

Other Backup Power



Last week we looked at Solar Charging for Your Smartphone and Other Devices. We covered:

- **Solar pocket chargers for smartphones,**
- **A radio/flashlight/USB charger with a solar charger that can also be powered by normal batteries or charged using USB or a built-in hand crank,**
- **Small solar panels, and**
- **Rechargeable power packs**

Other Backup Power



This week we'll look at other sources of backup power

Other Backup Power



If you live in an area with frequent power outages or power ‘winkies’, you can use a UPS (Uninterruptable Power Supply) to keep things like your internet modem, router, VOIP (Voice Over Internet Protocol) phone adapter, cordless phone base station, cell phone repeater and other critical equipment working without interruption.



Other Backup Power

- Depending on the capacity of your UPS and what you are powering with it, you will get anywhere from a few minutes to several hours before the UPS battery is drained.
- A UPS also protects sensitive electronic equipment like TV's, PVR's and desktop computers from damage due to power 'winkies' (very short power dips).



Other Backup Power



- Many current-model cars come with a 120 volt AC socket (often in the back of the armrest between the front seats) (usually limited to 100 - 300 watts) that will power laptops, tablets, etc. using their own power supply
- Almost all current model cars have 12 volt power sockets (that look like cigarette lighter sockets) and USB (5 volt) sockets



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- There are small devices available that can be used to boost start your car or as a power pack to supply 12 volt DC power.
- You must be VERY careful using them. If shorted accidentally they are capable of discharging a very high current*
- Some of these also have USB outlets

*** - THIS WARNING APPLIES TO HANDLING ANY HIGH CURRENT BATTERIES**



Other Backup Power



For large current draw devices like kettles and coffee makers, you can use a large battery (e.g. your car battery or a similar sized deep-cycle battery) and a large capacity power inverter

You can charge the battery with a solar panel, your car or a suitable battery charger

The batteries should only be charged in well ventilated areas

NOTE: There are hazards inherent in dealing with high current batteries and equipment.



Other Backup Power



It can get quite complex to match the type and capacity of the inverter to the devices it is supposed to power, and it is beyond the scope of this presentation to cover this.

Battery powered devices like inverters that output AC usually output '*square wave*' AC that is suitable for heating devices, lights, some motors or plugging in laptop or other power supplies, but not suitable to directly power sensitive electronics (e.g. TV's).*



* - We covered this in a bit more detail last week

Other Backup Power



The other alternative for large current draw devices like kettles, coffee makers, refrigerators, freezers, etc. is an appropriate capacity gas generator.

Generators should only be operated in very well ventilated areas



Other Backup Power



- Gas generators require fresh ethanol-free gas (you should also use fuel stabilizer)
- The generator should be started and run every few months, and regularly maintained



Other Backup Power



If you live in an area with frequent power outages you may want to consider a whole house automatic backup generator system (cost \$6K to \$20K)



Other Backup Power



Usually powered by natural gas or propane so you don't have any of the stale gas problems you have with gasoline powered generators



Other Backup Power



Hydro Ottawa (urban Ottawa), Hydro One (most of eastern Ontario outside urban Ottawa) and other power companies have power outage hot lines where you can report power outages and get updates on existing power outages.

They key off of your caller ID and their customer address database to geolocate you so they know what particular power outage is affecting you.