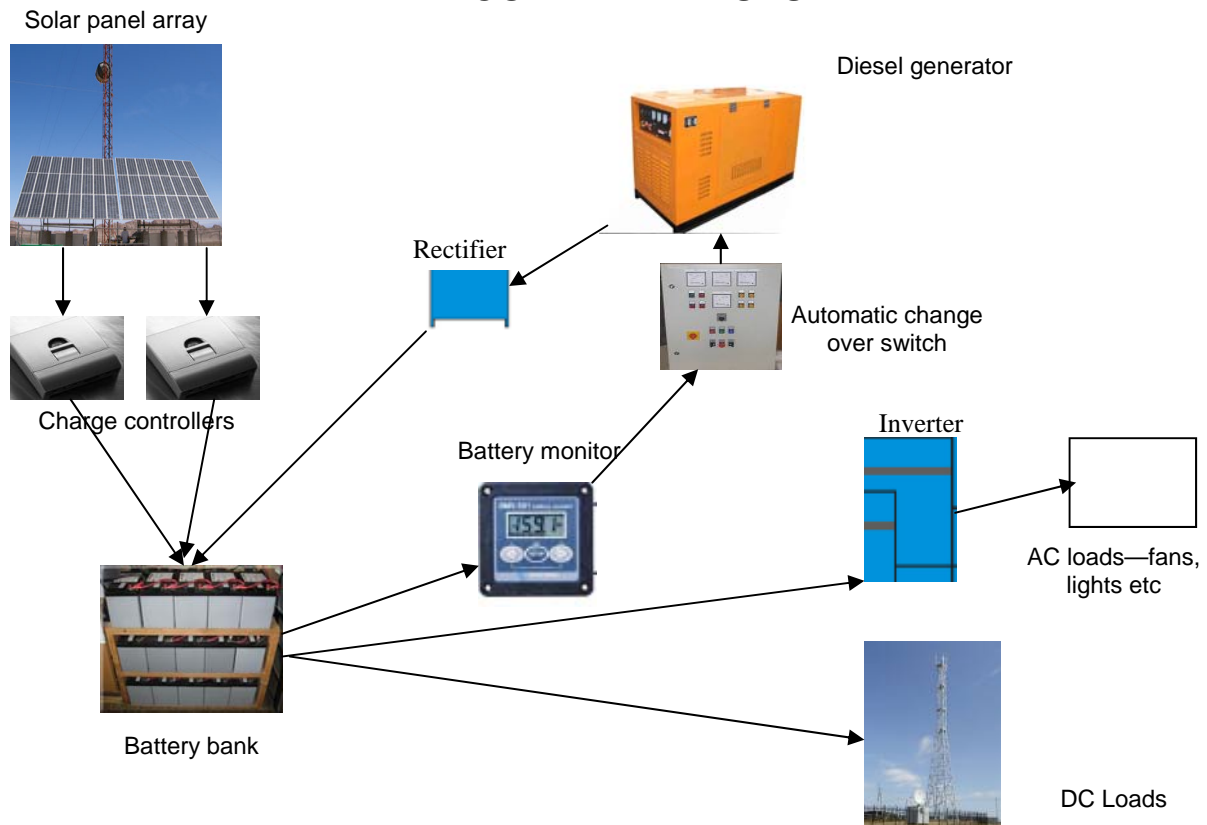




# Fortune CP

## TELECOM HYBRID SYSTEM



Fortune CP solutions provide a competitive alternative to pure diesel systems that are increasingly under cost pressures due to fuel costs, frequent servicing requirements and problems associated with CO<sub>2</sub> emissions. Most telecommunication applications for remote sites involve hybrid systems.

The system below is designed to provide power from solar panels 24/7, and also have a battery bank to store power for 3 days (in case of low sunshine). As an option a generator can be connected to the system, only to be used as an emergency back-up. In case a generator is connected, the battery monitor will send signal to automatic change over switch to trigger the generator. The generator through the rectifier charges the batteries with DC power until the solar system takes over or a pre-determined level is reached. The reason the generator is connected to charge batteries rather than supply energy directly to loads is to save fuel. A generator is not an intelligent power supply system, running at peak even at times when the load power consumption is say 20-40%. By getting the generator to charge batteries, generator run times can be reduced by up to 40% since the load only draws the actual energy requirement from the batteries.

### **Hybrid power system for 1250W BTS station**

Assume that the BTS station runs 12hrs at peak, and the rest 12hrs at say 40%, the solar system size required is 4.9kw.

- 28 x 24V 175W BP Solar panels with 25 year warranty
- Solar panel mounting frame—ground or pole mounted
- 2 x 48V 60A charge PL controllers with data logger
- DC circuit breakers and lightning protection
- Battery bank with storage capacity for 3 days. Deep cycle maintenance-free (36 x 12V 200AH or 24 x 2V 1750AH) configured into a 48V battery bank DC.
- Depending on requirements a small inverter (say 1kw) can be installed to tap power from the batteries and provide AC power for small appliances
- Generator automatic switching system/Control panel, rectifier
- Battery monitor
- Accessories—module combiners, cables

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