



## Solar Power System

by [Mr. Chicken](#) on November 5, 2007

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## Intro: Solar Power System

This instructable will show you everything you need to put together a pretty good sized electric solar panel system. Things you will need:

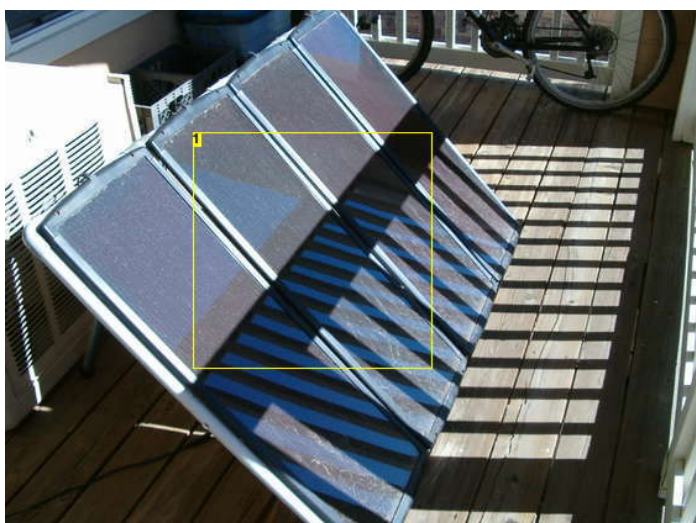
### Supplies:

- Solar panels
- Charge controller
- Battery charger
- 2 AWG cable
- At least one 12 Volt marine deep cycle battery
- Mechanical lugs
- 1 power inverter
- 1 Rubbermaid tote or other container
- 1 battery charger

### Tools:

- Cable cutters
- Red electrical tape
- Screwdriver
- Drill
- Crescent Wrench

Gather supplies and lets get started.



### Image Notes

1. These are 15W solar panes (60W total). I picked these up from Craigslist for about \$250. This price included the panels, a charge controller, and the frame they are mounted to.



### Image Notes

1. Charged light. This comes on when the batteries are fully charged.  
2. Charging light. This comes on while the batteries are charging.  
3. Charge controller. This unit will control when the batteries charge. It will charge when the voltage drops below 13V and shuts off at 14.2V to prevent over charging of the batteries.



### Image Notes

1. 12 Volt marine deep cycle battery. This particular battery has 125 AMP hours.



### Image Notes

1. Be sure the terminals have wing nuts.

I use 3 of these batteries in my set up giving me 375 AMP hours. Basically I can run 375 AMPS for 1 hour or 1 AMP for 375 hours.



**Image Notes**

- 1. Red electrical tape.
- 2. 2 AWG cable.
- 3. Copper mechanical lugs. These are used to make the jumpers.



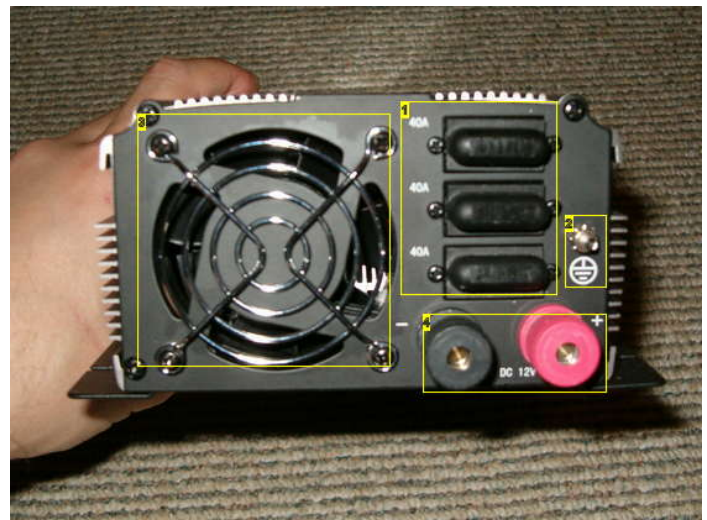
**Image Notes**

- 1. This is the power inverter I used.



**Image Notes**

- 1. Display. It will cycle and display battery voltage, output voltage, and the current Watts being used.
- 2. Power outlets.
- 3. On/Off switch.
- 4. Power LED.



