BARCODING
FOR SMALL BUSINESS

See if barcodes are right for your shop and learn how to get started transforming your business.

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Introduction

Barcodes are on everything from food items to hospital wristbands. They've revolutionized business since their invention in 1949, but they've been largely underutilized by the small business community.

In an internal survey, we found that 79% of small business owners don't understand barcodes enough to implement them into their business. This is corroborated by data from major search engines – more than 20 million barcode-related searches are entered into Google every year.

At OnlineLabels.com, we believe every small business owner should have the tools they need to grow their business. In this ebook, we aim to provide that understanding and empower the modern small business owner to improve efficiency and take the next big step toward barcoding products and inventory.

2 Understanding Different Types of Barcodes

What is a barcode?

A barcode is a visual representation of data. It's most commonly displayed as a set of parallel lines, sometimes set above a series of numbers, letters, and/or characters. Machines decipher these visual guides and use them to complete tasks, like tracking or cataloging items.

Today, barcodes are used throughout the supply chain and across various industries.

Types of Barcodes

There are over a dozen types of barcodes serving different purposes and systems all over the world – some of which are more recognizable than others. The most popular types of barcodes include: UPC barcodes, Code 128 barcodes, EAN barcodes, Code 39 barcodes, Interleaved 2 of 5 barcodes, Codabar barcodes, and PostNet barcodes. They fall into three main categories: barcodes for global retail, barcodes for in-house retail, and barcodes for specialized use.

UPC-A
0 12345 67890 5

UPC-E
0 123456 5

Code 128
ABxy12$

EAN-13
0 012345 678905

EAN-8
0123 4565

Code 39
ABC123

Interleaved 2 of 5
0123456789

Codabar
12345

PostNet

BARCODES FOR GLOBAL RETAIL

There are two main types of barcodes used across the world for point-of-sale products: UPCs (Universal Product Codes) and EANs (formerly European Article Numbers, now International Article Numbers).

UPC barcodes are used by countries like the US, Canada, UK, and Australia. You may recognize the UPC-A and UPC-E variations as they're used on most major retail products. UPC-A is the standard version, containing 12 numbers. UPC-E barcodes are condensed versions for smaller products and contain only 6 numbers.

EAN barcodes, on the other hand, are used in most of Europe, Asia, Africa, and Latin America. It's customary to use the EAN-13 barcode (comprised of 13 numbers) or the EAN-8 barcode (compressed version containing only 8 numbers).

Both UPCs and EANs belong to a database regulated by a global organization called **GS1**.

GS1 is a not-for-profit organization that develops and maintains global standards for business communication. When it comes to barcoding, they assign each company a unique identification number. That number is then used as the prefix for all of the subsequent barcodes. The remaining numbers included on barcodes are used to identify the individual products.

Once the code is generated, it's logged into GS1's system to be read and recognized by point-of-sale systems anywhere in the world.

To keep the system organized, UPC and EAN barcodes can't be created by anyone but GS1. That makes the process of UPC and EAN barcoding very costly. You have to pay for your unique company prefix (an annual expense) and the number of barcodes you want. This is typically a barrier to entry for many small businesses. Most opt to make this investment only when they're on the verge of retail distribution.

BARCODES FOR IN-HOUSE RETAIL

There are two main types of barcodes used with internal inventory and point-of-sale systems: Code 39 and Code 128 barcodes.

Code 39 barcodes are also known as USD-3 and Code 3 of 9 barcodes. They allow numbers, uppercase letters, spaces, and the following symbols: . $ - + % /. Unlike UPCs and EANs, there is no character limit for Code 39 barcodes, so they can be as short or long as necessary to store the required information.

Code 128 barcodes utilize a larger selection of characters compared to Code 39 barcodes. They use upper and lowercase letters, punctuation, numbers, and the following symbols: ! @ # $ % ^ & * ( ) - _ + = [ ] \ : ; " ' , < . > / ?. Code 128 barcodes also maintain no character limit.

