



It's Not Just a Label – It's Your Business

Why the right barcode label is
essential to your success



Editor

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Jody Costa joined [Barcoding, Inc.](#) as Director of Marketing in 2010. With over 10 years of experience in writing, marketing, and publishing, Costa is responsible for all strategic and tactical aspects of the marketing program.

Barcoding, Inc. is a national systems integrator, specializing in the development, deployment, and management of supply chain and mobility systems based on automated data capture and wireless technology. www.barcoding.com.



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Chapter 1: Basics and Benefits of Barcode Labels



A barcode label is essential to your business.

All label printing systems consist of three main parts: the printer, media (labels, ribbons), and design software. Matching these components properly to your application requirements will deliver the highest return on investment.

Improper use of labels or running out can result in huge productivity and profits losses. The often overlooked label is actually quite important!

Pre-printed Labels vs. On-demand Printing

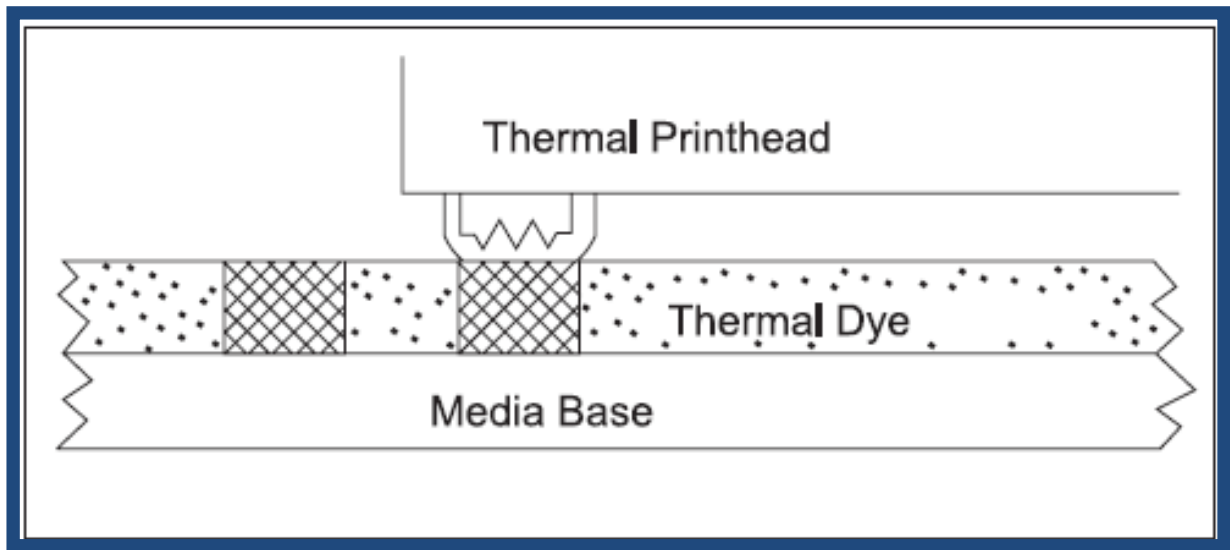
Pre-printed labels are useful when your application requires sequential numbering, multiple colors, or graphics.

Most **companies find the financial commitment of on-demand barcodes worth the initial investment** because of the added value from printing customized information on each label.

“Companies that start with pre-printed labels often discover the benefits of on-demand printing.”



Besides restricted flexibility, the use of pre-printed labels prevents companies from including variable customer data or combinations of text and barcode information.



