

# How Do I Get a Barcode for My Product?

This article explains in simple terms how to go about obtaining a barcode for your products. If you have any questions, would like to relate your experiences or have any recommendations for improvements to this article then please participate online at:

<https://www.facebook.com/onlinebarcodegenerator>

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## Step 1 — What type of symbol?

The first thing that you will need to do is to determine which type of barcode you need based on what the product is that you are intending to sell. There are several types of barcode symbols that can be used at retail point of sale so read through this section and decide which one you will need.

**UPC** — Universal Product Code



UPC-A



UPC-E

UPC-A is used mainly in the USA and Canada for all types of trade items. If you are selling your product in these countries you will probably want to obtain a UPC-A. Besides the USA and Canada the UPC can be read by all countries that have adopted the newer EAN barcode, described next. (The reverse is not necessarily true: A very small number of US and Canadian stores may still have legacy systems that are unable to process an EAN despite the fact that these should have been phased out prior to 2005.)

A UPC-A is made up of twelve digits where the first six to nine digits are known as the prefix (containing the manufacturer's identification number) and the remainder is the item reference number and a check digit. A unique prefix will be allocated to you if you choose to register with GS1 (described in step 2).

If your product is very small making the space for a barcode limited you may need a UPC-E symbol. This is a smaller symbol containing only eight digits that is able to represent specific twelve-digit numbers that contain runs of four or more "0"s. If any of your UPC numbers have runs of four or more "0"s then you may be able to automatically use a compact UPC-E symbol to represent these.

**EAN** — International Article Number (formerly European Article Number)



EAN-13



EAN-8

EAN-13 is the most common barcode used on all trade items throughout Europe, Australia, Asia and South America. Unless you are selling your product in the USA or Canada (in which case you might consider a UPC) you will need an EAN barcode. They are sometimes referred to a Japanese Article Number in Japan.

Made up of thirteen digits the EAN-13 barcode is separated into different parts: a prefix (containing a country identifier and a manufacturer identifier), an item reference number and a check digit. A unique prefix will be allocated to you if you choose to register with GS1 (described in step 2).

If your product is very small and space for a barcode is limited you may need an EAN-8 symbol which requires a distinct eight-digit product identifier which must be obtained separately to any EAN-13 numbers you may have. Unlike with UPC symbols you cannot convert an EAN-13 into an equivalent EAN-8. (Technically speaking, EAN-13 and EAN-8 represent two distinct global trade item numbering systems called GTIN-13 and GTIN-8 respectively whereas UPC-A and UPC-E both represent a single trade numbering system called GTIN-12.)

If you are selling the same product in the USA or Canada in addition to other countries then you should probably just use a single UPC barcode everywhere rather than produce designs that include both a UPC and EAN. UPCs have always been accepted universally — in fact a UPC is technically an EAN-13 with a country code of "0".

**ISBN — International Standard Book Number**



ISBN



ISBN with price



Legacy 10-digit ISBN  
(No longer for use at P.o.S.)

This registration number is a unique numerical identifier for books. If you want to sell any book through bookshops or online you will need to obtain an ISBN.

The ISBN is a thirteen-digit identifier including dashes that separate the EAN part (originally the humorous pseudonym Bookland for country code "978", although others now exist), the spoken language group (country or territory), the publisher identifier, the title identifier and a check digit.

It is represented by a special type of EAN-13 barcode symbol which includes the ISBN number printed in human readable form along the top. The ISBN number (without the dashes) is encoded directly within the barcode symbol.

There is a recommended five-digit add-on code which encodes the retail price of your book which can be placed next to your barcode. The first digit will represent the currency (for GBP the number is "0" or "1", for AUD it is "3", for NZD it is "4", for USD it is "5" and for CAD it is "6") then the remaining four will be the price of your book. For example, if your book is £5.99 your five digits would be "00599".

ISBN numbers used to be ten digits long until 2007 when they changed to thirteen digits. If you were assigned ten-digit numbers years ago it is always possible to convert them to the current thirteen-digit format, however you can't simply add three leading digits as the final check digit will also need to be recalculated. Thankfully you can either use an online converter or simply use a barcode generator that takes care of this for you such as my [Online Barcode Generator](#). When converting you will see that your barcode's EAN-13 symbol remains unchanged however the human readable text above it is reformatted to be consistent with the new ISBN format.

### ISSN — International Standard Serial Number



The ISSN was created as a unique and brief identification code for serial publications such as magazines and journals. If you want to sell any periodical through bookshops or online you will need to obtain an ISSN for each distribution medium such as print and electronic.

The ISSN is only eight digits long (seven digits plus a check digit which can be "X") separated into two four-digit parts by a dash.

