Pornchai Chongchitpaisan : Simulation of Cooling System in Electronic Equipment.Thesis Advisors : Asst.Prof.Veera Chanvattana, Asst.Prof.Dr.Bundit Fungtammasan, Asst.Prof.Dr.Thanu Chouychai , 1989.

The purpose of this thesis is to develop a computer software package that can be used to simulate the temperature distributions of various type of electronic equipment with and/or force convective cooling. The computer program,which were developed on the basis of mostly empirical equations for various modes of heat transfer,were written on"C" and can be run on an IBM-PC-XT microcomputer with "TURBO C" compiler.

A simple experimental set up comprising a box with printed circuit box and power supply was used to verify the computer predictions. The result showed that at higher power inputs of approximately 38 watt,the predicted temperature of the circuit board surface is higher than the measured one by at most 16% . While at lower power inputs,the differences are no more than 10% . Thus the program package can be used to assist an electronic equipment designer in the design of the equipment cooling system.