Global Location Number (GLN)
Implementation Guide

Executive Summary

The GLN (Global Location Number) provides a standard means to identify legal entities, trading parties and locations to support the requirements of electronic commerce. The GLN is designed to improve the efficiency of integrated logistics while contributing added value to the partners involved, as well as to customers. Examples of parties and locations that can be identified with GLNs are:

- *Functional entities* **-** e.g., a purchasing department within a legal entity, an accounting department, a returns department, a nursing station, a ward, a customer number within a legal entity, etc.
- *Physical entities* - e.g., a particular room in a building, warehouse, warehouse gate, loading dock, delivery point, cabinet, cabinet shelf housing circuit boards, room within a building, hospital wing, etc.
- *Legal entities/Trading Partner* – e.g., buyers, sellers, whole companies, subsidiaries or divisions such as suppliers, customers, financial services companies, freight forwarders, etc.

Key Benefits

- Administered by a not-for-profit standards organization.
- Method is supported by implementation guidance.
- Most issuing-party database managers agree that primary keys within their database should not be assigned by a third party.
- Number can be used throughout world with no need for trading partner(s) to assign proprietary numbers to ensure uniqueness
- Saves time and money as the number can be moved quickly and confidently through the supply chain.
- Numbers may be assigned to any location insuring ultimate flexibility of system to meet the needs/requirements of all businesses anywhere in the world (from loading docks to all buildings on government bases to circuit boards in a router).
- Enables users/customers to leverage the full functionality of the EAN.UCC System.
- The GLN includes a Check Digit for data integrity.
- It is managed and supported by a standards organization – EAN and UCC.
- The GLN standard is supported by guidelines, business examples and maintenance procedures. It is a globally unique number. Also, UCC and EAN have people who

can educate trading partners all over the world (1,100 people in 95+ countries) to ensure clear understanding, implementation and usage.

- It may be assigned to generic departments at the same location as well as to unstaffed operation points (e.g., automated teller machines, vending machines, etc.)
- GLNs can be encoded in UCC/EAN-128 symbols and physically marked onto:
  - Trade Items (products) to identify the parties involved in the transaction, e.g., buyer and supplier
  - Logistics units to identify the parties involved in the transaction, e.g., consignor/shipper and consignee
  - Physical locations, e.g., place of delivery, place of departure, and point of storage
- The use of GLNs provide companies with a method of identifying locations, within and outside their company that is:
  - Simple: an easily defined data structure with integrity checking that facilitates processing and transmission of data
  - Unique: GLNs are unique worldwide
  - Multi-sectoral: the non-significant characteristic of the GLN allows any location to be identified for any company regardless of its activity anywhere in the world

Why Standards

Open, global standards:

- Allow system-to-system interaction
- Speed processes by enabling end-to-end automation
- Lower costs, reduce errors
- Reduces the risk of system incompatibility
- Protects technology investments
- Enables the optimization of supply chain management practices
- Eliminate supply chain roadblocks and bottlenecks

In today's competitive global marketplace, speed and efficiency is critical to success – and survival. Producing a good product is no longer enough to keep a company competitive. Managing the physical flow of product with the electronic flow of business data is a major challenge in today's intensely competitive environment. At the same time, attention and detail that goes in to designing and producing a quality product must also be evident in the transmission of that product's business data through the supply chain. A system, built with standardized processes and a common business language, is needed to monitor and manage the movement of product and information through every component along the supply chain.

Definition

The GLN is simply a 13-digit number used to uniquely identify any legal, functional or physical entity. Its basic components are:

- An EAN.UCC Company Prefix
- A Location Reference
- A Check Digit

EAN.UCC Company Prefix → ← Location reference												Check Digit
N_1	N_2	N_3	N_4	N_5	N_6	N_7	N_8	N_9	N_{10}	N_{11}	N_{12}	N_{13}

EAN.UCC Company Prefix – the number assigned to a company by either an EAN Member Organization or by the UCC. The inclusion of the EAN.UCC Company Prefix ensures uniqueness throughout the world. The EAN.UCC Company Prefix is assigned to companies in varying lengths.

