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# Mechanical Powered Portable Charger for Disaster Recovery

Design and Development using Hand Cranking DC  
Motor and Arduino Microcontroller

 **LAMBERT**  
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# ABSTRACT

This book presents the development of mechanical powered portable charger during disaster recovery. It emphasizes on efficient mechanical energy harvesting circuit for charging mobile phone battery with the usage of intermediate battery concept. In this book, Sealed Lead-Acid (SLA) or dry battery was proposed as an intermediate battery to protect the Lithium-Ion battery which seems very sensitive to overcharging and over discharging. Three parts of module are employed in this book comprises of a DC/DC boost converter circuit, basic charging circuit and mobile phone charging circuit with the implementation of Arduino microcontroller. As a conclusion, a portable charger using mechanical system energy harvesting for disaster recovery has been designed and implemented successfully.



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