Objectives

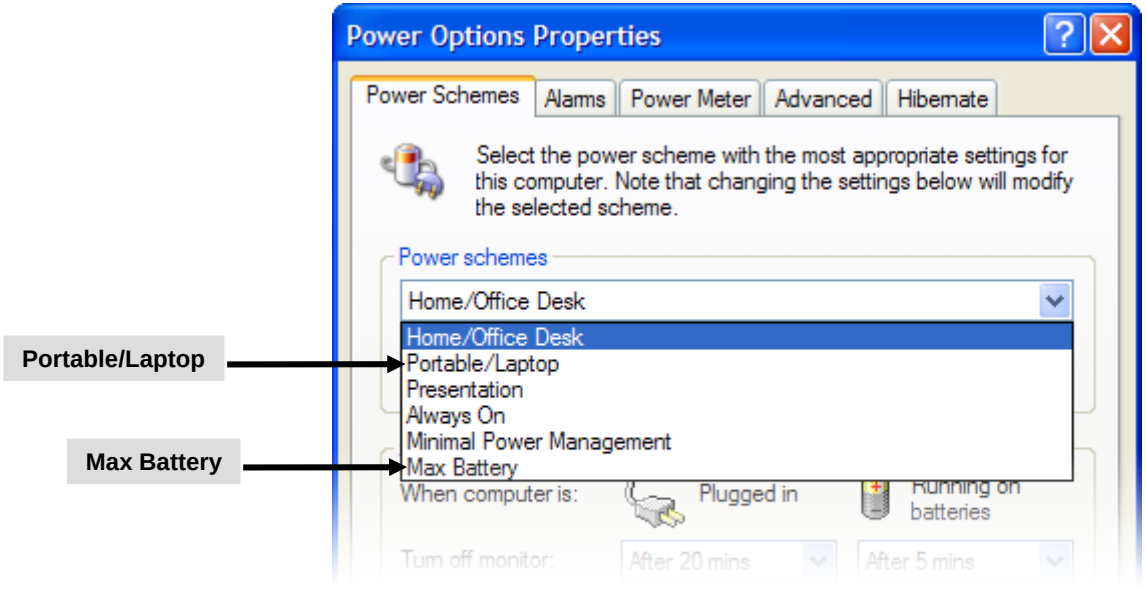
- In this session, you will learn to:
  - Install and configure laptops and portable computing devices.
  - Maintain and troubleshoot laptops and portable computing devices.
  - Identify major types of printer and scanner technologies.

Install and Configure Laptops and Portable Computing Devices

- Before installing and configuring laptops and portable computing devices, you need to understand the following:
  - Power management technologies
  - Power management modes
  - Communication connection selection tips

