

Printers

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I. SURVEY OF PRINTER TECHNOLOGY

A. Introduction

Modern printing systems for computer output and office applications are generally divided into impact and nonimpact technologies. Impact technologies, including the conventional typewriter and pin printers that form characters as matrixes of dots, tend to be configured for low-end needs, for inexpensive hardware where slow print speeds are acceptable. Because the dots or characters are formed mechanically, there are limits to opportunities for quality improvement. Concerns about noise, reliability, pictorial representation, print speed, and flexible operation have led to the evolution of nonimpact printing technologies. Most nonimpact printing technologies either were developed from the electrophotographic process (Chapter 15) or use one of many varieties of ink jet printing. Hence electrostatics plays an important role in modern nonimpact printing systems. Two other nonimpact printing techniques that rely on electrostatics are ionography and electrography. Thermally driven imaging is an important nonelectrostatic printing technology.

In this chapter, we shall review the fundamental performance issues in document and graphics printers. The two major electrostatic printing technologies, electrophotographic and continuous ink jet, will be de-