Business 2 Business MARKETING Fact Sheet

Montana Department of Commerce ★ International Trade & Relations Bureau ★ October 2008

UPC BARCODE BASICS

Retailers today are requiring that manufacturers/companies provide unique UPC (Universal Product Code) barcodes for each product they buy. This helps them track their inventory more efficiently and saves both them and consumers time at the cash register. When you are in a retail store and you hear a "beep", it's probably a UPC barcode being scanned at the register.

In the USA, UPC barcodes are **regulated by GS1 US** (**www.gs1us.org**). They publish UPC specifications and UPC printing guidelines. They also administer company prefixes, which are assigned to individual companies to maintain order and uniqueness among UPC barcodes.

UPC barcodes are part of the GTIN (Global Trade Identification Number) numbering scheme. UPC barcodes are GTIN-compliant. The 12 digits you see in a UPC barcode are to be stored as 14-digit strings in a database.

Manufacturers/companies that need **ten or fewer individual UPC barcodes** can purchase bar codes for **$75 per item**, with an annual license renewal fee of $10 to ensure continued use.

Manufacturers/companies needing **more than ten UPCs will probably want to apply for a GS1 Company Prefix** which allows them to build many unique and authentic UPC barcode numbers, also known as Global Trade Item Numbers® or GTINs®. This number is used as the first part of every item's unique 11-digit number. (The 12th digit in the lower-right corner of a UPC barcode is the check digit.) The fee depends on the number of unique products needed to identify, and the company's gross annual sales revenue.

It's possible to purchase UPC barcodes from secondary sellers at reduced prices with no renewal fees. Basically, the seller assigns a product a UPC using their GS1 6-digit company prefix and then adds a unique 5-digit product number. This is legal if the company obtained their GS1 company prefix prior to 2001. **Be aware, some retailers (WalMart & Kroeger) require uniquely assigned GS1 UPC barcodes. Retailers using EDI (Electronic Data Interchange) for sales or logistics may also require a unique company prefix.)**

Bar Code BYTE

Official Website to Buy A Bar Code

www.gs1us.org

There are also private companies that sell UPC codes. However, they aren't always compliant for all retailers.

Bar Code BYTE

UPC barcodes work everywhere that either UPC or EAN bar codes are scanned which includes the United States, Mexico, Canada, Australia, the UK, Asia, South America and the Middle East

- **UPC Version A** (12 digits) - standard in the USA
- **UPC version E** (8 digits) -assigned when label space is at a premium
- **ISBN-13** barcodes - found on books, based on ISBN numbers (formerly called Bookland bar codes)
- **ISSN symbols** - non-U.S. periodicals.
- **EAN-13 and EAN-8** - used in Europe
- **JAN-13 and JAN-8** -used in Japan

UPC barcodes do not contain a product's price. They are lookup numbers that uniquely identify items in the distribution and retail chain. When an item is scanned, the cash register looks that number up in the store's computer. The database returns the item's price, displays the name on the register and receipt, and subtracts the item from the inventory database. The price is in the database, otherwise having a sale would mean re-barcoding everything that was just on sale. As soon as the sale is over you'd have to re-barcode everything back.

HOW TO READ A GS1 UPC BARCODE OR NUMBER

A UPC barcode printed on a package has two parts:

The machine-readable bar code
The human-readable 12-digit UPC number

The first six digits of the UPC number – 639382, is the assigned **company prefix**. The next five digits -- 00039 -- are the **item number**. The manufacturer is responsible for assigning item numbers to products, making sure the same code is not used on more than one product, retiring codes as products are removed from the product line, etc.

In general, every item the manufacturer sells, as well as every size package and every repackaging of the item, needs a different item code. So a 12-ounce can of soda needs a different item number than a 16-ounce bottle of soda, as does a 6-pack of 12-ounce cans, a 12-pack, a 24-can case, and so on. It is the job of the manufacturer to keep all of these numbers straight.

The last digit of the UPC code is called a **check digit** and is based on the previous 11 digits**.** This digit lets the scanner determine if it scanned the number correctly or not. If the check digit it calculates is different from the check digit it reads, the scanner knows that something went wrong and the item needs to be rescanned.

The first digit of the manufacturer's identification number is special. It is called the NUMBER SYSTEM CHARACTER. Here are what the different number system characters mean:	
0 – Standard UPC number (must be used for zero-suppressed bar codes)	5 – Coupons
1 – Reserved	6 – Standard UPC number
2 – Random-weight items (fruit, vegetables, meats, etc.)	7 – Standard UPC number
3 – Pharmaceuticals	8 – Reserved
4 – In-store marking for retailers	9 – Reserved