

SMART LAND MINE

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ABSTRACT

In most of the landmine used in the battlefield, the landmine will be denoted once an object or person pressed on it. This is dangerous if any allied troops or friendly units are around.

The project 'Smart Land Mine' is designed and implemented in the battlefield and it can automatically differentiate allied and enemy troops in the battlefield. The device can be set and programmed to prevent the activation of the explosive when the troops with matching modulated radio signal present around the device. If the device does not receive any matching radio signal surround the area, the mine will be denoted once a physical switch is pressed.

The design of the device structure is another challenging part of this project. This device can be repeatedly used without destruct the device itself compared with the ordinary land mine. The smart land mine can store a number of explosives. This can reduce the numbers to refill the explosives itself. The method of sensing the RF signal are using Multiplexer and Demultiplexer together with a PIC16F84A microcontroller which controls the filtering of RF signal and operations to activate the explosive.

The prototype model of the project was successfully constructed and managed to achieve the aims and objectives of the project. This project is important for students to get the practical knowledge and skills in the implementation of hardware and software in the design.