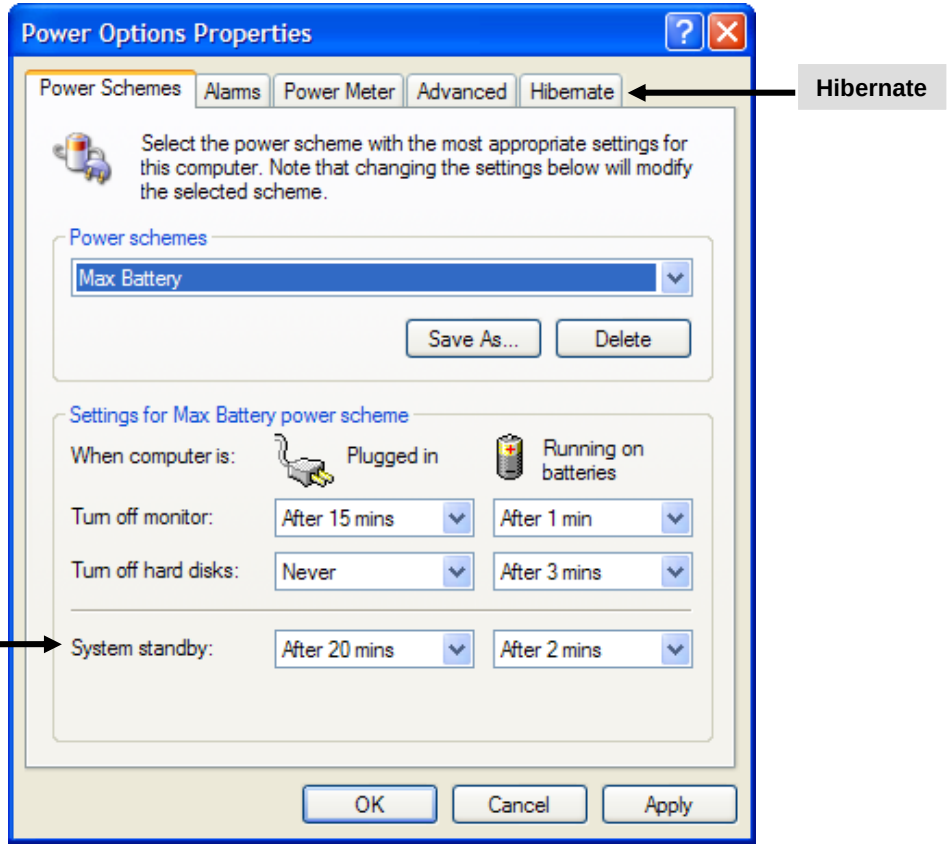
Power Management Technologies

- Microsoft Windows XP offers user configurable power schemes:
  - Portable/Laptop power scheme
  - Max Battery power scheme
  - ACPI
  - APM



Power Management Modes

- Two primary power-saving states on devices running Windows XP are:
  - Hibernate
  - Standby



Communication Connection Selection Tips

- Communication methods are:
  - Bluetooth
  - Infrared
  - WiFi
  - Ethernet WAN
  - Cellular WWAN

Activity 12-2

Activity on Configuring Power Management for Mobile Computing

Activity 12-3

Activity on Exchanging Portable Computer Drives

Activity 12-4

Activity on Docking Portable Systems

Activity 12-5

Activity on Installing PC Cards

Activity 12-6

Activity on Exchanging PC Cards

Activity 12-7

Activity on Installing a Mini-PCI Card

Activity 12-8

Activity on Adding Memory to Portable Computing Devices

Activity 12-9

Activity on Connecting Infrared Devices

Activity 12-10

Activity on Connecting Bluetooth Devices

Maintain and Troubleshoot Laptops and Portable Computing Devices

- Before maintaining and troubleshooting laptops and portable computing, you need to understand following:
  - Maintenance and handling techniques
  - Operating environment best practices
  - General mobile computing device issues
  - Common stylus issues
  - Common laptop keypad issues
  - Common wireless connectivity issues

Maintenance and Handling Techniques

- Maintenance and handling techniques are:
  - General cleaning
  - Cooling systems
  - Batteries

Operating Environment Best Practices

- You need to protect devices from following environmental factors:
  - High temperature
  - Rapid change in temperature
  - High humidity
  - Low humidity
  - High altitude
  - Radio-frequency interference (RFI)
  - Direct light

General Mobile Computing Device Issues

- Following are the general mobile computing device issues:
  - External display issues
  - Short battery life
  - Device gets hot
  - Batteries don’t charge fully
  - Laptop doesn’t work when on battery power
  - Laptop won’t turn on when connected to AC power
  - Pointing device issues

Common Stylus Issues

- Following are the common stylus issues:
  - Screen does not respond to stylus
  - Cursor is moving too fast/slow
  - Cursor does not go where desired

Common Laptop Keypad Issues

- Following are the common laptop keypad issues:
  - Nonstandard key placement
  - Function keys
  - Numeric keypad
  - Sticking keys
  - Keyboard too small

Common Wireless Connectivity Issues

- Following are the common wireless connectivity issues:
  - Poor reception
  - No reception