**Image Notes**

- 1. Fuses.
- 2. Ground terminal. If you're feeling motivated, you can wire your inverter to ground. I have yet to do this with my set up.
- 3. Cooling fan. Comes on automatically as needed.
- 4. Power terminals. These get cabled to the batteries.



#### Image Notes

1. 4 gauge cables. These come with the inverter to cable to the batteries.

### Step 1: Preparing the batteries.

The first thing you want to do is charge your batteries with a charger. This will insure they are charged to capacity and ready to go at set up. I purchased my batteries new and were only at about 60%.

While the batteries are charging, you can set up the solar panels and get them wired up and ready to go.



#### Image Notes

1. Charging the batteries with a charger I got from Auto Zone. This charger will charge 6 Volt and 12 Volt batteries. Since these are 12 Volt batteries, set the charger to 12 Volt.

### Step 2: Place batteries in container.

Once the batteries are fully charged, place them in the container and. Make sure all the positive (+) terminals are on one side and negative (-) on the other. Once in place, measure from terminal to terminal to make the jumpers.



**Image Notes**

1. These are all positive (+) terminals.
2. These are all negative (-) terminals.

**Step 3: Creating the jumpers.**

Next, we want to connect the batteries in parallel. To do this, Make some jumpers out of 2 AWG cable.

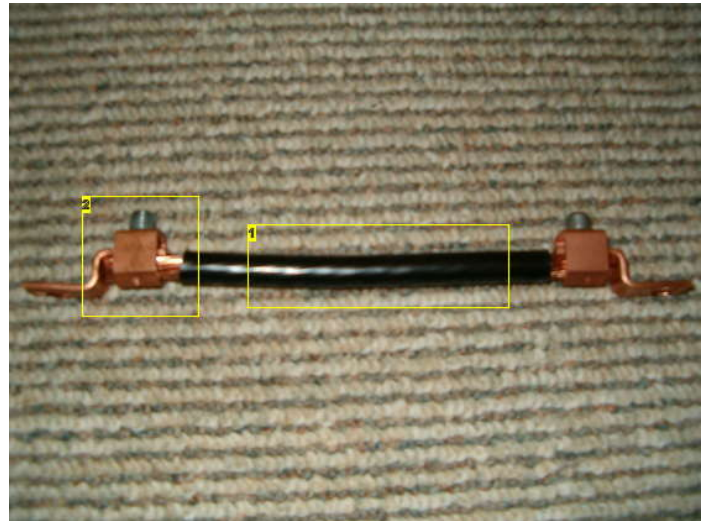
Note: Make sure to size your jumpers for your system. If you want to use a larger inverter you will need to use larger cable. 1200 Watts/12 Volts = 100 Amps. Depending on where you look, 2 AWG cable is good for around 100 Amps. If you want to run say, a 2400 watt inverter, you should use 2 cables per jumper.

Measure between terminals and cut cable to length. Then add the mechanical lugs. Since the battery terminals were a bit bigger than the holes in the lugs I bought I drilled them out to fit.



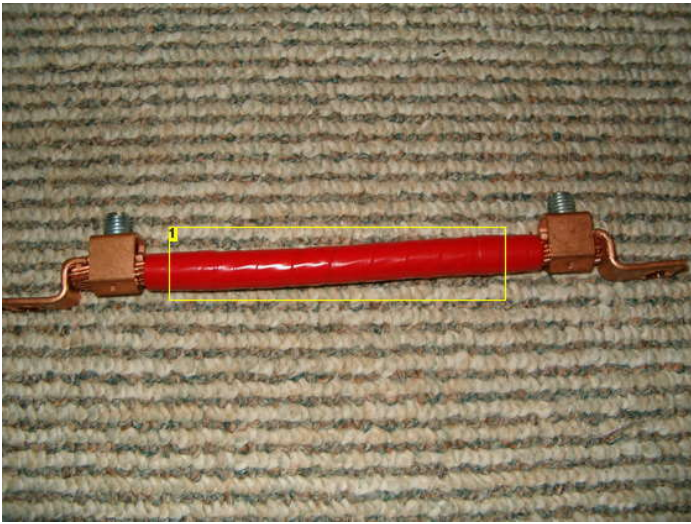
**Image Notes**

1. 2 AWG cable cut to length and ends stripped to insert into the mechanical lugs.



