

ABSTRACT-Vehicle security system has been a topic of great interest over the years due to the increasing vehicle theft cases reported all over the world. Most of the advanced vehicle security systems best suit the four wheelers. As of the security system for two wheelers is concerned, the systems available in market are of no match to the well equipped thieves. When under attack, these systems can only immobilize the engine and sound a loud alarm. It is a serious limitation. In this paper we propose a reliable and robust design of Two Wheeler Vehicle Security System (TWVSS) with features enhancing the security of the vehicle. In our proposed security system various new features are included in addition to the engine immobilizer and alarm. Few of the important features supported by our system are actuating the brake using the motor connected to the spindle about the theft attempt i.e., motor operated locking system. Redundancy is maintained to make the system reliable even in the worst case scenario, but due to cost constraints a trade off between cost and redundancy was necessary. Our system is designed to be compatible with almost all the brands of vehicle.

KEYWORDS: Engine immobilizer and Alarm, Motor operated Break lock, compatibility.

EC339 MULTIBAND DOUBLE SLOTTED PATCH ANTENNA

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Abstract— Today wireless communication is booming and our communications are increasing day by day through handled and wireless devices. These devices must have the capability to communicate with different wireless devices operating at different frequencies. Hence, here we proposed a new printed slot antenna which can operate simultaneously at different frequencies 3.2/ 4.8/ 6.3/ 11.7/ 14.69 GHZ for multiple wireless and network applications. The main objective of this antenna is to reach a frequency range of 14.69 GHZ with a bandwidth of 2.346 GHZ for WiMAX applications worldwide, depending on the country.

Keywords: Micrstrip antenna, Slot Antenna, WiMAX,

EC340 3D PRINTER AND SCANNER

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Abstract: Technical progress in the open-source self-replicating rapid prototype (RepRap) community has enabled a distributed form of additive manufacturing to expand rapidly using polymer-based materials. However, the lack of an open-source metal alternative and the high capital costs and slow throughput of proprietary commercialized metal 3-D printers has severely restricted their deployment. The applications of commercialized metal 3-D printers are limited to only rapid prototyping and expensive finished products. This severely restricts the access of the technology for small and medium enterprises, the developing world and for use in laboratories. This paper reports on the development of a open- source metal 3-D printer. The metal 3-D printer is controlled with an open-source micro-controller and is a combination of a low-cost commercial gas-metal arc welder and a derivative of the Rostock, a deltabot RepRap. The bill of materials, electrical and mechanical design schematics, and basic construction and operating procedures are provided. A preliminary technical analysis of the properties of the 3-D printer and the resultant steel products are performed. The results of printing customized functional metal parts are discussed and conclusions are drawn about the potential for the technology and the future work necessary for the mass distribution of this technology.