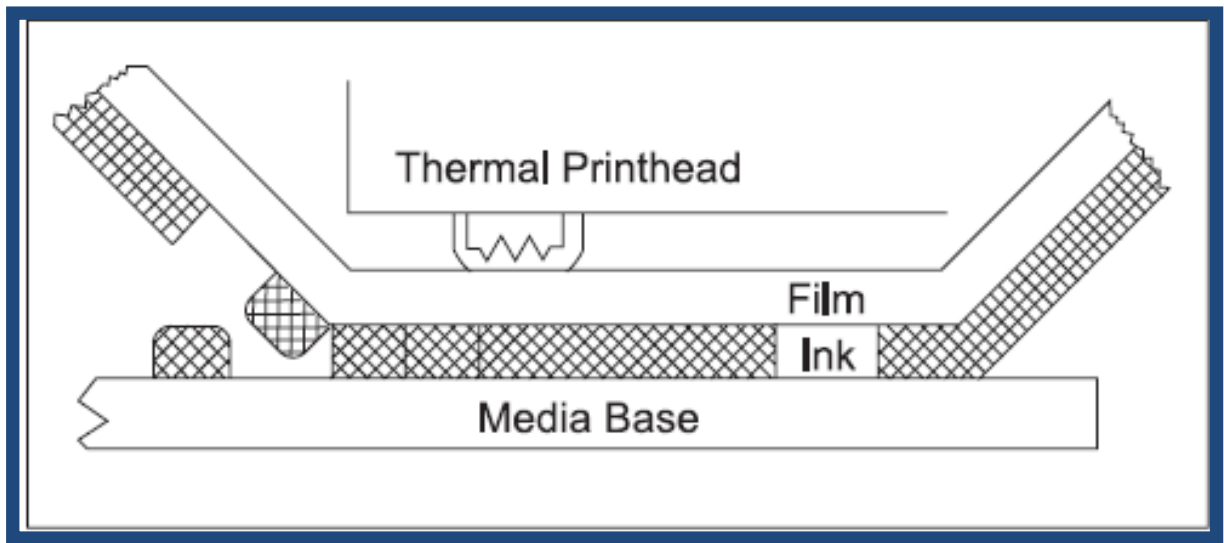
Direct Thermal Printing

Direct thermal printing utilizes heat-sensitive media that blackens as it passes under the printhead.

They print without a ribbon.

Advantages

- Sharp print quality with good scannability
- Ideal for applications requiring only a short shelf life
- Simple to operate
- Direct thermal enables batch or single label printing with virtually no waste
- Environmentally friendly with recyclable materials
- 100% duty cycle



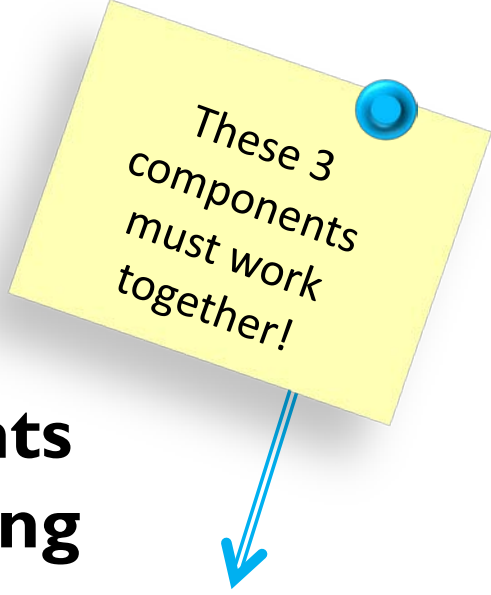
Thermal Transfer Printing

Thermal transfer printed labels are easily identified by their crisp, often glossy printed surface.

This clarity is achieved by using a thin ribbon roll that is heated by the printhead and melts onto the label to form the image.

Advantages

- Crisp, high-definition text, graphic and barcode print quality for maximum readability and scannability.
- Long-life image stability
- Batch or single label printing with virtually no waste
- Low long-term maintenance costs
- Print on a nearly unlimited variety of media stock (except multi-form)
- Built more durably than dot matrix or laser printers



These 3
components
must work
together!

What are the Components of a Barcode Label Printing System?

Barcode Printer - Selecting the correct printer comes down to your application and your need to be mobile or to use a tabletop. Options for interfaces, rewinders, peelers, cutters, and embedded fonts ensure the best configuration for your application.

