The Hewlett Packard LaserJet Printer Handbook

Alfred E. Poor II

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Contents

Introduction

Why this book?

If you have a LaserJet, you probably know some of the information in this book already. If you are thinking about getting one, then this information may help you make up your mind. In either case, you will find a treasure of details, explanations, tips, and tricks designed to help you get the most out of your investment.

When I started this book, there were three different LaserJet printers. The original LaserJet created a revolution in microcomputing. The LaserJet Plus added memory for advanced features and power. There are thousands of each model currently in use. The third machine, the LaserJet Plus 500, provides additional paper capacity (two 250 sheet bins instead of a single 100 sheet one), but is essentially the same as the LaserJet Plus. A fourth model has recently appeared -- the LaserJet Series II (or, as I refer to it, the LaserJet II). Lighter, smaller, more powerful and considerably less expensive, it has replaced the original LaserJet and LaserJet Plus.

Overall, the four models are more alike than they are different, and thus this book covers all. Each new model represents some advancement over the preceding ones, but the commands are all the same from the original LaserJet right through the LaserJet II. As a result, I will explain the common features first, and then cover any additional advanced options in later sections.

Organization

This book is organized so that you can proceed directly to the section that contains the information you need to know now. Most people will find it useful to read the entire book eventually, but you may want to skip portions at first. Here are some guidelines to help you get the most from this book.

The first section provides some background on the LaserJet printers, and an introduction to the basic points you will need to cover in setting up your LaserJet. Since this section also includes some points on maintenance, cables, troubleshooting, and handy batch files for IBM PC compatible machines, even experienced users should at least skim this section.

The second section of the book covers the mysteries of the esoteric Escape codes. Hewlett-Packard has made a valiant effort to cover these in the user manuals, but this is a topic that often appears to be much more difficult than it looks. YOU DO NOT NEED TO READ THIS SECTION TO MAKE YOUR PRINTER WORK. This section will, however, make the technical workings of the printer more clear to you, and will help you learn to control all the different features. The section includes simple examples in BASIC that you can type in and run to illustrate the different Escape sequences. (The programs are also available on disk for $15 from Soft Industries, 92 North Summit Street, Southington, CT 06489.)

The third section shows you how to make the best use of the most popular programs, such as WordStar, dBase III, and Lotus 1-2-3. Some of these already offer some support for the LaserJet, but you will learn how to tailor each one to your individual needs.

If your program does not support the LaserJet and you do not want to deal with the Escape codes, there are dozens of programs and utilities to make the process easier. The last section reviews a representative sample of these. Some are designed to work with a specific program, like WordStar, while others are general purpose tools. This section will help you find out which ones are worth your money and time, and what you can expect from them.

This book has something for everyone, from novice to expert; it is designed to help you get the most out of this outstanding printer. With this book and some time to practice and experiment, you should be able to produce the type of printed output that you expected when you first bought your LaserJet.

PART I

Getting to Know the LaserJet

Chapter 1

A Brief History of Printed Communication

From our earliest days as hunters living in caves, we have looked for ways to record our thoughts and experiences. Pictures made with colored powders on cave walls were one of the earliest technologies, followed by scratches on clay tablets. Over the centuries that followed, innovations revolutionized the process of recording ideas: paper, moveable type, and typewriters.

With the advent of microcomputers, we have made it possible for one person to generate reams of printed paper. Until recently, all the popular printers were based on technology similar to the early teletype machines. Whether daisywheel or dot matrix, they accept individual characters a line at a time from the computer, and print them out on the paper. Some can print back and forth, to save time, but they still only can print one line at a time. There are limits to the speed these machines can achieve. They tend to be a bit noisy, since most are based on a similar technology: banging a pin or type element into an inked ribbon to transfer an image onto the paper.

The Light Fantastic

In 1984, the world of microcomputer printers changed dramatically. Hewlett-Packard and Canon teamed up to create a new breed of printers: the laser printer. This new printer was substantially different in two major ways. It waits until it has a full page of text, rather than just a line, before it prints. As a result, it is referred to as a "page printer," rather than the traditional "line printer." The other difference is that the image is formed by light from a small laser instead of the physical impact of something striking an inked ribbon. The result is a much quieter printer than the popular dot matrix and daisywheel designs. The bottom line is that you get a blazingly fast printer that makes less noise than most copy machines.

This new technology pays other dividends as well. Until now, you had to choose between graphics and letter quality. Daisywheel printers use fully-formed characters to produce high-quality print, but they are slow and cannot produce graphics. You are also limited to the characters available on a single printwheel.

Dot matrix printers can produce individual dots to make characters and graphics images, but they do not equal the fully-formed character quality since most have a resolution of only 150 to 200 dots per inch. They can produce different character types, but the variety is not very valuable if you cannot get adequate print quality.

Both dot matrix and daisywheel printers are designed to handle either cut sheets or tractor feed paper. Tractor feed paper is essential for long runs or where careful alignment is required (such as preprinted forms). Cut sheet paper is better for individual pages like letterhead. Unfortunately, while tractor feeds are inexpensive and reliable, cut sheet feeders are just the opposite.

The LaserJet responds to all these areas. It is technically a dot matrix printer, since its images are composed of tiny dots. Since the resolution is 300 dots per inch (vertically and horizontally), it produces characters that are nearly indistinguishable from fully-formed print. It also can make graphics with this same high resolution, which surpasses just about every dot matrix on the market. As for paper handling, it uses a paper cassette like a desktop copier, so it does an excellent job of feeding cut sheets. You can thus use letterhead and plain sheets with equal ease, without having to switch between tractor and cut sheet feeders. The two drawbacks are that the cassettes only hold about 100 sheets of paper, and since it does not use impact technology, you can't make carbons. There are a number of work-around solutions for these problems, which you will find later on in this book.

Blazing speed, near-typeset quality text and graphics, and silent operation all add up to an outstanding printer. The next chapter reviews some of the basic concepts that you need to know to set up and operate the printer.