Note: A UCC Company Prefix is converted to an EAN.UCC Company Prefix by adding a leading zero. Examples: the UCC Company Prefix 614141 will be 0614141 and the UCC Company Prefix 81123456 will be 081123456.

Location reference – the number assigned by the holder of the EAN.UCC Company Prefix to uniquely identify a location within the company. The Location Reference varies in length as a function of the EAN.UCC Company Prefix length. Note: The combined length of the EAN.UCC Company Prefix and Location Reference is always 12-digits.

Check Digit – a calculated one-digit number used to ensure data integrity. To understand how this digit is calculated; visit the UCC at http://www.uc-council.org/checkdig.htm.

Examples of Use

Each location is allocated a unique identification number. GLNs are reference keys for retrieving the indicated information from databases:

- Room within a building, hospital wing, etc.
- Delivery location including dock door.
- Purchasing department, customer contact, accounts payable department, region, etc.

Each company or organization holding an EAN.UCC Company Prefix may assign EAN.UCC Global Location Numbers to their own locations. It is the responsibility of the company assigning GLNs to keep their trading partners informed of all numbers issued and the corresponding details (name, address, etc.) Special care is needed if the ownership of the company changes.

All EAN.UCC Keys

EAN.UCC keys identify:

- **Trade items:** Products and services upon which there is a need to retrieve pre-defined information at any point in the supply chain (Global Trade Item Number™/**GTIN**™).
- **Logistic units:** Physical units established for transport and storage of goods of any kind that need to be tracked and traced individually in a supply chain (Serialized Shipping Container Code/**SSCC**).
- **Assets:** Fixed or returnable assets (Global Individual Asset Identifier/**GIAI**, Global Returnable Asset Identifier/**GRAI**).
- **Locations:** Physical, functional or legal entities requiring a permanent identification, such as a company, department, or warehouse (Global Location Number/**GLN**).
- **Service Relations:** Public or private service provider to track any entity's service requirements and needs over a continuing relationship (Global Service Relation Number/**GSRN**).

Frequently Asked Questions

1. What is meant by location?

The GLN is a unique data structure that identifies any legal, functional or physical location within a business or organizational entity such as:

- **Legal entities:** whole companies, subsidiaries or divisions such as supplier, customer, bank, forwarder, etc.
- **Functional entities:** a purchasing department within a legal entity, an accounting department, a returns department, a nursing station, a ward, a customer number within a legal entity, etc.
- **Physical entities:** a particular room in a building, warehouse, warehouse gate, loading dock, delivery point, cabinet, cabinet shelf housing circuit boards, room within a building, hospital wing, etc.

2. What are examples of locations that can be assigned GLNs?

GLNs are reference keys for retrieving information from databases about: stores, manufacturing centers, warehouses, broker's offices, sales offices, corporate headquarters, distribution centers, vending machines, postal addresses, dock doors, customers, regions, merchant marine ships, buildings on military bases, and many others.

3. Are there other location coding methods?

There are 196 different location coding methods recognized by ANSI X12 and 212 different location coding methods recognized by UN/EDIFACT. Some industries use proprietary

seller generated location codes. Some use location codes assigned by accepted third party organizations.

Some companies have used the DUNS +4 number to identify specific physical locations within their company. The use of DUNS +4 is primarily limited to North America. This is a 13-digit number that was broken into two different pieces: a 9-digit number assigned by Dun & Bradstreet to identify a company or a subset of a company (DUNS) and a 4-digit number assigned by the company or subset to uniquely identify a location within their own domain.

4. What is the first step for manufacturers, distributors and retailers to identify themselves with a GLN?

If a company does not have an assigned EAN.UCC Company Prefix, contact the UCC to obtain a membership application. If a company already has an EAN.UCC Company Prefix, the company can begin assignment now!