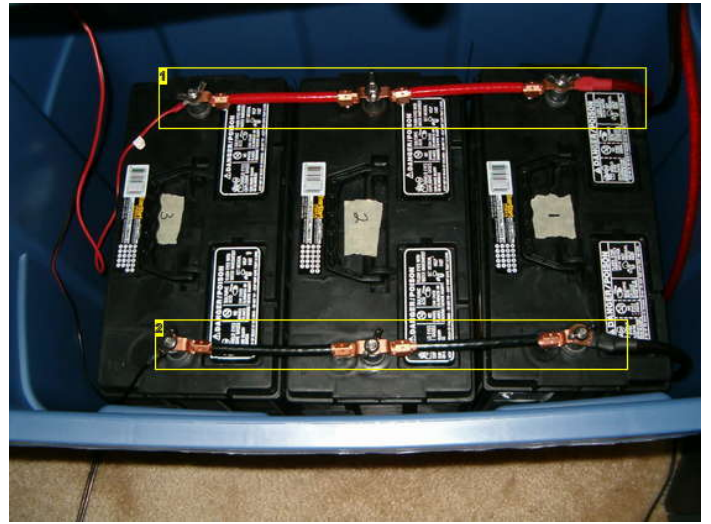
**Image Notes**

1. This will be for the negative (-) side.
2. Be sure to expose enough cable to make a good connection between the cable and the lug. Also, I used a crescent wrench to hold the lugs while using a screw driver to compress the cable. You could just as easily use a vise.



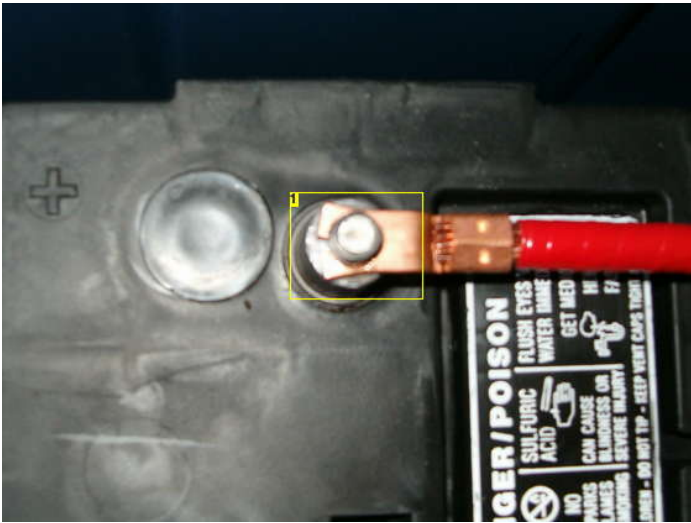
**Image Notes**

1. I didn't see any red cable at the hardware store so I just wrapped the positive jumpers with red electrical tape. You don't have to do this, I just think it makes it look a little nicer.



**Image Notes**

1. Positive (+) jumpers.  
2. Negative (-) jumpers.



**Image Notes**

1. Since the positive (+) terminals were a bit larger than the negative (-) I also had to cut the tip to spread the lug apart to get it over the terminal.



**Image Notes**

1. Close up of jumpers connected to battery.

**Step 4: Preparing the lid**

Now, add some holes in the lid to run the wires for the charge controller and the inverter. I wanted the charge controller outside so it was visible. You could just as easily put it inside the container for a more concealed look.



**Image Notes**

1. These wires go to the batteries.
2. These wires are connected to the solar panels.



**Image Notes**

1. Hole to run the inverter cables to the batteries.
2. These will connect to the inverter.

**Step 5: Connecting the charge controller and inverter to the batteries.**

Next we connect the charge controller and the inverter to the batteries. You will want to make sure the inverter is turned off and the charge controller is not connected to the solar panels yet.



