On-board Battery Charging

Solar/Hybrid Philosophy

The INSTABOOM is a hybrid solar/battery device. For maximum portability, it was designed with everything on-board and therefore fitted with small solar panels. In optimal conditions (summer days with unit facing south) these will provide sufficient charge to maintain the device in constant operation. Due to the dark winter days in the UK it will be necessary to charge your INSTABOOM to ensure continued reliable operation.

Battery philosophy

The battery store inside the INSTABOOM will provide up to 3 weeks of constant standby operation and 150 operations per day.

The nature of a solar powered device is that the batteries are designed to receive a constant trickle charge. Unlike your mobile phone, the advice to ensure best performance of the device and the batteries is to charge it up as soon as you can, as often as you can, for as long as you can. For this reason we suggest that whenever your INSTABOOM is not in use you leave it connected to the mains supply. In this way every time you take it out to site it is topped up and ready to go.

How the charger works

The battery chargers fitted to INSTABOOMs are specially designed to charge up the deep cycle batteries used in solar applications. In this way they are not intended for quick charging of the machine. Charging is a two-step process. During the first stage the charger is working at a high voltage to get the batteries to about 80% charge, the ORANGE light will be illuminated at this time. Once this is achieved the charger will drop to a lower operating voltage and this is called the “float” charge. At this time the GREEN light will be illuminated and it is during this time that the most valuable charging is taking place. The advice is to leave your INSTABOOM for as long as you can in this state, ideally over-night.

We understand that it is not always practical to charge your INSTABOOM in the compound over-night and this can lead to charging periods being overlooked or simply too short, with the result that standby performance decreases over time. Solar Gates have offer the following resolutions to this problem from wind turbines and large auxiliary solar panels, through to additional batteries and off-device chargers.