5. Does a company need an assigned EAN.UCC Company Prefix to create GLNs?

Yes. GLNs are created using the EAN.UCC Company Prefix assigned to the company. This Company Prefix may be directly assigned to the company or the company may utilize the Company Prefix of its parent company, with the knowledge and consent of the parent company. However, a parent company may not use a Company Prefix assigned to a company it owns.

6. What is the relationship between a GLN and a GTIN (e.g., U.P.C.)?

There is no relationship other than the use of similar techniques to manage the uniqueness of the numbers. GLNs identify locations and GTINs identify trade items (products and services). The GLN and GTIN must be stored separately because they are separate unique identifiers.

7. What are the advantages of GLNs?

The use of GLNs provides companies with a method of identifying locations, within and outside their company, that is:

Simple: an easily defined data structure with integrity checking that facilitates processing and transmission of data

Unique: GLNs are unique worldwide

Multi-sectoral: the non-significant characteristic of the GLN allows any location to be identified for any company regardless of its activity anywhere in the world.

Global: implemented around the world and supported by the international network of UCC and EAN Member Organizations, covering more than 90 countries, in the local language

8. Why use GLNs instead of an internal system?

Any company can design its own internal system and code structure to identify all the locations covering its operating requirements. Although an internal solution might seem to be the easiest and fastest way forward, when information is exchanged between computers of distinct companies this may present several problems, such as:

Duplication: two or more trading partners may use the exact same location code to identify an internal location in their company – no guarantee of uniqueness

Complexity: internal codes will have a variety of structures and formats, making application programming more complex and application changes costly

Significance: location codes that contain information related to the location in the code structure itself will become difficult to handle as the coding structure evolves to incorporate new meanings

9. Can the GLN change?

If a location identified by a GLN changes, the party responsible for the GLN should change the details associated with the GLN on the related computer file record.

A GLN that has stopped being used should remain so for at least three years before being reallocated. The delay must allow time for all references of the old location number to be removed from trading partners' files. When the location number is re-used, the details relating to the location must be retransmitted.

10. How do we assign GLNs?

For ease of administration, it is recommended that GLNs be allocated sequentially and not contain ‘classifying’ elements.

11. Who communicates GLNs?

It is the responsibility of the company assigning GLNs to keep business partners informed of all numbers issued and their associated information. Special care is needed if the ownership of the company changes.

12. What are the benefits of GLN?

- Can be used throughout the world with no need for trading partner(s) to assign proprietary numbers to ensure uniqueness.
- Saves time and money as the number can be moved quickly and confidently through the supply chain.
- May be assigned to any location ensuring ultimate flexibility of the GLN to meet the needs/requirements of all businesses anywhere in the world (from loading docks to aircraft carriers to circuit boards in a router).
- Enables users/customers to leverage the full functionality of the EAN.UCC system.
- GLNs can be encoded in UCC/EAN-128 bar codes and physically marked onto:

- Trade units to identify the parties involved in the transaction (buyer, supplier)
- Transport units (consignor and consignee)
- Physical locations (place of delivery, place of departure, and point of storage)

13. What Application Identifiers are used for GLNs when encoded in UCC/EAN-128 bar codes?

- "Ship to – Deliver to" EAN.UCC Global Location Number (AI 410)
- "Bill to - Invoice to" EAN.UCC Global Location Number (AI 411)
- "Purchased from" EAN.UCC Global Location Number (AI 412)
- "Ship for - Deliver for - Forward to" EAN.UCC Global Location Number (AI 413)
- EAN.UCC Global Location Number to identify a physical location (AI 414)
- EAN.UCC Global Location Number of the invoicing party (AI 415)

Standard Reference

The UCC's *Solutions Center*™ - your one-stop source for EAN.UCC System tools to help you **improve supply chain management and conduct business more productively**. You will find the essential education and implementation resources you need to:

- Integrate and utilize the standards of the EAN.UCC System in your business
- Guide you through the bar coding process
- Improve the efficiency of your electronic commerce activities
- Uniquely identify your company's products, assets, locations, and logistics units throughout the global supply chain

Specifically, *The Art of Producing Bar Codes* will guide you through the implementation process, giving you specific solutions and guidelines to properly mark products and logistics units for use within the EAN.UCC System. This easy-to-follow system will guide you through the essentials of the bar coding process to help you:

- Assess where you will use the bar code
- Determine the specific information to include in the bar code
- Prepare bar code specifications for those responsible for printing your bar codes

A preview can be seen at http://www.uc-council.org/solutionscenter.

