

## SOLAR BASED MOBILE CHARGER FOR RURAL AREAS

(Recharge Your Mobile Devices on the Go Using the Energy of the Sun)

With the existing push in the direction of sustainable, clean sources of power, it is no surprise that solar power has become one of the most popular alternative energy sources. Free and available everywhere, the power of the sun can be employed to power everything like cell phones and MP3 player. The sun's energy is usually harvested through solar panels that are made up of photovoltaic cells. These cells can convert the sun's power into electricity that can be used for a number of purposes. For private use, a handheld solar hybrid charger can be employed to recharge little device for instance a MP3 player, a cell phone, or a camera.

A normal PN junction diode is used for unidirectional flow of charge current. The output of the solar panel depends on the intensity of the solar light. To regulate this voltage, LM317 is used. LM317 is an adjustable voltage regulator. The regulator circuit is designed to get a fixed voltage of 5V.

An alternative charger circuit is also provided to charge the mobile by house hold general purpose 230V in the absence of the sun light. This charge circuit uses regulated 5V, 750mA power supply. 7805 three terminal voltage regulator is used for voltage regulation. Bridge type full wave rectifier is used to rectify the ac output of secondary of 230/18V step down transformer.