Printer and Scanner Technologies

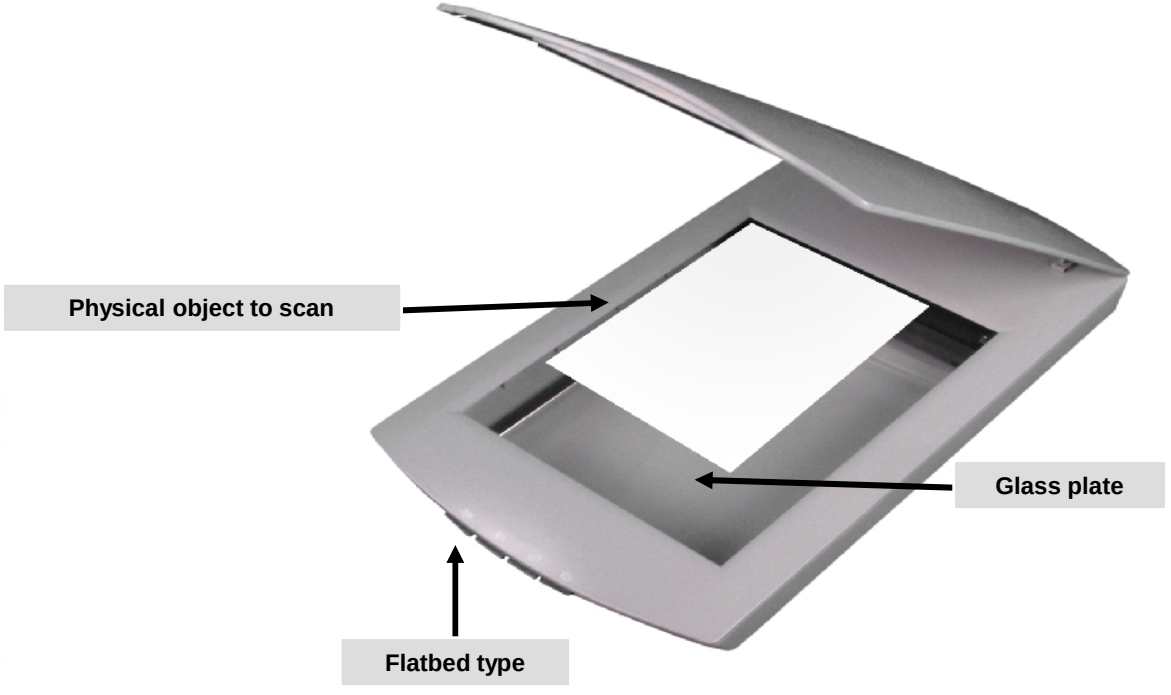
- Before learning printing and scanning technologies, you need to understand following:
  - Printers
  - Scanners
  - Multi-function Devices
  - Laser Printers
  - Inkjet Printers
  - Thermal Printers
  - Types of Thermal Printers
  - Solid Ink Printers
  - Impact Printers

Printers

- A computer printer:
  - Is an output device.
  - Helps produce text and images from electronic content onto paper.

Scanners

- Scanners is a device that:
  - Helps creates a two-dimensional digitized image of a physical object and saves as a computer file.
  - Helps display, edit, or print saved files.



Multi-function Devices

- A multi-function device:
  - Is a equipment that performs the functions of a number of other specialized devices.
  - Include printer, scanner, fax, and copier functions.

Laser Printers

- A ***laser printer*** is a printer that forms high-quality images on one page of paper at a time.
- Following are the components of laser printer:
  - Toner cartridge
  - Laser scanning assembly
  - High-voltage power supply
  - DC power supply
  - Paper transport assembly
  - Electrostatic Photographic drum (EP drum)
  - Transfer corona assembly
  - Fusing assembly
  - Formatter board

Laser Printers (Contd..)