Both Code 39 and Code 128 barcodes can be created by individuals. All you need is a naming convention (we expand on this later in the ebook) and an inventory list or point-of-sale system where you assign codes to products.

Neither Code 39 nor Code 128 barcodes are regulated by organizations or logged in national/international databases. They point solely to your personal database and therefore will not pull up your product information on another system.

BARCODES FOR SPECIALIZED USES

The remaining barcodes are equally as popular, but have very specific applications.

Codabar barcodes are used predominantly in logistics-based operations like libraries, shipping companies, blood banks, and photo labs. Also known as Code 2 of 7, these barcodes use numbers, letters A-D, and the following symbols: . $ - + : /. Other barcode types today are able to carry more information, but Codabar barcodes remain popular in these industries because they are easily printable. Anything from dot-matrix printers to typewriters can create Codabar barcodes.

Interleaved 2 of 5 barcodes (or ITF barcodes) are comprised of numbers only and must include an even number of digits. Each set of digits combines to create a piece of the visual barcode. These barcodes can often be seen on corrugated boxes containing packaged products.

Note: ITF barcodes are not to be confused with ITF-14 barcodes. ITF-14 barcodes are regulated by GS1, the same way UPC and EAN barcodes are. Standard ITF barcodes are not regulated or catalogued in a database, allowing you to create your own for internal/small-scale use.

Postnet (Postal Numeric Encoding Technique) barcodes may not sound familiar by name, but they have a distinct visual appearance that's instantly recognizable. Postnet barcodes are the long barcoded strips that come printed on mail delivered through the United States Postal Service. The series of different sized bars are used to encode ZIP code information for postal service automatic mail sorters.

QR (Quick Response) codes are different from the other barcodes included in this list in that they're 2-dimensional. While the barcodes discussed up to this point have all been horizontal in nature only, QR codes are squares – the data is stored both horizontally and vertically. This means they can hold substantially more data. Another difference between QR codes and traditional barcodes is their use as a customer-facing tool. Brands have been using QR codes as another way to give customers information. They can contain unique content such as contact information, text, and web addresses.

Frequently Asked Questions

Don't stress when it comes to barcoding. Here are answers to some of the most commonly searched questions.

ARE BARCODES UNIQUE?

UPC, EAN, and ITF-14 barcodes are unique to specific products. Because they're created as part of a universal database, they pull the same result every time. Without a database association, most of the other barcode types aren't unique. This includes Code 39, Code 128, and ITF barcode types. They can be created by different people to identify various products.

ARE BARCODES AND UPC CODES THE SAME?

UPCs are barcodes but barcodes are not necessarily UPCs. The scannable barcode lines are simply a machine-readable representation of the UPC data.

ARE BARCODES A LEGAL REQUIREMENT?

Barcodes are not required by any governmental body, but they're likely a qualification by vendors to sell in a retail environment. Products in shopping giants like Walmart and Target are all barcoded. Amazon also uses barcodes in their ecommerce operation.

CAN BARCODES BE DIFFERENT COLORS OR DESIGNED?

There's a decent amount of leeway with barcode design. As long as your combination includes colors with high enough contrast, it should be scannable. Try the original white background with black, blue, or green text. Or switch up the background color instead – red or yellow are alternates. Low-contrast combinations to avoid include red on green, black on brown, or yellow on white, for example.

As for the design, there's even more room for creativity. Only a small section of the barcode is actually needed for scanning. This means you can create fun shapes or interrupt the lines with other design elements.

CAN BARCODES HAVE LETTERS?

Certain barcode types can utilize letters, like Code 39 barcodes. However, the most standardized options, like UPC and EAN, are strictly numeric.

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Barcoding for Small Businesses

When do you know if your business is big enough to need barcodes? What does it take to add them to your existing inventory or checkout system? What are the costs and tangible benefits? While every case may be different, these answers can help point you in the right direction for your business.

