volt batteries in series and parallel. The total output is 12 volts. This configuration will give you maximum amount of power.



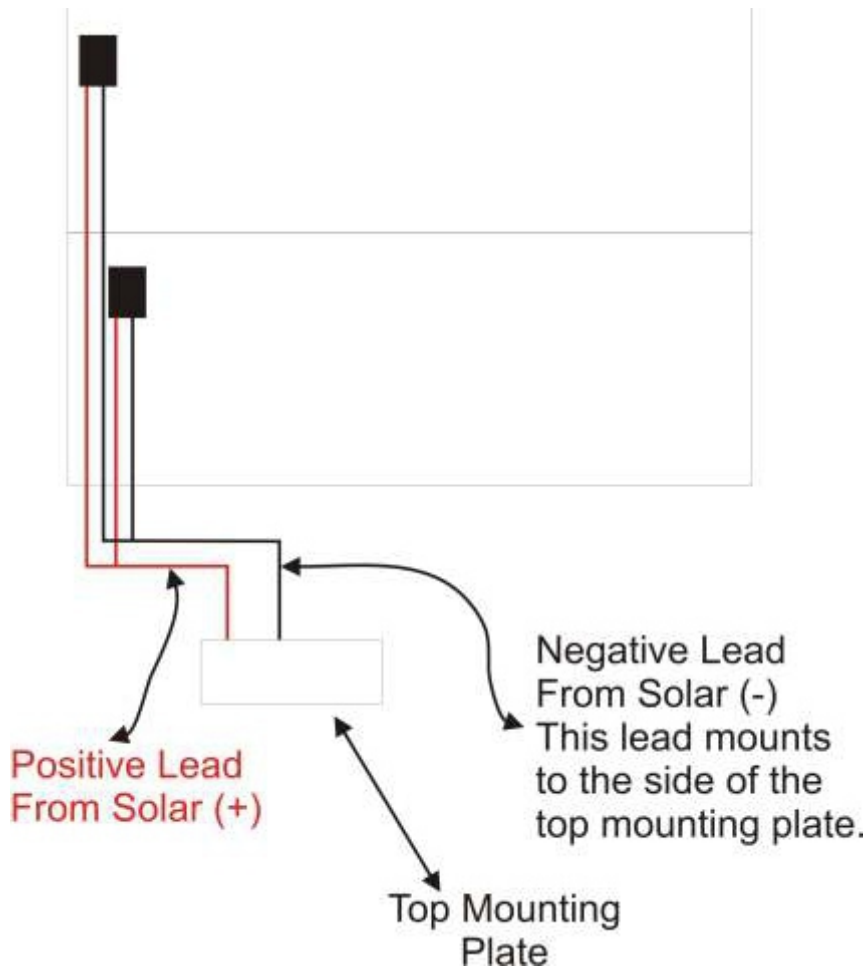
Solar Panel Wiring Diagram

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 Solar Seeker 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 Solar Seeker Top mounting plate on the side to the Ground Screw.



MC Connector Wiring Diagram

- 1. Connect the Positive Lead from one panel to the Positive Lead of the other panel.
- 2. Connect the Positive Lead from the top plate to the Positive Leads of the solar panels
- 3. Connect the Negative Lead from one panel to the Negative Lead of the other panel.
- 4. Connect the Negative Lead to the side of the top mounting plate on the ground screw



Appliance Consumption Worksheet

	Approx.Current (amps@12volts)	Hours/Day	Amp Hours Consumed
Appliance 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			= _____

Additional Resources:

Universal Solar Solutions web site. <http://www.Universal-Solar-Solutions.com>
Our web site will provide you with information on operation, sales and repair of the Solar Seeker.

Solar Rebates Nationwide:

This resource will provide you with all the solar rebates for your particular area. Both State and Federal.
<http://www.dsireusa.org>

Azimuth and Elevation:

This web site 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 Solar Seeker.
<http://www.jgiesen.de/asimuth/index.html>

RV SolarSeeker OWNERS MANUAL

We would like to thank you for purchasing our Solar Seeker. This system will give you years of trouble free service. The finest care has gone into producing the Solar Seeker. By using the Solar Seeker you will be able to operate most if not all your appliances in your RV.

THE SOLAR SEEKER IS NOT DESIGNED TO RUN YOUR REFRIGERATOR OR WATER HEATER ON ELECTRIC THESE APPLIANCES SHOULD BE RUN ON PROPANE.