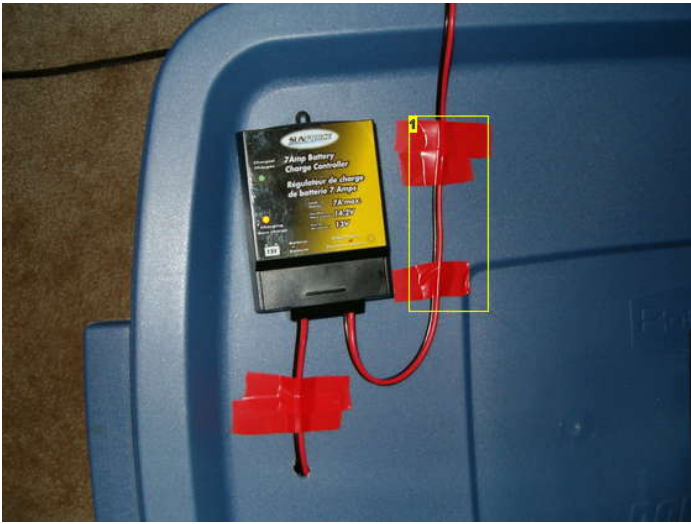
**Image Notes**

1. The charge controller now connected to the batteries. The negative (-) terminal will look similar.



**Image Notes**

1. Inverter cables connected to the batteries. The negative (-) terminal will look similar.



**Image Notes**

1. I decided to put a little bit of tape to keep the wires from going all over the place.

**Step 6: Final set up and test.**

It should all be wired together. All that is left is to connect the charge controller to the solar panels and turn the inverter on and check to see that it works.



**Image Notes**

1. The final set up. I have it in front of the door so I can easily wire to the solar panels outside.



**Image Notes**

1. Not showing very well but it's displaying a battery voltage of 12.7 Volts. The batteries are ready to go.





#### Image Notes

1. Out put is at 120 Volts AC.

#### Image Notes

1. Since I'm not running anything it is showing 0 Watts.



#### Image Notes

1. Here I am running a lamp at 59 Watts.

### Step 7: Some final thoughts.

I originally made this set up as a back up power source for when the power went out. But, I think I will use it more often than that. I don't think the solar panels are powerful enough to charge the batteries after depleting them every day. I will use it for a few days and update how well the system charges with constant use.

I originally tested out a single battery and was able to run a lamp and my laptop for about 5 hours before I finally shut it off. The good thing about this inverter is it will shut off automatically if the voltage drops too low to prevent depleting the batteries. I'm pretty confident that with the three batteries I will be able to power larger items for an extended period of time.

Also, this is a pretty expensive set up, about \$650. My costs (with out tax or shipping charges) and where I got things.

Solar panels \$250 (used from craigslist)  
Marine batteries \$240 (for 3 from Walmart)  
2 AWG Cable \$5 (for about 2 feet from Lowe's)  
Lugs \$8 (for 8 from Lowe's)  
1200 W inverter \$130 (Amazon.com)

I had the rubbermaid container, battery charger, and the charge controller came with the solar panels. I don't think it unrealistic to spend around \$700 or so, possibly more depending on how you set your system up.

Depending on how this works I will most likely upgrade to some better solar panels, increase the solar panel array size, and get some more batteries.

If anything is unclear please post comments/questions and I will be more than happy to update.




#### Image Notes

1. The final set up. I have it in front of the door so I can easily wire to the solar panels outside.

## Comments


50 comments [Add Comment](#)


[view all 125 comments](#)


 **zsthorian** says: May 6, 2011. 8:11 AM [REPLY](#)  
Hey Mr. Chicken. Just tossing a couple things into your comments to help others that may be attempting your setup.


1. The solar panels need full sun with no shading what so ever, the efficacy of the PV panels is significantly reduced if they are even partly shaded.
2. Avoid any battery that has a CCA rating. The CCA stands for cold cranking amps and indicates a starting battery. Starting batteries should only be discharged to 80% capacity or they will be permanently damaged. A Marine deep cycle battery with out a CCA rating will be able to be discharged to 50% capacity where as Golf Cart batteries can be brought down to 20% with out permanent damage. The down side to golf cart batteries is that they are 6 volt and would need to be wired in series and in parallel.
3. One will want to vent the battery box to the outside. several people have spoke about hydrogen. Granted I have never heard of a battery box exploding, I have witnessed a battery explode in the battery room when it was charging. It is also a good idea to keep some baking soda close hand to neutralize any potential spills while topping off the batteries water.