Printer ports

Toner cartridge

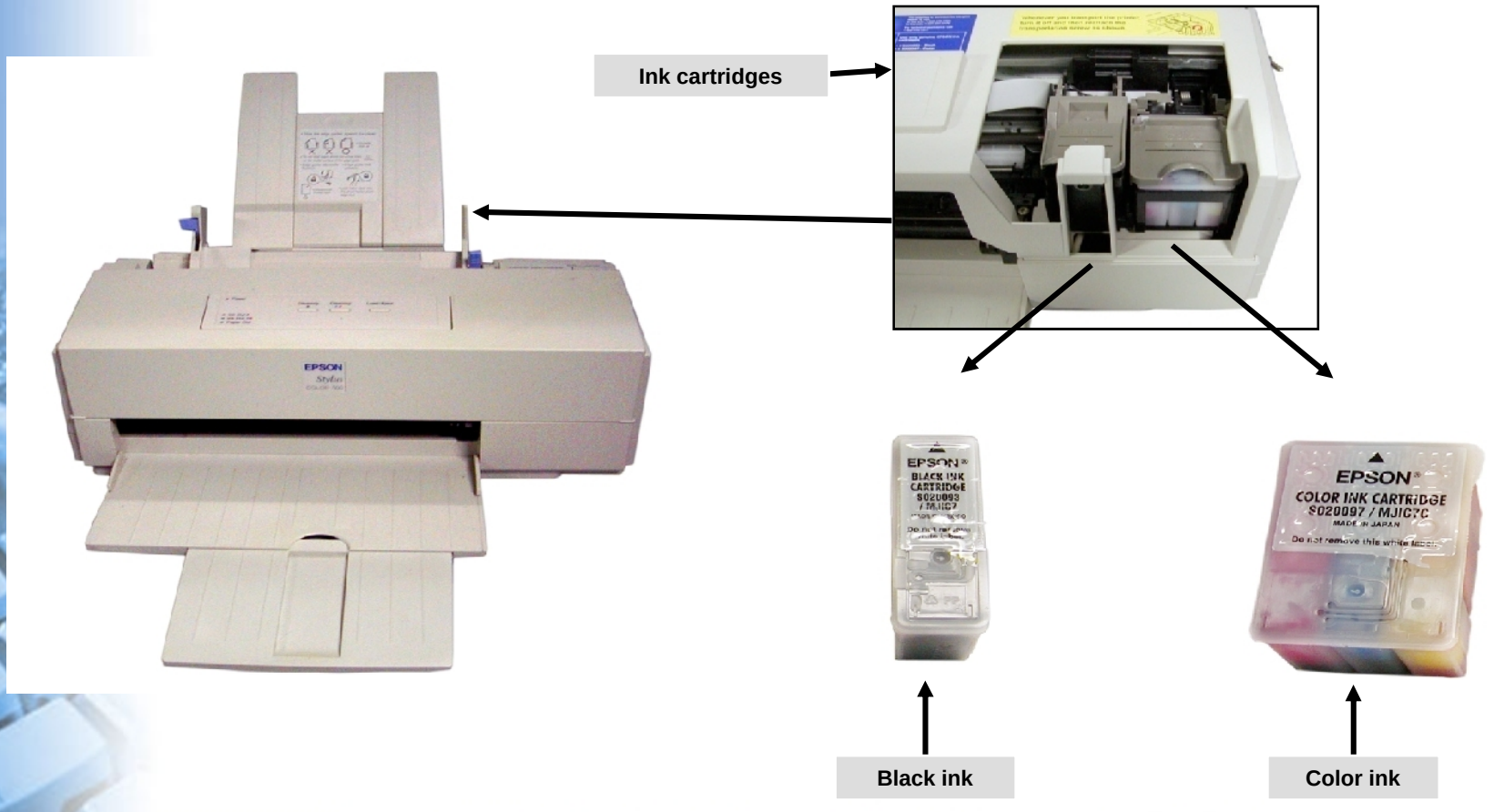
Output tray

Input trays

Input trays

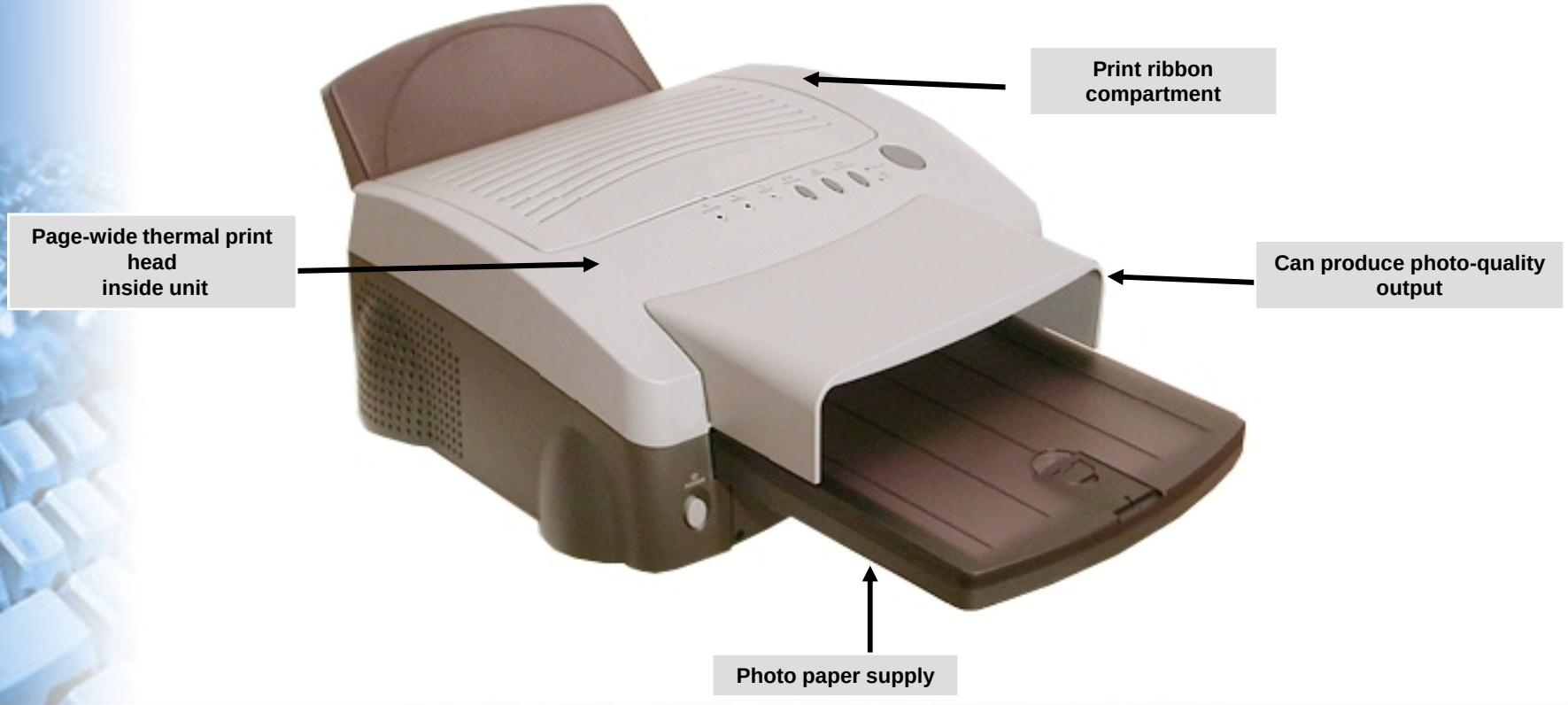
Inkjet Printers

- An ***inkjet printer*** prints images by spraying liquid ink from an ink cartridge out of nozzles aimed carefully on the paper.



