My summer solar project

Posted by MaryB - 26 Oct 2012 06:04

When panels dropped under $1 a watt I started buying 1 a month over spring and into summer. Put in a frame made from pressure treated timbers with unistrut for the panels to mount on. Ended with 1,100 watts of panels feeding a Morningstar MPPT 45 charge controller to 432 amp hours of batteries at 24 volts. 1kw pure sine Samlex inverter.

Half the battery bank

Charge controller, junction box, inverter

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Re: My summer solar project
Posted by B-Mod - 27 Oct 2012 02:23

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Congrats, looks like a nice setup!

What do you plan to power from this setup? How do you have it tied into your house to use?

I wanted to get my large solar water project done this summer but it did not happen, next summer for sure....

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Re: My summer solar project
Posted by MaryB - 30 Oct 2012 06:52

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Runs my computers system, ham gear, TV, Surround system, and satellite dish when I have enough power. I manually switch over from grid to battery by turning the inverter off. I have a 30 amp transfer switch wired off an outlet that the toys plug into. They are also one of the biggest energy users in the house with being on 14 hours a day usually. I typically get 6-8 hours of run time after the sun sets on a full bank of 8 batteries. Ham gear is always on the battery bank thru a 24 to 12 volt dc-dc converter. I can switch the ham gear to grid power by turning on a power supply, they make a transfer switch for 12 volts!

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Re: My summer solar project
Posted by B-Mod - 02 Nov 2012 01:21

Sounds cool, I want to add solar to my camper to make it self sufficient, I am thinking around 225 watts, and four 6v batteries will do. I think I can make it with little need for a generator, except microwave, and times when I need air conditioning.

Looks like you have a great use for your solar power. Did you build anymore solar air heaters?

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Re: My summer solar project
Posted by tjnamtiw - 04 Nov 2012 04:30

Looks good. Hopefully, when the neighbor cuts down this big sweetgum tree next to my garage this fall, I'll have a perfectly angled roof to mount my panels to. I'm a Ham too but haven't been active lately. N4XTK here.

Are you using 4 gauge wire on your batteries? I'll be stringing my panels together in series since my Morningstar can handle up to 150 volts. Planning on using #8 wire for that eventhough it's overkill for the 8 amps of current.

You do know not to drag the amp-hours of your batteries down below 50% to extend their life, right? I'm sure you do, just checking.

Are you going to file for a Federal income tax credit? My state, Georgia, offers one too but they make it so damn hard plus they want the installer's specifics and the approval agency's sign off. Damn bureaucrats! Maybe I should just forge Obama's signature.

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Re: My summer solar project
Posted by MaryB - 10 Nov 2012 21:14

Yup I made my own battery cables from 4 gauge with the ends soldered on for lowest resistance and longer life. I ran #6 from the array but I am running ~80 volts up to the house. Yeah I take the batteries down to 24.4 max usually and they rebound back to 24.8 without the load. Rather have long battery life so they are there during an emergency.

On social security and I don't make enough to file taxes so no tax credit I guess. Would be nice if I could get it!

Ham call is W0AAT not super active but I do chase some DX

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Re: My summer solar project
Posted by MaryB - 01 Jan 2013 05:29

Good solar panel source, where I bought mine Solar Blvd

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Re: My summer solar project
Posted by WNYcorn - 01 Jan 2013 12:39

Hi MaryB:

I have followed you for years on the Forum. You guided us and do great things still!

I have a Bixby since '06, still going, and now have 24 Sunpower panels on my roof - grid connected. I have one deep cycle marine battery and a 12v sump pump hooked up, but would like a few more batteries. Not knowing too much about the hookup of multiple batteries, I appreciated your photos. I see the necessary battery box and vent. Thanks, and good luck.

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Re: My summer solar project
Posted by MaryB - 01 Jan 2013 22:19

I went vented to keep the acid mist down in my porch where the batteries live. Also took care of the H2 issue of 8 batteries venting.

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Re: My summer solar project
Posted by h farmer - 04 Jan 2013 23:16

Mary:

Thank you for posting the supplier you used to purchase your panels. I had been looking and was not finding any at that cheap of price.

Looks like you have 2 different manufactures or types of panel by your picture of the 8 panels. Any preferences; like most solid frame, best connectors, best warranty, etc.

John

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