 **mongojr1** says: Aug 1, 2010. 10:45 AM [REPLY](#)  
Auto cables work great and less work


 **cooltogo** says: Jun 11, 2008. 12:16 AM [REPLY](#)  
I share buildem4me's comment: batteries WILL emit hydrogen, a VERY flammable gas. The slightest spark, or even over-heating, can EXPLODE the batteries. The only exception to that is AGM sealed batteries - and they are WAY more expensive. Furthermore, your battery container must be protected from too much heat or too much cold. A frozen battery is a DEAD battery, an overheated battery is a dangerous battery. In order to prolong battery life, don't discharge them too much. Keep them at 80% 'full', and they'll last a LOT longer. This applies for this type of battery, unlike some 'electronics' batteries, where you "teach them a memory" by completely charging and then completely discharging them. An alternative to the marine battery is the golf cart battery. It is actually better suited to the demands of a constant gentle flux of charge/demand. A well-known brand name is Trojan. I've lived off the grid on solar power for ca. 5 years. Never mind the critique, however. You DID put together a very nice instructible, and having the guts to publish something like that is great.

 **michaelusa1** says: Mar 31, 2010. 1:05 PM [REPLY](#)  
With excellent service at wal mart you can get your deep cycle marine battery replaced very well up to three years at any wal mart in the country. They are pro rated at 4 to 5 years so use em every day and dare them to go bad. just take em back to wally world and get a replacement for cheap.

 **michaelusa1** says: Jul 15, 2010. 11:34 AM [REPLY](#)  
ATTENTION. For "the best" batt/solar set up and installation as well as what to stay away from can be found over at [backwoodshome.com](http://backwoodshome.com). A 6 part discussion and info on battery types, inverters, charge controllers, solar arrays for the small off grid system (or big if you expand it) This is a must see for a more complete understanding!! The author is a licensed electrician and already has been using solar/batt setup for years.

 **aztecaa** says: Apr 7, 2009. 5:00 PM [REPLY](#)  
Just read your post after posting. What kind of setup are you running? I am looking to do a setup soon and not go broke doing it. I have a setup on the motorhome at this time but read that higher volt system is much more flexible in running appliances. If you have any pics for review please send me. Thanks

 **Angus06** says: Jun 14, 2008. 2:06 PM [REPLY](#)  
So the batteries seem unsafe indoors and useless outdoors... What would you recommend for this setup in terms of providing maximum safety as well as maximum usefulness? And by the way, thank you for pointing that out; that may well have saved me from blowing the house to smithereens.

 **cooltogo** says: Jun 14, 2008. 4:26 PM [REPLY](#)  
I did not intend to say that the batteries are 'useless' outdoors. Their useful function depends on your ability to place them into an environment where they are neither too hot nor too cold.  
An example of outdoor housing for batteries could combine a surrounding structure that is well insulated. It could incorporate passive solar heat by exposing a southern wall to radiant heat via a glass panel.  
It could employ a venting system that makes use of the convective heat flow: a louvered opening near the bottom, and another louvered opening near the top of the structure, for instance - where the bottom opening would face the direction that absorbs the most heat: the south.  
Such openings could be closed off in winter in order to contain the radiant heat that is absorbed through the southern window (but, SOME ventilation MUST be present in order to prevent the accumulation of hydrogen gases that emanate from the batteries).  
My own solution was to buy AGM (aggregate glass mat) batteries that are maintenance-free and do NOT release any gases. I keep my battery bank INDOORS, and safely so because of the nature of the batteries. I got mine on sale 4 years ago, but usually, AGM's are much more expensive than regular wet-cell batteries.  
If I had to replace my battery bank at this time, I would probably NOT buy AGMs again. I would buy a number of wet-cell batteries, (compare the brand Trojan), and I would build an add-on to my house, well isolated by a firewall, to house the new battery bank. I would also, at that time, put the add-on to additional use as a garage, fire-wood storage, workshop, etc. I would move my solar panels from their present location on the roof of my house to the roof of the add-on (which, of course, would have a south-facing roof slope).  
If I were to seek a building permit for my plans, it would most probably result in a code requirement to have a distance between the 'battery building' and the house. If I chose to actually get and satisfy such an intrusion to my personal choice, I would most probably seek to use the 'distance' space as a walkway, or try to put it to some other good use.  
The only reason why I WOULD deal with a permit would be because I would consider my property as something I will eventually sell off and move on, thereby having to satisfy inspection by the new owner's government watchdogs.  
I am not planning to sell my place, so it is more likely that it will be left behind as *leftovers* of my life - kind of like the lifeless physical body that will also be a 'remains' - unless, of course, a being appears in my presence who loves the place as much as I do and wants to keep caring for it. I mean the place, NOT the body. The best that can happen to IT is some coyotes or crows finding an easy meal.  
So, let's look at 'what is' and chuckle a little bit about it :)