Thermal Printers

- A ***thermal printer*** is a general term for any printer that uses heat to create the image on the paper with dye or ink from ribbons or directly with pins.

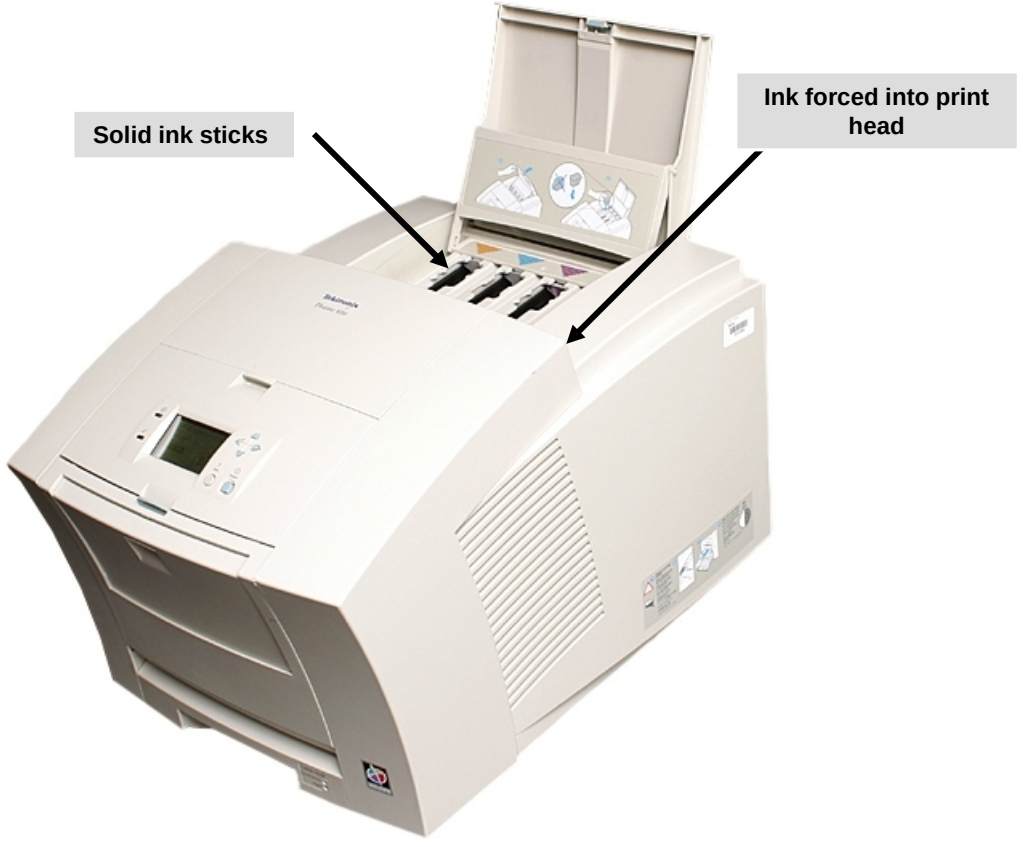


Types of Thermal Printers

- Various types of thermal printer are:
  - Thermal dye transfer printer
  - Thermal wax transfer printer
  - Direct thermal printer