It is represented by a special type of EAN-13 barcode symbol which includes the ISSN number printed in human readable form along the top. The ISSN number (except for the dash and check digit) is encoded directly within the barcode symbol along with the EAN part (a special country code of "977"), the two-digit sequence variant and an EAN check digit. The barcode symbol often includes an optional two- or five-digit add on representing the issue number.

If the price, size or even the publisher of your serial changes you can keep the same ISSN, however you should change the sequence variant within the EAN as not all point of sale systems will read the issue number add on but will still need a way to differentiate your works. The two-digit sequence variant normally starts at "00" and is increased by one, but there is no hard and fast rule. You should not change the sequence variant with each issue without a reason as this creates additional work for retailers when receiving each new edition of your periodical and you could eventually run out of EANs for your ISSN.

The only time you will need to get a new ISSN number is if the title of your issue changes or you move to a different medium, say from print to online.

## Step 2 – To register or to buy from a reseller?

Next you will need to purchase some barcode numbers for the type of barcode that you will use on your product. There are a number of ways that you can do this.

### **Register with GS1 for EANs and UPCs**

You may choose to obtain a GS1 company prefix ("prefix") from GS1 which gives you a block of identification numbers for your products. GS1 is an international organisation that sets and maintains standards in supply and demand chains across the globe. They have over 100 member organisations worldwide that all use and work to implement GS1 systems and standards in many sectors and industries.

Many companies become members of GS1 for their barcode requirements since they have to buy numbers in bulk. You will need an individual number for each different item you sell so for example if you have a style of jumper which comes in five different colours you will need five different numbers, one for each colour. Registration isn't necessarily cheap for a small business and membership must be renewed annually (for a fee) in order to retain your prefix.

You can find your national GS1 member organisation with which you can register to obtain your own prefix at this website:

<http://www.gs1.org/countries/alphabetically>

EAN-8s must be specifically requested from GS1 as an EAN-13 can't be made into an EAN-8, unlike certain UPCs. Due to the more limited availability of eight-digit unique identifiers to obtain an EAN-8 barcode for your product you must be able to show that an EAN-13 will use more than 25% of the front space of your product and that reducing it will affect the quality of the barcode thereby making scanning unreliable. You may be asked to provide a mock up of your product packaging to prove that you need an EAN-8. They are usually found on items such as chewing gum, for instance.

### **Authentic Resellers for EANs and UPCs**

There are a number of legitimate websites which sell UPC and EAN numbers that may be cheaper and faster than following the registration route with GS1. You can buy numbers from resellers individually or in blocks.

If you only have a few items you wish to sell then buying barcode numbers from a reputable reseller could work out much cheaper and more convenient for you. You are able to buy what you need without having to becoming a member of any organisation or pay an annual membership fee.

A number of resellers are permitted to sell their codes online. Their right to do this was confirmed by a legal settlement that concluded that companies who had brought their numbers from GS1 prior to 28th August 2002 are entitled to subdivide and resell their prefix in whatever way they so choose since they are not bound by limiting terms that forbid this which GS1 later introduced into their licensing agreement and then attempted to apply retrospectively to their existing members.

The following contains a list of authentic barcode resellers whose right to resell has been verified:

<http://authenticatedupcregistrationdirectory.org/node/48>

## **National Agencies and National Centres for ISBN and ISSN numbers**

If you have a publisher for your work then they will usually take care of barcoding for you. If like an increasing number of people you are self-publishing then you will need to apply for either an ISBN (for books) or ISSN (for periodicals) from the relevant agency.

This website will allow you to find your National Agency for ISBN numbers and provides contact details:

<https://www.isbn-international.org/agencies>

This website will allow you to find your National Centre for ISSN numbers and provides contact details:

<http://www.issn.org/services/requesting-an-issn/contact-an-issn-national-centre/>

## **Step 3 – Making a barcode symbol for your number**

Next you will need to produce your barcode image using your numbers.

You can do this for free using the online barcode generator:

<http://the-burtons.xyz/barcode-generator/>

You can make any barcode image using this generator for free simply by entering the numbers you have been assigned. The generator can make EANs, UPCs, ISBNs, ISSNs and any other barcode symbology you could ever need at point of sale including the new GS1 DataBar symbols that are especially useful for variable weight items.

Additionally this barcode generator will:

- Automatically verify any check digit that you have entered or create it for you
- Create a UPC-E symbol out of your compressible 12-digit UPC number
- Convert your legacy ten-digit ISBN to the current 13-digit format

## **Step 4 – Applying it to your product packaging**

The final thing that you need to do is to apply your barcodes to your items.

You can either print off an image of your barcode on to labels that you stick to your product or you can incorporate your barcode into the product's packaging design. You should obtain final proofs from your designers and must check for conformity to make sure the design doesn't impede scanning of the barcode.