And keep finding options. Rarely is there EVER a problem that has only TWO choices for solutions. We're just conditioned to not LOOK for the other choices :)



**lilykoart** says:  
can we expect to see an instructables from you soon? :) thanks for the insight!

Apr 6, 2009. 2:00 PM [REPLY](#)



**Angus06** says:  
Wow. Thank you!

Jul 7, 2008. 8:38 PM [REPLY](#)



**goatroper57** says:

hello iam fairly new at this ive been reading up on solar electric the last few weeks but i still dont know how big of a system i should use to run say my lights,tv, (3)tv satellite recivers /system and desktop computer and maybe a few other things the stove,refer,washer&dryer, hot water tank and a/c things like that would stay on the electric co. grid iam just lookin to save on my electric bill and we are complete electric in our 16x80 mobile home so iam thinkin of makin my own solar panels that seems to be the cheapest way to go for them i just dont know what kind of solar cells & sizes to get and how big to build them and what size solar charger controller & inverter parts to get as i found a lot of stuff on ebay fairly cheap but like i said i have know idea of what to get so can you help but tell me in terms i can understand as iam not a electrial wiz then ill know what to look for on ebay hope yall can help oh and i live in south east missouri we do get our fair share of sun and snow here but not really all that much snow maybe 6-8 inches a year if were lucky

Jul 4, 2010. 9:34 PM [REPLY](#)



**Zerocool818** says:  
i have the same charger

Jul 2, 2010. 9:10 PM [REPLY](#)



**emmiesworld** says:

I'm Emmanuel by name, I really wanna kno how much energy can the solar panel store?I am working on my solar panel & inverter connectivity.I reside in Nigeria ,where there is a lot of sunlight.

May 25, 2010. 8:54 AM [REPLY](#)



**riverreaper** says:

how much did pannles like that cost an does keeping them clean vers dirty as A car make a difference? wish you had a vid it rains here all the time , wana trade water for power?

Jan 5, 2010. 1:21 AM [REPLY](#)



**Residential Solar 101** says:

Solar panels actually only need to be cleaned about once a year. If you have any rain in your area, which it sure sounds like you do, that will go a long way towards keeping them clean. When they're dirty their efficiency can drop a few %, but no so much that you'd need to clean them off with a hose more than once or twice a year.

Mar 26, 2010. 4:30 PM [REPLY](#)

If you lease a solar energy system from a company that offers a solar lease they'll actually handle all of the maintenance and cleaning for you. If you build 'em or buy 'em outright, you'll likely need to clean them once a year yourself.



**riverreaper** says:

what about coffee makers ? they use or get used alot would sundrip be better than solor heated ?

Jan 5, 2010. 2:25 AM [REPLY](#)



**riverreaper** says:

what if i used a candle to heat half a pot of water an then took the sundrip container an sumersed it into the heatted water would the heat transfer enought to get a hot cup of coffee or would i have to plug the heating pad in usen up everthing that battery had made the day befor , an not haven a cup of coffee to offer the garbage guy that still works

Jan 5, 2010. 2:30 AM [REPLY](#)



**riverreaper** says:

ok ok ill go give the led heads some questions

Jan 5, 2010. 2:31 AM [REPLY](#)



**ElectricMan1** says:

You should have used only 1 battery because it takes way too long to charge this setup.

Jun 20, 2009. 5:45 PM [REPLY](#)



**abadfart** says:

but it will last longer

Nov 30, 2009. 12:27 AM [REPLY](#)



**ElectricMan1** says:

well ya but dosen't it take a long time?  
Have u ever completely drained them?

Feb 19, 2010. 5:59 PM [REPLY](#)



**abadfart** says:

ya i have drained it but if you have enough cells it doesn't matter we use it in a caben and it runs a cb, a ham, a car stereo, chargers, and lights but we have enough cells that even with everything running 24/7 it always has power it only died when there was so much snow that it covered all the panels so there was no flow

Feb 21, 2010. 5:22 PM [REPLY](#)



**usefull** says:

This instructible is awesome. Thanks for sharing this with us.

Jan 11, 2010. 8:04 PM [REPLY](#)

Showing up how to wire it up in step 3 in parallel is very helpful.

I dont understand what all the complaints are in this one in the comments field. Having a big 12V battery connected in parallel is more useful and easier to do than using odd voltages like 24V.