Solid Ink Printers

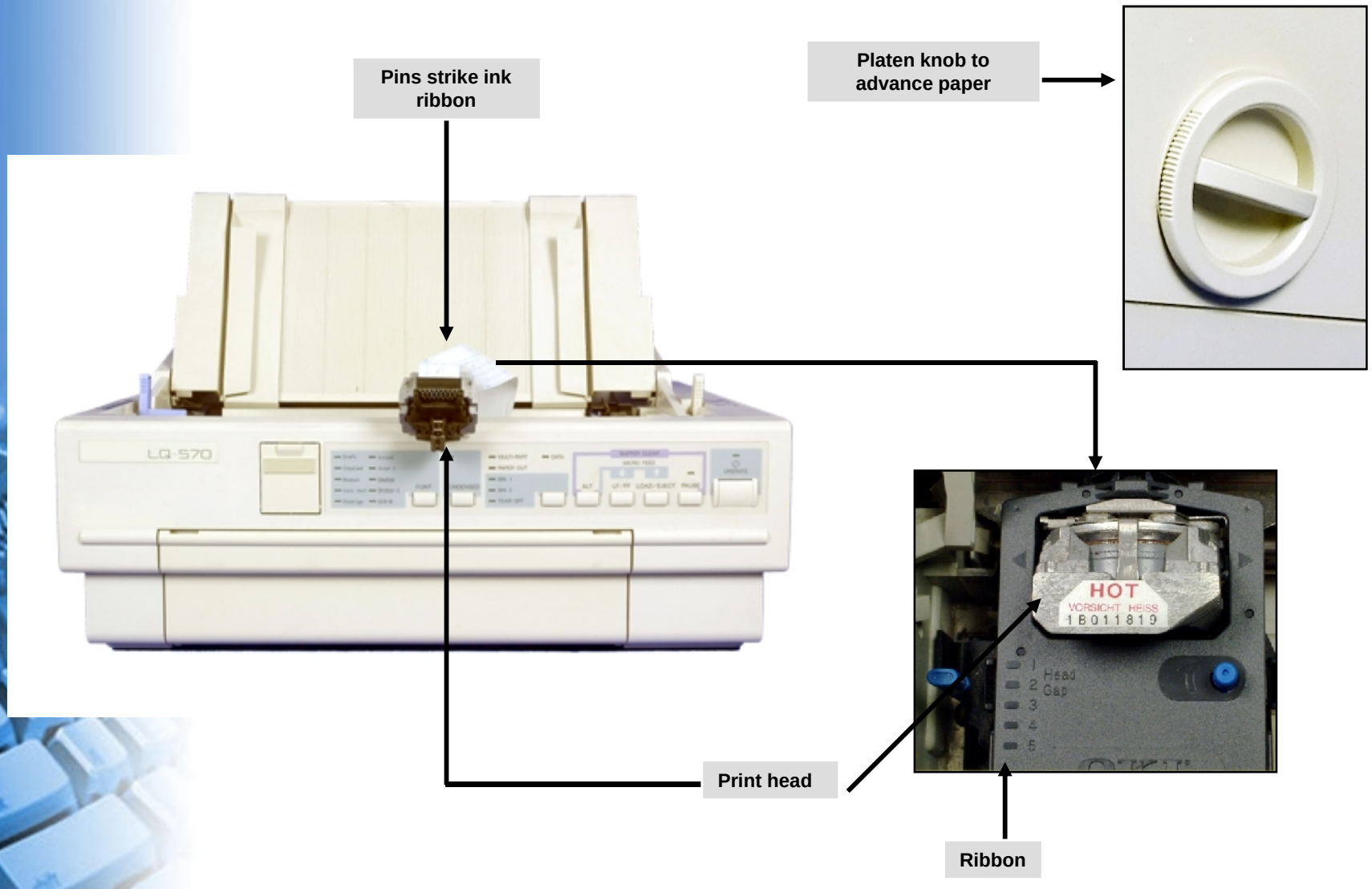
- ***Solid ink printers*** are printers that use ink from melted solid-ink sticks.



Impact Printers

- An impact printer is any type of printer that strikes a component directly against the ink ribbon to create characters on the paper.
- Various types of impact printer are:
  - Dot-matrix printer
  - Formed-character printer
  - Line printer

Impact Printers (Contd..)



Activity 13-1

Activity on Discussing Printer and Scanner Technologies

Summary

- In this session, you learned that:
  - The power management technique provides power management modes.
  - The laptops and portable computing devices have various issues related to the maintenance and handling.
  - The printer and scanner technologies provides different devices, such as laser and inkjet printers.