Do I need barcodes for my small business?

Unless you're selling in a retail market (and by that we mean "big box stores" like WalMart and Target), barcodes are completely optional. You might consider implementing a barcode system into your small business if:

- You run a product-based business

- You manage a lot of inventory

- You need more accurate inventory counts

- You have multiple retail or storage locations

- You need to track moving pieces

- You work with other vendors

- You want to prepare for growth

- You're not the only employee

- You want to speed up customer checkout times

- You want to appear more professional

How do barcodes help?

Here are the top four ways barcodes can improve your small business.

1. REDUCED RISK OF ERROR

Manually typing a series of letters and numbers into a computer leaves your business vulnerable to inaccuracies. Every time you need to ring up a customer, track a package, or log inventory, you run the risk of hitting the wrong key on the keyboard. With manual data entry, the average person makes **1 error every 300 characters**. Compare that to the accuracy rate of barcode scanners – 1 error every 36 trillion characters. Can your business afford to take that risk?

2. TIME SAVINGS

Data entry is a slow process. Think of the time it takes for your brain to do something versus the speed of your computer. While in small batches the time difference may be negligible, accumulated over hours or even pay-periods, that time will add up and could be put to better use. This can also be of utmost importance to your customers. Hand-keying products at checkout costs them time as well. Is their time worth the investment?

3. LOWER OPERATIONAL COSTS

The popularity of barcodes has generally lowered the cost of the required equipment. As a one-time upfront cost, barcoding becomes less expensive than paying staff to execute the same tasks week after week.

You may also see this benefit with regards to your overhead. More accurate data can help you reevaluate your expenses. If you're paying for warehouse space, for example, overestimating your inventory could be costing your business unnecessary money.

4. EASE OF UPDATING PRICING

Updating product pricing can be a time and labor-intensive process if your items have price tags affixed to them. Instead, display the price on the product's shelving or as signage and use barcodes on the actual products. This method requires much less work when prices change. Instead of changing out each price tag, you'd make the change once to your barcode database and to the one piece of pricing displayed near your product.
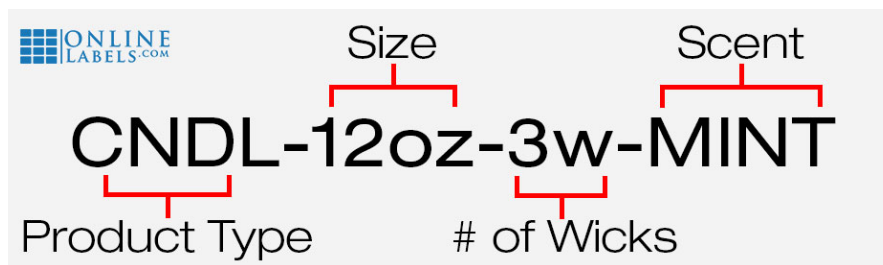
What does it take to implement barcodes?

Barcodes can be relatively painless and affordable to implement. You'll need:

NAMING CONVENTION

You'll need to create codes to identify each of your products. These should include details like size, shape, material, color, type/category/department, vendor/manufacturer, warranty, and quantity. We go into detail on this topic later in the ebook.

Initial time investment: 1-3 hours | Rough cost: $0

BARCODE GENERATOR

Once you have your product names, you can begin creating your barcodes. While you can download barcode fonts, online generators can be easier. All you have to do is enter in your code and download your barcode for printing. Use our **free barcode generator tool** to create single barcodes or our **Barcode Guide** to generate multiple at once.

Initial time investment: 1 hour | Rough cost: $0

3. Barcoding for Small Businesses

LABEL PRINTER

If your home or office already has a working printer, you're all set – most standard inkjet and laser models can print barcodes. If you're in the market for one, **evaluate your options**. Desktop printers work great for small batches whereas dedicated label printers are ideal for larger operations.