Im not worried about ventalation either on the hydrogen gas building up in the container. I myself have kept batteries in a container and it is perfectly FINE. Ill just head over to mine and light a match. Oh hey, Im still alive.

Keep on writing up good stuff like this!



**Biker-74** says:

Connecting batteries in parallel is not the very best idea. The internal resistance of the batteries are slightly different. One of the batteries will deliver more current than the other one(s) and over time it's resistance will change, thereby adding to the unbalance. One battery will then wear out before the other battery/ies. Difficult to know which one is bad and needs replacing. At the least, make sure that a multi-battery setup consists of "twins" or "triples" by choosing the same brand, bought together, and if available check serial numbers to be as close as possible. You seem to have followed this, which is good, but it's not clear in the instructable that it should be done. The best is to connect batteries in series. This, of course, gives a different set of problems. You will either need a higher voltage source, or some kind of DC/DC step-up transformer. 48 Volts panels may be difficult to find and may be more expensive. A DC/DC step-up will have less efficiency and the loss may be discouraging. 48 Volts charge regulators may be more expensive too. Then you need either a DC/DC step-down or 48 Volts consumers. Not very practical. Having a single, very high capacity, 12 Volts battery is probably the best compromise for combined efficiency and life-time. It also makes it easier to know when the battery is ready to be replaced, since you know exactly which battery is getting bad. On the whole, a very nice instructable. Should inspire a lot of people to get into home power production.

May 28, 2008. 4:25 AM [REPLY](#)



**TFrosty** says:

Why not connect the batteries in series/parallel. That way you raise your total voltage and amps output.

Nov 23, 2008. 12:42 PM [REPLY](#)



**suptclark** says:

In the parallel connection, no current would pass from one battery to the next. Each would contribute to the 12 volt total as it was capable. Large trucks and buses use this type of connection all the time with no problem.

Nov 1, 2008. 6:11 PM [REPLY](#)



**hemant\_saraf** says:

I have two clarifications... one, I have an inverter at home which charges the batteries from the grid electricity. It is a 24 v inverter at battery input with a 1400 watts power rating. What I wish to do is charge the batteries through solar power and not through the grid electricity. So if I connect a separate charge controller to the batteries for solar charging (as you've advised), then will it get mixed up with the charging circuit that is inbuilt in the readymade branded inverter that I have. Would you be able to advise as to what possibly could happen there ? second, what is the distance (length of the wire) between the solar panel and the charge controller you maintained and what is advisable? I am a newbie and based out of India. Would very much appreciate your inputs and knowledge that you share. Thanks in advance. PS : Being in India only means we operate on 230v, 50 Hz AC, Sun is good and very bright and so it makes sense to go solar here. Also I will be able to size the solar panel requirement based on the required voltage and also be able assemble them correctly for panels to be able to provide adequate charging current and input voltage for the battery bank that I have. Just fyi, I have two 12 v batteries in series to provide a 24v input to the inverter. Each battery is 160 AmpHours.

Jul 31, 2008. 3:58 PM [REPLY](#)



**riverreaper** says:

wallyworld sell car solar batt chargers cant recall exact price around 80.00 i think i belive by the pick it shows you can do it without pulling the battery outa your car even , it might be cheeper just to bank them rather than build a monster set up with all theses do's an becarefulls ,dam they closed the junk yard down i could been rich .

Jan 5, 2010. 2:06 AM [REPLY](#)



**Mr. Chicken** says:

Personally, I wouldn't use both methods to charge the batteries. I would use solar or from the grid, but not together. I would connect to solar panels and disconnect from the grid. I don't think it would be a problem, but I'm not 100% sure. I'd be more concerned about charging from the grid unnecessarily. As for length of wire from the solar panels to the charge controller, make it as short as you you can to lower resistance and loss. Mine is at about 10 ft. Good luck.

Aug 3, 2008. 8:10 AM [REPLY](#)



**ThelronHobo** says:

does it matter the size of the solar panel? i have 1 12 v and 5 watt solar panel. can i build your exact rig with one two or three battery's and still have it work with my solarpanel?

Jul 20, 2010. 4:11 PM [REPLY](#)



**TFrosty** says:

How are you panels wired? Parallel, series parallel, or parallel/series?

