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## Design and Implementation of CO<sub>2</sub> Laser System for Optical Components Malfunction

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Optoelectronic systems have a great role technically and tactically in the Military fire control systems. Optical components malfunction is essential to blind and reduce the effectiveness of these systems. In this paper the design and implementation of a CO<sub>2</sub> laser system to disrupt and/or damage the optical components is proposed. Firstly, according to the specifications of the optical components such as the threshold damage, the free running CO<sub>2</sub> laser system is designed and realized to meet these requirements. This includes the design of the laser tube, the power supply according to the required pump power to provide with the desired output power, and the cooling unit to remove the generated heat. Active media specification and resonator design are adapted to match one of the commercially available units. Design of power supply for optical pumping leads to an electronic circuit that is designed, and implemented using Protus software. The simulated schematic diagram is tested and used to generate the layout using the same software. The layout is used for the hardware processing of the high voltage printed circuit board starting with the mapping of the layout on the board and ending with the pad drilling. Electronic components are soldered and the board is coated with green mask to prevent high voltage sparks.