Initial time investment: 30 minutes | Rough cost: $30-$150

BARCODE LABELS

Barcodes come in variety of standard sizes. Depending on your printer type, you can shop **barcode labels on sheets or rolls**.

Initial time investment: 10 minutes | Rough cost: $10+

BARCODING SOFTWARE

You need a system that will interpret your product codes and translate them back to you. While programs like Microsoft Excel might be great for cataloging, they aren't ideal for other processes like inventory management. **Browse top software systems**.

Initial time investment: 3-5 hours | Rough cost: $0-$4,000

BARCODE SCANNERS

The software doesn't work without the hardware. You'll need to invest in at least one barcode scanner to read your barcodes and communicate with your program. Luckily, these can be relatively affordable. Shop the **top 10 barcode scanners**.

Initial time investment: 15 minutes | Rough cost: $20+

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How to Create & Print Barcodes for Your Business

Whether you want to better manage your inventory or speed up checkout times at the register, barcodes can be a great business resource.

How do I create the codes for my barcodes?

Before you can create the graphic part of the barcode, you must first come up with the codes within them. Also known as SKUs, product codes, or item numbers, these codes should describe each of your products in a condensed version of letters and numbers.

When formulating your naming convention, here are a few things to keep in mind:

- Figure out which type of barcode you'll be using before creating your product codes. Different types of barcodes accept different characters which could alter or invalidate your naming convention.

- Think about what pieces of information are important in telling your products apart. This could include size, shape, material, color, type/category/department, vendor/manufacturer, warranty, quantity, etc.

  + Consider the future of your product line in this stage. You don't want to pick something too small that your business will quickly outgrow. For example, just because you're only selling one color now doesn't mean you shouldn't include the color in your product code, you may have more colors down the line.

- Create a standard formula. Each code should follow the same format – size first, then shape, then color, for example. Once you become familiar with the format, it will be easy to tell your products apart just by looking at the codes. More importantly, this is critical for scaling your naming convention as your business and product offerings grow.

- Avoid letters and numbers that can be easily misread. This isn't exclusive to handwritten information – it applies to printed content as well. Some of the most commonly confused letters/numbers include: zero and capital O; one, capital I, and lowercase L; Z and two; and T and 7.

- Abbreviate when you can. Instead of spelling out "small," simply use the letter "s." This will keep your product codes short.

- Once you've created a system, make sure to document it somewhere. You'll also want to keep a running list of all the product codes and their associations.

How do I create the barcode?
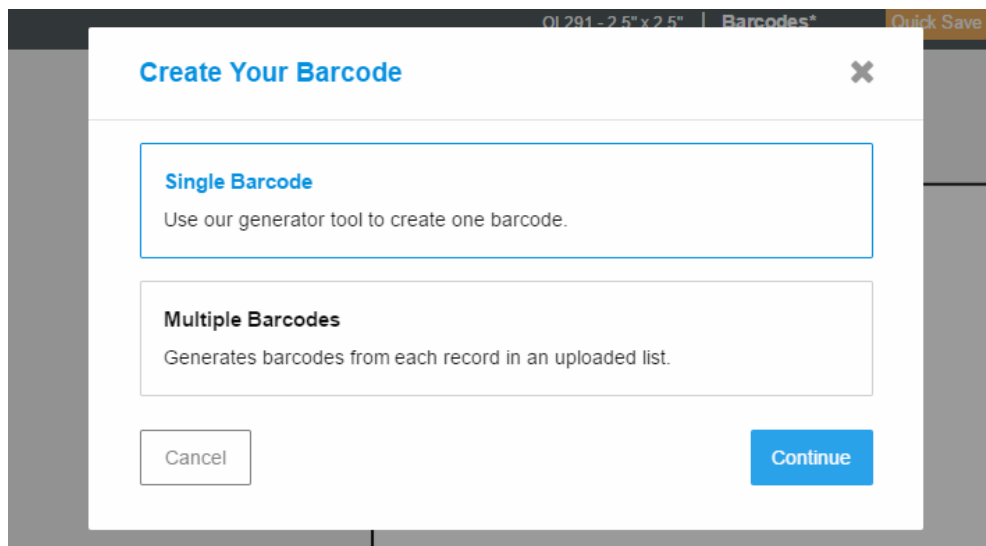
Once you have your barcode's codes, it's time to create the graphic. Listed below are two free barcode-creation programs. The first is designed for users creating one barcode at a time. The latter is designed for businesses.

