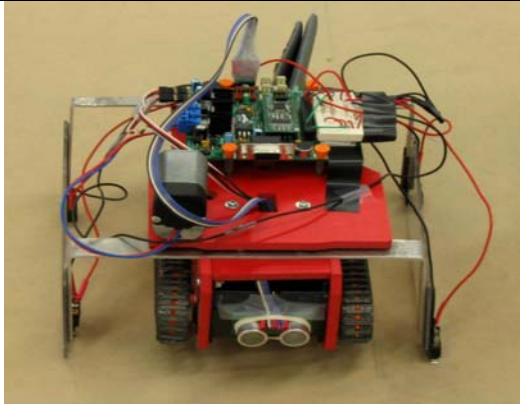
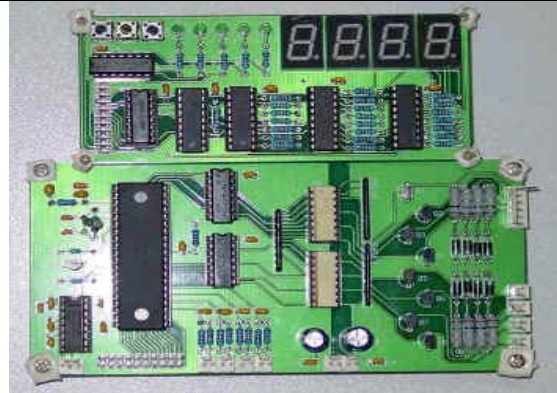


PROJECT OUTLINE



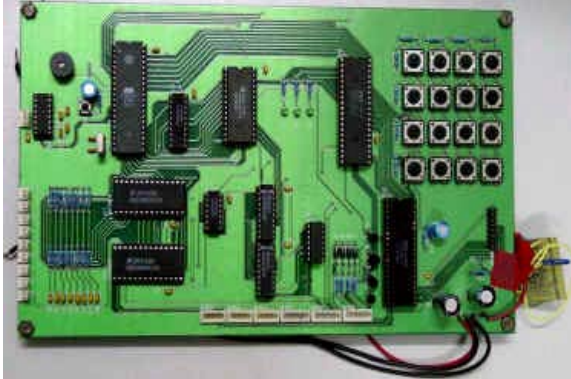
Autonomous object retrieving robot

MC68HC12 microcontroller to maneuver around obstacles and pick up an assigned target. PWM saves a lot of effort in coding to drive external motor.



Supermarket show box controller

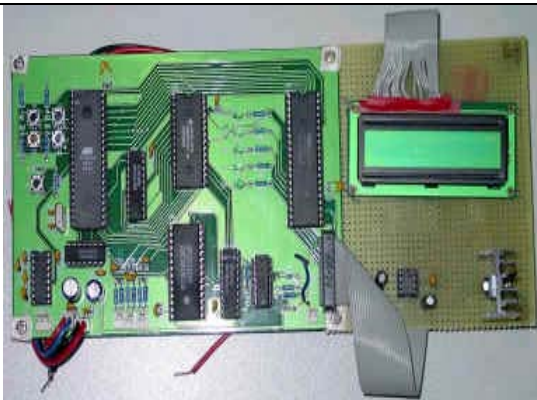
Replace mechanical components by electrical ones, design automatic controller by using MC68HC908GP32 to implement adaptive PID and fuzzy control algorithms.



Automotive air conditioning controller and test bed

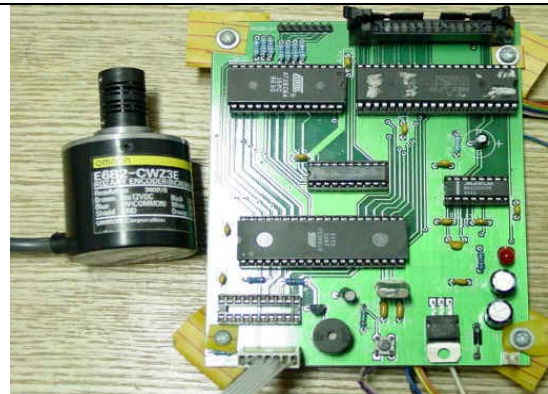


Thermal expansion valve is replaced by electrical valve driven by a stepper motor. New automotive air conditioning controller controls this new type valve and the corresponding refrigeration and air conditioning system. The test bed is to evaluate its performance.



Controller of displacement compressor

Handle an electrical magnetic valve, which adjust the volume of compressor. By measuring input/output temperatures, the controller changes the duty of magnetic valve such that the volume of the compressor is varying.



Depth measurement of oil well

Measure the depth by counting the output pulse of photoelectric encoder. The key point is to make the counter stable and accurate. Use Atmel 89C52 as processor, 74LS193 as counter.