

General Notes

Miscellaneous...

Solar panel stuff

[solar_power_system_calc.txt](#)

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- inverter?
- battery?
- solar panel?

1) load calculation
- assume 4x25w led light, 2x80w fan, 1x40w tube light, 1x50w tv
- total power = 100w + 160w + 40w + 50w = 350w

2) inverter selection
- load = 350w (consider: 500w)
- recommended: 800w-1000w

3) battery selection
- assume 12v dc battery
- for 350w ac load,  $i(\text{dc}) = 350\text{w}/12\text{v} = \sim 30\text{a}$ 
- assume battery operation of 8h
- battery capacity =  $30\text{a} \times 8\text{h} = 240\text{ah}$ 
# 250ah battery available!

4) battery charging current calculation
- assume 250ah
- charging current =  $\sim 10\%$  current rating (Ah)
- charging current = 25A

5) solar panel selection
- solar panel current = charging current + load current =  $25 + 30 = 55\text{A}$ 
- solar panel power =  $12\text{v} \times 55\text{A} = 660\text{W}$ 
- solar panel options: 125w / 180w / 375w / 440w
- solar panel count =  $660\text{W} / 180\text{W} = \sim 4!$ 
```

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