Labels and Ribbon - Labels and ribbon are matched to your printer model to ensure the best print quality with minimal set-up. Another important area to be aware of is what method of printing is being performed. – wound-in or wound-out.

Barcode Software - Label design software can be as simple as manually creating static or serialized designs to fully automated print servers dynamically pulling information from a database.





Advances in enterprise barcode label printing require companies to start with their application."

KEY BENEFITS

Accuracy - Improve data accuracy to over 99% by labeling assets and inventory with barcodes and automating data collection.

Efficiency - Increase efficiency (work faster and free up employees' time) by converting manual tracking tasks into electronic, real-time processes using barcode labels.

Consistency - Ensure consistent and predictable operations for enhanced product quality by combining data management functions and preventing bottlenecks at data entry stations.

Chapter 2: Selecting Thermal Printing



Is Thermal a Proper Fit?

Your application should drive the type of printing you will do at your facility. When thinking about direct thermal or thermal transfer printers, there are several key areas to consider.

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When to Select Thermal?

1 Point-of Application System

“Point-of-application” means the printer is located where the label is applied. By printing labels on demand, thermal printers increase productivity.

Point-of-application printing is related to distributed printing, whereby printers are placed at various points throughout a facility.

2 Graphics and Scalable Text Font Sizes

Thermal printers can cleanly print any graphic image, including logos. Additionally, text fonts are “scalable,” meaning that they can be adjusted to any point size requirement.

3 Variable Data

Ideal for applications that require individual or batch labels with variable data fields that change frequently.

In such cases, thermal printers promote efficient and flexible label production with virtually no label waste.

4 Varying Label Sizes

Adapt easily to a variety of label sizes. In fact, on thermal printers with wide print widths, labels of assorted sizes can be printed at once.



When to Select Thermal?

5 High-definition Barcodes

Ideal where high-definition barcodes are required.

Barcodes printed on direct thermal printers—including complex, 2-D barcodes—offer the highest first-time scan rates of any printing technology, reducing errors and increasing productivity.

6 Compact Printers

Thermal printers are clean, quiet, and compact. Thermal printers come in three basic varieties: tabletop, desktop and mobile.

7 Low Operating Costs

Thermal printers tend to have a higher initial cost but a lower maintenance cost compared to other print technologies, resulting in a lower cost of ownership.

Lower long-term maintenance costs can quickly offset the higher initial investment.



Chapter 3: Selecting Printers



Rely on application to drive selection

Again, your type of label, unique application, and environment should drive printer selection. Resellers and systems integrators, like Barcoding, Inc., can be consulted during the process to ensure a good fit.

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To Select a Printer, Ask Yourself?

- What are the intended uses of the barcode labels?
- Where will the printers be located?
- In what kind of environment will the printers operate (temperature fluctuation, vibration, high humidity, exposure to chemicals, etc.)?
- What are the anticipated duty cycles for the printers?
- Are there any minimum speed requirements?
- What are the dimensions of the labels to be used?
- How frequently do label specifications change?
- What kind of environments will the labels be exposed to (temperature fluctuation, abrasion, high humidity, exposure to chemicals, etc.)?
- Will the printers be connected to a network or to stand-alone terminals?
- What is the budget for the project?

Top 5 Factors

1. Printer Durability
2. Print Volume
3. Print Speed
4. Label Image Durability
5. Print Width

Chapter 3: Selecting Supplies



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Choose wisely... or pay!

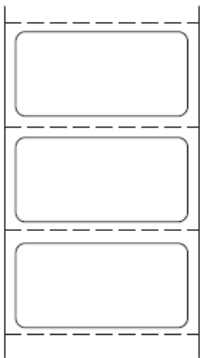
Selection of the label material depends first on whether direct thermal or thermal transfer print technology is being used.

For optimum printer performance and to extend the life of the printhead, choose the right media (or the right media and ribbon combination in the case of thermal transfer printing). Choosing the wrong media can result in poor print quality, printer malfunction, and/or frequent printhead replacement.

