ABSTRACT

The development of technology at this time has undergone many changes, thus making us try to keep up. One technology that has been widely used is electricity. Based on this, the community is very dependent on electricity, it can be seen that when there is a power outage, almost all people experience anxiety, activities are disrupted, and work is hampered. The development of electrical technology has progressed a lot, one of which is the Solar Power Plant (PLTS). Because of this development, now there is such a thing as a portable power box, in which there are solar panels, solar charge controllers, microcontrollers, and batteries. This portable power box is a kind of simple Solar Power Plant (PLTS) that can replace electricity from the State Electricity Generator (PLN).

In this portable power box, there is a battery that is useful for storing power from solar panels, and can be used to turn on electricity at night. The battery in this portable power box will still send power from the solar charge controller even though the battery is full. Doing so can damage the battery. Therefore, in this study, the author succeeded in making and testing a battery management system that could overcome this. And realize it in the field that works in accordance with the desired concept. Therefore, now the tool can be used in the desired places or areas. In this tool the power that can be stored in the battery is about 60 watts, the maximum voltage that enters the battery is about 13.5 volts. Because the solar panel used has a capacity of 20 WP, the charging time to an empty battery is about 3 hours. Likewise when using to load. So this tool can be realized in areas that require electricity

Keywords: ***Portable Power box, Battery Management System, Battery***