Nov 23, 2008. 2:00 PM [REPLY](#)



**TFrosty** says:  
Where did you get the charge controller?

Nov 23, 2008. 1:50 PM [REPLY](#)



**awang8** says:  
It came with the solar panels which were from craigslist.

Jan 13, 2009. 6:26 PM [REPLY](#)



**gkimber2** says:  
you might think about venting the tote to prevent buildup of hydrogen gas during charging.

Nov 6, 2007. 4:48 AM [REPLY](#)



**riverreaper** says:  
**could you vent the gas to a hydrogen car?**

Jan 5, 2010. 1:58 AM [REPLY](#)



**Merakesh** says:  
You also need to be careful of 2 toxic gases. Arsine and Stibine. If the batteries should happen to overcharge for a short while it probably won't be a problem. But if they get overcharged long enough they could produce a good amount. While the tote seems like a good idea, I recommend not using it for the gas problem. While I'm typing this I cannot think of something you could put them in though. sry :(

Apr 1, 2008. 5:28 PM [REPLY](#)



**Derin** says:  
Make a box with two 120mm holes in the top, mount 120mm computer fans, one to draw and one to bring air into the case. Then wire those to the 12V array.

Jan 25, 2009. 6:38 AM [REPLY](#)



**riverreaper** says:  
**hows thous gasses on the inviroment ? is trying to save the planet really killing us all just in a difernt matter?**

Jan 5, 2010. 2:00 AM [REPLY](#)



**luisduardo** says:  
I am new in solar power, question? this project can maintain a freezer of 5.0 cubic feet, this freezer uses 242 KWH/year

Jan 12, 2009. 6:41 AM [REPLY](#)



**sasomanuel** says:  
Hi. I have a similar set-up in my remote cabin; however, I store the batteries in a insulated box under the cabin (3 foot "crawl-space") and wire up through the floor to the inverter and charge controller. I have a low-voltage lightbulb (connected to the battery bank) in the box on all the time (in the winter) to keep some warmth on the batteries. I have found that it works well. Just a suggestion.

Dec 21, 2008. 5:57 AM [REPLY](#)



**riverreaper** says:  
**if you insulated the batts an used the lights in the cabin it would keep the moister out an nothing would mold on you**

Jan 5, 2010. 1:55 AM [REPLY](#)



**DJnaSTYnuTS** says:  
I hope those Batteries are ventilated. It would suck having crazy gases building up in there... By the way, I wouldn't keep them near or under the house, batteries explode time to time!

Feb 20, 2009. 2:48 PM [REPLY](#)



**azteca** says:  
What is the best way to store Solar and Wind Power to... Also what do these big companies use to store the Solar Power to... Building a 3 bedroom home off the grid and looking at the best way to store solar power. Looked at many setups and don't want to go broke trying to do a setup. Thanks

Apr 7, 2009. 4:55 PM [REPLY](#)



**riverreaper** says:  
3 bedroom? u coulda dug a deep hole an saved on heating an cooling with half a story building an a duck head sign lol

Jan 5, 2010. 1:42 AM [REPLY](#)



**tuckoovam** says:  
I'm new to this so I just have a question about wire sizes. What size wire did you use from the the charge controller? And from the batteries to the inverter what size was used?

Nov 18, 2009. 8:43 AM [REPLY](#)



**dusts** says:  
I was wondering what you were able to run from this solar kit. I plan on building my own setup that can run a low power PC or maybe even a gaming pc if that's even possible.

Jul 29, 2009. 4:25 PM [REPLY](#)



**imajem** says:

How could power from the solar array be directed into the power grid? I know this is possible but don't know how.

Jun 23, 2009. 10:23 AM [REPLY](#)

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**Fildain** says:

One problem with being connected to the grid is that you have to sell all of your power to the electric company at "wholesale" price and then buy what you use at retail. So unless you create twice the amount you need to use, the electric companies still screw you. =)

Jul 12, 2009. 10:37 AM [REPLY](#)

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**cpotoso** says:

Not always true. In many communities (e.g. in mine) the electric co. will buy from you at the same rate as they sell to you. However, connecting to the grid is quite complicated and not really worth for a system this size (you'd have to go to several kW of power, costing many k\$).

Jul 22, 2009. 9:43 AM [REPLY](#)

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**imajem** says:

Thanks! I didn't know that BUT every little bit helps....just not as much as I thought, right?

Jul 13, 2009. 12:28 AM [REPLY](#)

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