Further Help

- E-mail: mailto:info@uc-council.org
- Phone: 937.435.3870
- Web site: http://www.uc-council.org/

UCC Glossary

Term	UCC Glossary Definition
Advance Ship Notice (ASN)	Notification of product due prior to receipt (see Ship Notice Manifest (856).
AI	Abbreviation for Application Identifier.
Application Identifier (AI)	A two-, three-, or four-digit prefix used within UCC/EAN-128 Symbols to define the meaning of information that follows.
Asset Type	A number assigned by the owner of an asset to uniquely identify a type of asset.
Attribute	A piece of information reflecting a characteristic related to an identification number (i.e., GTIN, GRAI).
Bar code	A precise arrangement of parallel lines (bars) and spaces that vary in width to represent data.
Brand owner	The party that is responsible for allocating EAN.UCC numbering and bar coding on a given trade item. The administrator of an EAN.UCC Company Prefix.
Check Digit	A digit calculated from the other digits of an Element String, used to check that the data has been correctly composed (see EAN.UCC Check Digit Calculation).
Company Number	A number allocated by the UCC or an EAN International Numbering Organization that follows the EAN.UCC Prefix within the EAN.UCC Company Prefix. When combined with the EAN.UCC Prefix, the Company Number uniquely identifies a company.
Data carrier	A means to represent data in a machine readable form, used to enable automatic reading of the Element Strings.
Data Standard	The entirety of all EAN.UCC System data standardized in meaning and structure.
Data structure	The UCC and EAN numbering structures defined in the various lengths required for the different identification purposes which all share a hierarchical composition. Their composition blends the needs of international control with the needs of the users.
EAN	See EAN International.

EAN International	EAN International, based in Brussels, Belgium, is an organization of EAN Numbering Organizations that jointly manages the EAN.UCC System with the UCC.
EAN Member Organization	A member of EAN International that is responsible for administering the EAN.UCC System in its country (or assigned area) and for managing the correct use of the EAN.UCC System by its member companies.
EAN.UCC Company Prefix	Part of the international EAN.UCC Data Structures consisting of an EAN.UCC Prefix and a Company Number, both of which are allocated by either the UCC or an EAN International Numbering Organization.
EAN.UCC Prefix	An index number with two or more digits, co-administered by the UCC and EAN International, denoting the format and meaning of a particular Element String.
EAN.UCC System	The specifications, standards, and guidelines co-administered by the UCC and EAN International.
EDI	Electronic Data Interchange.
Electronic Commerce	The conduct of business communications and management through electronic methods, such as electronic data interchange and automated data collection systems.
Electronic Data Interchange (EDI)	The computer to computer transmission of business information using a public standard format.
Electronic Message	A composition of Element Strings from scanned data and transaction information assembled for data validation and unambiguous processing in a user application.
Extension digit	A digit, allocated by the user, used to increase the capacity of the Serial Reference within the SSCC. *When used within the term "Extension digit," the word "digit" is never capitalized.*
GIAI	Shorthand term for the EAN.UCC Global Individual Asset Identifier.
GLN	Shorthand term for the EAN.UCC Global Location Number using the EAN/UCC-13 Data Structure to identify physical, functional, or legal entities.