EXTREMELY IMPORTANT

NEVER TRAVEL WITH YOUR SOLAR SEEKER IN THE RAISED POSITION. NEVER TRAVEL FASTER THAN 75 MPH. DOING THE ABOVE WILL VOID THE WARRANTY.

Operating the SolarSeeker

To operate the Solar Seeker upon arrival of your destination:

- 1) Take out your remote transmitter.
- 2) Aim the transmitter towards the Solar Seeker.
- 3) Push the "ON" button (located on your electronics box)
- 4) Using your remote, push the "Up" Button on the transmitter to raise the Solar Seeker to the desired position. Just angle the panels to the sun's position in the sky.
- 5) Using your remote, push the "Rotate" Button to align to the sun.
- 6) That's it. Your system is ready to pull in the maximum amount of sun possible.

The Solar Seeker system will withstand winds up to 50 MPH. If you encounter winds higher than that your system may spin out of position. If this occurs simply take out your remote and push the "Rotate" button to realign the solar panels.

When you're ready to pack up and travel make sure to lower the Solar Seeker. Simply use your remote and lower the Solar Seeker all the way down to the locked down position. The Solar Seeker should be positioned where the strobe light is facing to the rear of your RV. Then turn your system "OFF" (located on your electronics box) The Solar Seeker is now locked down for travel.

SolarSeeker Maintenance:

The Solar Seeker is virtually maintenance free. Because the system passes electric current through a brass collector system there may come a time when these connections become oxidized. The system is coated with a corrosion preventive at the factory that will last a very long time. However after a long time of use you may find that the Solar Seeker will not respond as well as it should. If this happens all that you need to do is take the corrosive preventative (Included) and spread in over the collector ring, located under the top plate on the Solar Seeker.

This can be done by yourself or any qualified service technician. We also recommend that you clean your solar panels once in a while. This can be done by putting a duster or rag on the end of a telescoping pole and cleaning the panels without having to get on the roof of your rig.

Both motors are sealed units and don't ever need any maintenance. The stainless steel will last a life time with no maintenance.

Lost Remote Battery

IN THE EVENT YOU LOOSE YOUR REMOTE OR THE BATTERY DIES. There are 4 buttons on the electronics box to lower, raise or rotate the solar panels. If you happen to loose your remote or the battery in your remote dies while your camping, all you need to do, when you're ready to leave, is push the "Down" button until the panels are completely lowered. If the battery is dead then just replace it. Or if it's lost, then give us a call and you can purchase another remote transmitter.

Caution

Never push more than one button on your transmitter at a time. Also never have any of the stationary buttons on the electronics box pushed in and press a button on the transmitter. This will overload the remote and blow the inline fuse.

Security

There is a strobe light included with your system. This is used for security or emergencies. In the event that you have an emergency all you need to do is turn on the strobe light and notify the emergency personal to look for the strobe light and they will be able to locate you much faster possibly saving a life. Also, if you have any problems on the road and need to pull over turn your strobe light on to notify oncoming traffic of your emergency.

Limited Warranty:

Universal Solar Solutions LLC. (the "Company") warrants that its Solar Seeker (the "Product") (a) will perform substantially in accordance with the accompanying written materials for a period of One (1) year from the date of receipt and (b) that the medium on which the product is contained will be free from defects in materials and workmanship under normal use and service for a period of one (1) year. In the event applicable law imposes any implied warranties, the implied warranty period is limited to ninety (90) days from the date of receipt. Some jurisdictions do not allow such limitations on duration of an implied warranty, so the above limitation may not apply to you.

Customer Remedies: The Company's and its suppliers' entire liability and your exclusive remedy shall be, at the company's option, either (a) return of the price paid for the product, or (b) repair or replacement of the product that does not meet this Limited Warranty and which is returned to the Company with a copy of your receipt. This Limited Warranty is void if failure of the Product has resulted from accident, abuse, or misapplication. Any replacement Product will be warranted for the remainder of the original warranty period or thirty (30) days, which ever is longer.

NO OTHER WARRANTIES. TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, THE COMPANY AND ITS SUPPLIERS DISCLAIM ALL OTHER WARRANTIES, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, WITH REGARD TO THE PRODUCT AND ANY RELATED OR ACCOMPANYING WRITTEN MATERIALS.

This warranty is void if this product is misused, used in an improper environment, overloaded, opened, abused, altered in any manner, not used under normal operating conditions, or not in accordance with any labels or instructions. There are no other implied warranties of any kind. The company is not liable for incidental, indirect, consequential damages, special, including without limitation, damage to, or loss of use of, any equipment.

Notes About the SolarSeeker

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