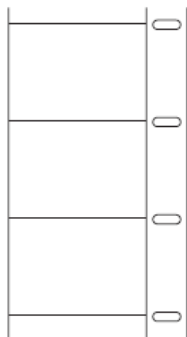
Label Varieties

Thermal printers are designed to operate with a variety of media types, including

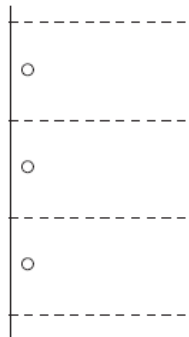
- die-cut,
- butt cut,
- perforated,
- notched,
- hole-punched
- continuous,
- receipts,
- tags,
- ticket stock,
- or pressure-sensitive labels.



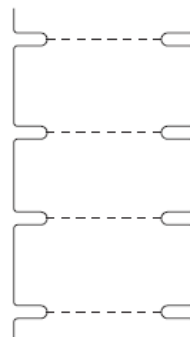
Die cuts with perforations between labels



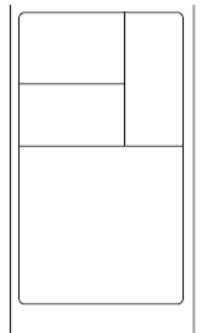
Butt cut labels with air eject slots



Hole punches and perforations



Notches and perforations



Horizontal and vertical face slits

5 Critical Factors for Label Selection for Your Application

1: Application Surface

Example: Standard permanent adhesives will never work to apply a label to an oily surface.

2: Temperature & Environment

Example: A printed circuit board manufacturer needs to make sure the label will survive the heated production process.

3: Readability

Example: There are companies that will penalize (with substantial fines) suppliers for shipments that have un-readable barcodes.

4: Ribbon Match

Example: A wax ribbon cannot be used with a polyester top coat label stock. The printing will rub right off.

5: Printhead Resolution Match

Example: Thermal printers have resolutions options of 203dpi, 300dpi, and 600 dpi. Making the correct printhead match for the application is very important.

Chapter 5: Barcode Label ROI



Barcode for increased efficiency and accuracy.

Barcoding generates a profit when it improves processes. When considering barcode implementation, every possible process improvement should be evaluated.

Obvious improvements result from replacing manual processes with barcode labels, such as placing barcodes on retail goods to spare employees from manually entering each product's price or serial number.

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Improved Inventory and Asset Management

Barcode labeling of assets delivers real-time tracking: number of each item, condition, color, features, and designated user.



Finished Goods – A Use Case

When completing the manufacturing process, companies will affix a label to the finished product, container, or pallet.

The **human-readable** portion of the label is likely to describe the product characteristics, the packaged quantity, and the names of both the manufacturer and the customer, if known.

The **barcode** contains internal information such as production line number, date of completion, materials used, serial numbers and miscellaneous quality control information.

By scanning the label in the shipping department, the company can **identify the exact inventory**, in real time, as well as the precise date and time that any product leaves the warehouse.

Remember when we said “a label is not just a label, it's your business?”

What If the Labels Aren't Right?

If you don't get your labels right and/or your labeling is sub-par or ineffective, it can have a profound effect on the overall health of your business.

Productivity and efficiency will be negatively impacted:

- Lost man hours
- cost overruns
- mis-shipments
- poor delivery and customer service

Inventory will be mismanaged, resulting in:

- **too much inventory** – and then you lose money from obsolescence, spoilage, or simply from carrying costs.
- **too little inventory** – and then your salespeople lose business for lack of ability to deliver on time.

IN SUMMARY

What Have You Learned?

1. The four parts – printer, supplies, software, and trained operator must work harmoniously together and **must be driven by your application needs.**
2. The **costs of getting the label wrong are too high** to ignore. Make sure you work with an expert to get it right.
3. When done right, **barcode labeling can profoundly improve your business**, making you more efficient, accurate, and connected.

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Let Barcoding, Inc's media experts put you on the path to a complete barcode labeling solution.

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Free
Consultation!

***“Remember, it’s not just a label – it’s your business!”
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