INDIVIDUAL BARCODE GENERATOR

If you only need to make one barcode, try our **free barcode generator**. Choose the barcode type that best suits your needs and enter in your information. Adjust the output settings so you receive the barcode you're looking for. The generator will produce a .png image file you can use with **Maestro Label Designer** or other design applications.

BULK BARCODE GENERATOR

Interested in creating a series of barcodes instead of making them one-by-one? You can create a data list with your barcode combinations and use Maestro Label Designer to **generate a series of barcodes**.

What do I do with my digital barcode(s)?

Once you have your .png barcode graphic, there are a couple of steps you can take. Depending on the size of your product line and operation, you can either incorporate it into your packaging or print the barcode separately and affix it with a label.

In either case, Maestro Label Designer is perfect for working with barcodes. It has all the capabilities of your typical barcode generator plus those of label design software. **Learn how to upload your barcode.**

How do I design barcode labels?

Because your barcodes are being read by scanners as opposed to people, they need to be designed for maximum scannability. Here are some design rules and tips to keep in mind when designing your barcode labels:

- Choose colors with high enough contrast. You want the background to reflect light and the bars not to – that's why white backgrounds with black text work so well. However, you can utilize other label and ink colors (just stay away from transparent label materials!).

- Size matters. Certain barcodes have minimum and maximum size limits. UPC-A barcodes, for example, only work between 80% and 200% their size. Print and scan your barcode on regular paper or a test label to ensure scannability.

- Make sure you're using a high-resolution image so your barcode prints clearly and can be easily scanned. Blurry or low-resolution images are harder for the scanner to read.

- Add a color-coding scheme to your barcode labels to help with organization. You can brand them, too.

- Don't print to the edge of your label. Scanners may have difficulty reading barcodes that print too close to the edge.

What type of labels do I need to print on?

You can print barcodes on label sheets or roll labels. Label sheets can run through your standard desktop printer whereas roll labels need dedicated roll printers. **Find out which printing method you need for your operation and application.**

As for material, we recommend any of our white labels for optimal scanning. If your labels may come into contact with liquid or moisture, we also offer **weatherproof/waterproof materials**.

How do I print my barcodes?

Once you have your printer type figured out and your labels in-hand, it's time to get to printing. You can choose to print your barcodes on an as-needed basis or print an entire set at once. Once you have your file, you can do what's easiest for you.

Follow the steps **in this tutorial** if you're interested in printing only a few labels at a time.

Can I order them printed?

Absolutely. Use our printed barcode tool to simplify the process. We'll walk you through selecting a size, layout, material, and more. Within days of placing your order, sheets of printed barcodes will arrive at your door. **Learn more**.

Where do I apply my barcodes?

Your barcodes should be placed in a clear, consistent, and conspicuous spot. Before you apply them, read these tips:

- Place at least 8mm from a seam or packaging fold. Barcode scanners can't read the codes around corners.

- Find a smooth or consistently curved surface for application. Inconsistently curved surfaces will give the scanner a hard time.

- Follow the direction of the barcode. Certain scanners work best with particular orientations.

Conclusion

Barcoding is a big step, but it doesn't have to be a difficult one. We hope these FAQs and their answers help you feel confident as begin to create, print, and utilize your own barcodes.

Have questions about your unique situation? Our customer service team is happy to help. Give us a call at **1-888-575-2235**.

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