Ensuring that your barcodes are scannable and fit for purpose before they go out into the supply chain is your responsibility as the supplier or manufacturer. Care must be taken at this stage because failure to produce a barcode that can be scanned reliably at point of sale could result in refusal to stock your

product or even your product being removed from sale. Therefore it's essential that you get it right the first time as you will most likely have to bear the cost of fixing faulty barcodes.

Helpfully there are barcode verification services that will check that your product meets the required barcoding quality standards before you enter production. You will have to pay for these services but it might be worthwhile as the cost of re-packaging your products due to barcode problems could be substantially more.

However many people get along well by observing some basic guidelines. Also, your local grocers may be kind enough to allow you to perform a few test scans using their barcode reading equipment to give you some idea of how reliably your product can be scanned.

**Dimensions** — Take care to ensure the correct barcode height and width on your finished article. You should aim for a nominal size for an EAN-13 or UPC-A barcode of 25.93mm tall and 37.29mm wide. The symbol size must not be reduced below 80% or increased above 200% of this ideal else it will become difficult to scan.

**Restricted Space** — If your product requires a very small barcode because space is restricted or the product is small then you will need an EAN-8 or UPC-E. Do not simply shrink a larger EAN-13 or UPC-A symbol. You should aim for a nominal size for an EAN-8 of 21.31mm tall and 26.73mm wide and for a UPC-E of 25.93mm tall and 22.11mm wide. As with the larger symbols the size must not be reduced below 80% or increased above 200% of this ideal.

**Quiet Zone** — Every barcode must be printed with a light margin (called a quiet zone) to the left and right of the symbol so the scanner can differentiate between the barcode and the graphics around it. If there isn't enough space around the barcode symbol then it may not scan reliably or it may decode incorrectly. The area needed for the quiet zone depends on the size of your barcode but generally the minimum amount of space should be ten times the width of the narrowest element in the barcode (bar or space) or ten times the "X dimension." Although in practice you should allow a little extra than this minimum guideline in case of creases in the quiet zone.

**Clarity** — Your barcode must be sharp with high-contrast, straight bars and spaces. During packaging design you should use barcode images in a vector format such as EPS that do not lose quality when rescaled to an appropriate size and DPI for print. If you must work with bitmap formats such as PNG or JPEG then you must generate an initially very large barcode image and shrink it as inflating a smaller image will make the barcode fuzzy and of poor quality when printed.

**Colour** — You must make sure that the colour combination of your barcode has a good contrast so that it will scan. The scanner usually works by reflecting red light off of the spaces between the bars, so you need your barcode to be printed on a light surface with dark bars. The best combination is black bars with a white background however you don't have to have a black and white barcode, it just has to be scannable. There are certain colour combinations that you should avoid though. Colours such as red, orange and yellow are invisible to the scanner just like white, so don't use these colours for your bars as the scanner won't read them. However you can have a light background (such as yellow) with darker bars, such as dark green. Never use a dark colour for your background such as black or blue. It is worth remembering that barcode scanners use red light and do not perceive colours in the same way as the human eye, so check that your colours work before committing to them.

**Orientation** — It is important to consider carefully where you are going to place your barcode on your product. Keeping in mind it must have enough quiet zone around it and be the right size, it also must be

on as flat a surface as possible to reduce the risk of creases in the barcode. Don't place your barcode on a corner or around a curved edge as this will make scanning difficult. If your product is round (like a bottle) then it's best to place your barcode lengthways vertically along the side rather than wrapping it around the bottle. This will make it much easier to scan. Also make sure that nothing will obscure the barcode on the finished packaging of your product, for example nothing such as a seal should overlap any part of it or make it difficult to see.

**Material** — The material that you print on is important as it can affect the quality of the barcode. If you are printing your barcode on very glossy or shiny paper you might get some ink bleed or it might reduce the contrast in reflectance between the spaces and bars of the barcode. It is a bad idea to print black bars directly onto the surface of your product without a reflective background as it is not guaranteed to scan. For example don't print bars directly onto a transparent plastic bottle or a silver can without a printed background as these materials would not reflect the light back towards the scanner.

**Quality Control** — Some print processes drift away from ideal over time and require periodic recalibration of the equipment to maintain the accuracy of the output. Effects such as ink spread or transfer offset are particularly troublesome for barcodes as these impact the apparent thickness of the bars which can alter the data contained in the barcode. Whatever technology your production process uses it is important to ensure that quality controls and responsibilities are agreed upon to ensure that every item produced will satisfy the standard required by the retail industry.

## Resources

Free online barcode generator: <https://the-burtons.xyz/barcode-generator/>

Facebook community: <https://www.facebook.com/onlinebarcodegenerator>

GS1 barcodes homepage: <http://www.gs1.org/barcodes>

GS1 guide to barcode implementation: <http://www.gs1.org/barcodes/implementation/>