

Why Do Industry Leaders Choose Alphanumeric Identifiers?

aerospace
automotive
aviation
healthcare
shipping
telecommunications



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Bar code technology has been widely implemented as a mechanism for streamlining business processes in every major industry. The automation of product identification, ordering and inventory has facilitated efficiency and cost savings, and has provided a system safeguard against human error. While the average consumer may not think about the purpose or structure of a bar code, industries with strict requirements for accurate product identification and tracking do.

The alphanumeric Health Industry Bar Code (HIBC) Standards were developed when leading healthcare associations determined that the existing all-numeric bar code standards were inadequate for the specific applications and needs of a healthcare environment. These all-numeric data structures were based upon the generic needs of retailers who did not consider patient/consumer safety concerns.

In 2004, the U.S. Food and Drug Administration (FDA) highlighted the importance of alphanumerics in their final rule on *Bar Code Label Requirements for Human Drug Products*, stating, "We decided to give firms the option of using HIBCC data formats because we also cannot preclude the possibility that some firms may prefer using alphanumeric codes formats, which HIBCC uses."

Other industries with concerns for consumer safety and satisfaction — such as aerospace, automotive, telecommunications, electronics, shipping and aviation — have also chosen alphanumeric identifiers for their product and process labeling. The flexibility and accuracy of alphanumeric bar codes ensure the safest and most efficient delivery of their goods and services.

What follows is information highlighting the critical features of alphanumeric data structures and their use in major industries.

**When
Consumer
Safety and
Sensitivity
to Error Are
Critical,
Alphanumeric
Identifiers
Provide
Security,
Accuracy
and
Reliability.**

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Alphanumeric Identifiers...

Allow for Literal Encodation of Product Data

The use of alpha characters allows labelers to directly encode essential data such as names and locations.

All-numeric data structures are restricted by non-literal symbologies.

Shipping and aviation industries encode location data such as a city or state name into bar codes applied to the packages and luggage they are transporting. This precise identification ensures accuracy and a timely arrival of the customer's goods.

Implantable medical devices are labeled with individual serial numbers that are frequently alphanumeric. This identification data should be encoded in its original form to ensure the safest and most accurate identification of these items.



Shipping Label

Source: United Parcel Service (UPS)

Alphanumeric Identifiers...

Eliminate Dangerous Cross-Referencing

Literal encryption of product data eliminates the need for translation of alpha characters into numeric signifiers.

The inherent limitations of all-numeric data structures often forces labelers to modify their existing product data. This process necessitates the cross-referencing of original-to-modified data, greatly increasing the risk of identification errors.

Aerospace and automotive industries must label parts for quality control purposes. Cross-referencing introduces a level of error unacceptable for the identification of critical parts such as air bags and brakes.

Blood products are labeled with blood type and harvest location information. Due to the risks involved with administration of either mismatched or contaminated blood, precise and unaltered identification of this data is essential.



CPDA-1 WHOLE BLOOD VOLUNTEER DONOR	RH Positive 0
Donation ID # 7234567890 0001	A00001 Blood Group
Collection Date 07/01/02	Expiration Date 02/01/03
Product Code 000000	Special Testing 0000
Supplier ID and Container 12345678	Lot Number 00000000

ISBT 128 Label

Source: The International Council for
Commercially in Blood Banking
Automation (ICCBAN)



Alphanumeric Identifiers...

Provide a Larger Set of Identifiers

The ten numeric characters (0-9) and twenty-six alpha characters (A-Z) of an alphanumeric data structure combine to provide a greater set of possible identifiers.

All-numeric data structures are limited to the total combinations of ten (0-9) characters.

Electronic and telecommunication devices are constructed from thousands of individual parts that must be distinctively identified. This requires an enormous set of potential identifiers in order to label each part uniquely.

There are tens of thousands of **healthcare products**, each of which may require identification down to the unit-of-use level for safe delivery practices. Single unit labeling thus necessitates millions of individual and unique identifiers.



Electronic Industries Alliance

SHIP TO: GOOD SUPPLY Any Street Any City, Any State, Postal Code, Country		
SHIP TO: GOOD CUSTOMER RECEIVING DEPARTMENT Any Street Any City, Any State, Postal Code, Country		
EPC: UN0433267110000001		
Customer: M1180312-15		
SKU: M1180312		Issued By/Rev: Rev 0024
		Shipped 11.1.94
Qty: 263.2KG		Volume: 1.65 CR
		Weight: 263.2 KG

Search:
EW-556-B
Electronic
Industries
Alliance
Outer Shipping
Container Label
Standard

GX82K*

Alphanumeric Identifiers...

Facilitate Product Tracking and Recall Processes



The flexibility of alphanumeric data structures allows for placement of precise product information on the product or label. Precise identification is essential for accurate and efficient product tracking and can be critical in the event of a product recall due to failure or defect.

All-numeric data structures are inflexible and can require modification of product information. This complexity can lead to inaccuracies in product identification and inefficiencies in the tracking and recall process.

By their nature, **healthcare products** must be monitored carefully. Efficient tracking and recall of defective medical devices or contaminated blood products is critical to the safety and well-being of patients.



MFR 2D67I
SER ABC333-401



PNR F100200300400AP

**Air Transport Association (ATA)
Part Marking Symbols**

Source: ATA Spec 2000 Rev. 5

The Health Industry Business Communications Council (HIBCC) is an industry-sponsored standards development organization that was founded in 1984. HIBCC and the HIBC Standards are accredited by the American National Standards Institute (ANSI) and the European Committee for Standardization (CEN). HIBCC USA is governed by the following healthcare organizations:

Permanent Seats

Appointed by Sponsoring Organizations

- Advanced Medical Technology Association (AdvaMed)
- American Hospital Association (AHA)
- American Medical Association (AMA)
- Federation of American Hospitals (FAH)
- Healthcare Distribution Management Association (HDMA)
- Health Industry Distributors Association (HIDA)
- Pharmaceutical Research and Manufacturers Association (PhRMA)

At-Large Seats

Appointed on a rotating basis by invitation of the HIBCC Board of Directors

- American Society for Automation in Pharmacy (ASAP)—2005
- American Veterinary Distributors Association (AVDA)—2004
- Association for Healthcare Resource and Materials Management (AHRMM)—2004
- Health Industry Group Purchasing Association (HIGPA)—2004
- Healthcare Information and Management Systems Society (HIMSS)—2004
- US Department of Defense (DoD)—2004

HIBCC maintains global Supplier and Provider Labeling Standards for the healthcare industry and is a leader in standards development for electronic commerce. HIBCC standards are extended globally via IHIBCC, an international network of HIBCC offices.



2525 East Arizona Biltmore Circle, Suite 127 ■ Phoenix, Arizona, USA 85016
voice (01) 602.381.1091 ■ fax (01) 602.381.1093 ■ info@hibcc.org

www.hibcc.org