Global Positioning Unit (GPU)	A navigational tool that assists travelers whether traveling by car, boat, plane or foot. These devices provide information pertaining to state and country boundaries, lakes, rivers, interstate highways even exit information for the federal interstate highway system. The GPU can locate services such as food, lodging and gas stations.
GRAI	Shorthand term for the EAN.UCC Global Returnable Asset Identifier.
GSRN	Shorthand term for the EAN.UCC Global Service Relation Number.
GTIN	Shorthand term for the EAN.UCC Global Trade Item Number. A GTIN may use the EAN/UCC-8, UCC-12, EAN/UCC-13, or EAN/UCC-14 Data Structure.
GTIN Format	The format in which GTINs must be represented in a 14-digit reference field (key) in computer files to ensure uniqueness of the identification numbers.
Identification Number (ID)	A numerical name for something in the supply chain to provide unique identification for it. ID numbers are used to retrieve information previously exchanged between trading partners and stored in their computer database files.
Individual Asset	An entity which is part of the inventory of given company *(see Returnable Asset).*
Individual Asset Reference	A number within a GIAI assigned by the holder of an EAN.UCC Company Prefix to an Individual Asset.
Item Number	See Item Reference.
Item Reference	The part of the data structures allocated by the user to identify a trade item for a given EAN.UCC Company Prefix.
Location Number	See GLN.
Location Reference	A number within a GLN assigned by various parties to identify a different entity.
Logistic Unit	Any "container" that permits the physical grouping and identification of goods for shipping. It could be a carton, a plastic wrap, a pallet, or a trailer, depending upon the industry or goods.
Logistic Unit Identifier	Identification of an item of any composition established for transport and/or storage that needs to be managed through the supply chain.

Manufacturer's Number	See EAN.UCC Company Prefix.
Manufacturer's ID	See EAN.UCC Company Prefix.
Point-of-Sale	The point where a customer purchases a product(s) within a retail store. This purchase is typically facilitated by a "check-out" lane or counter where bar code scanning equipment is located.
POS (Point-of-Sale)	Refers to the retail type checkout where EAN/UCC Bar Code Symbols are normally scanned.
Returnable Asset	A reusable entity owned by a company, used for transport and storage of goods.
Serial Reference	The part of the data structure allocated by the user in conjunction with the Extension digit that establishes a unique SSCC for a given EAN.UCC Company Prefix.
Serial Shipping Container Code	See SSCC.
Service Reference	A number assigned by the service provider to identify the recipient of services in the context of a service relationship.
SSCC	The unique identification of a Logistic Unit using an 18-digit data structure. Formerly known as the Serial Shipping Container Code.
SSCC Serial Number	See Serial Reference.
Symbol	The combination of symbol characters and features required by a particular symbology, including Quiet Zone, start and stop characters, data characters, and other auxiliary patterns, which together form a complete scannable entity; an instance of a symbology and a data structure.
Symbol character	A group of bars and spaces in a symbol which is decoded as a single unit. It may represent an individual digit, letter, punctuation mark, control indicator, or even multiple data characters.
Trade item	Any item (product or service) upon which there is a need to retrieve pre-defined information and that may be priced or ordered or invoiced at any point in any supply chain.
Trading partner	A party to transactions in the supply chain, such as a supplier (seller) or a customer (buyer).

UCC Company Prefix	Part of the UCC-12 Data Structure consisting of a UCC Prefix and a Company Number allocated by the UCC.
UCC/EAN-128 Bar Code Symbol	A subset of the Code 128 Bar Code Symbol that is utilized exclusively for EAN.UCC defined data structures. UCC/EAN-128 Symbols can be printed as stand-alone linear symbols or as a composite symbol with an accompanying 2D Composite Component printed directly above the EAN.UCC-128 linear component.
Uniform Code Council, Inc. (UCC)	The Uniform Code Council, based in the United States, is a membership organization that jointly manages the EAN.UCC System with EAN International. The UCC also administers the EAN.UCC System in the United States and Canada.
Universal Product Code (U.P.C.)	See UCC-12 Identification Number.
U.P.C. Symbol	A bar code symbol that encodes the twelve-digit UCC-12 (U.P.C.)
Variable Measure Trade Item	An item always produced in the same pre-defined version (type, design, packaging, etc.) that may be sold at any point in the supply chain, which either may vary in weight/size by its nature or which may be traded without a pre-defined weight/size/length.