Preface

Science fiction in the 1950's and 60's portrayed computers as monstrous intelligent machines with a maniacal intent to take control of the world. In reality these computers, the size of large rooms, with the intelligence of a simple adding machine, might be compared to the dinosaurs that once roamed the earth. Access to these computers was limited to specialists who took their jobs very seriously and knowledge of their operations was a mystery to all but these elite engineers. Even science fiction hadn't begun to dream of computers which could sit on the desk and serve the common man.

The late 70's and early 80's brought us personal computers which were smaller versions of these early predecessors. They introduced amazing abilities to play games, reproduce musical symphonies, and balance the family checkbook. They operated on a simple computer language called BASIC and all commands were typed into the computer. The idea of an operating system or graphical user system hadn't been conceived and "Point and click" was still just an idea in the minds of a few engineers at Xerox.

These early microcomputers were primitive by todays standards, but they provided two very important steps forward for the entire industry. First of all, they brought computing out of the laboratory, and on to the the kitchen table. Computers became accessible to even the smallest child. Secondly, these computers could be understood. In fact, they required it. It was common for groups of computer users to get together and form small local clubs to share ideas, programs, and understanding.

The last twenty years have changed the face of computing. The personal computer has become an information appliance which we use to communicate our thoughts and ideas via the Internet. Our world has become smaller as we exchange ideas with people we've never seen in countries we've never visited. Our understanding of the operation of the computer surpasses anything we've known in the last forty years and now anyone can own and operate a computer. Yesterday's technology now resides in pocket mp3 players and microwave ovens.

We have advanced so far and yet the understanding of how the computer works has become lost knowledge. It is no longer a necessity to understand much more than how to move a mouse across the desk, point and click. Without our realizing it, the computer has once again become a mysterious machine with the only difference being its size and price. If we need additional features we drop in a card. If it breaks we throw it away. We are dangerously close to a time where the understanding of computing design becomes as much as mystery as how the great pyramids were built.

It is my hope that "Designing Your Own Microcomputer" will help take us back to the simple days of computing, while introducing a new generation to the concepts behind the technology.

Jeff