



An Introduction to the Global Location Number (GLN)

BarCodes and eCom™

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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:

- *Legal entities/Trading Partners* – e.g., buyers, sellers, whole companies, subsidiaries or divisions such as suppliers, customers, financial services companies, freight forwarders, etc.
- *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 locations* - 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.

The GLN is a required component of the Global Data Synchronization Network™ (GDSN™) and various types of e-commerce transactions. They are most commonly used on purchase orders, and delivery and payment documents. Companies can be confident that a GLN, when used correctly, will uniquely identify their locations.

GS1 US™ has developed the *Data Driver*® to help companies with the assignment and management of GTINs. *Data Driver* is a key benefit of GS1 US **Partner Connections** and is presently used by companies of all sizes and in various industries to manage GLNs. Companies new to GLNs or those who are in the process of migrating to GLNs are urged to use *Data Driver*, which ensures the accuracy of GLN assignments. Find out more about *Data Driver* and GS1 US **Partner Connections** at www.gs1us.org/dd or contact GS1 US for more information at info@gs1us.org.

Key Benefits of the GLN

- 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 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 GS1 System.
- The GLN includes a Check Digit for data integrity.
- It is managed and supported by a standards organization – GS1.
- The GLN standard is supported by guidelines, business examples and maintenance procedures. It is a globally unique number. Also, GS1 has 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.)
- 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
- GLNs can be encoded in GS1 -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

Definition

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

- A GS1 Company Prefix
- A Location Reference
- A Check Digit

GS1 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	

GS1 Company Prefix - The globally unique number assigned to a company by GS1 US™ or another GS1 Member Organization. GS1 Company Prefixes are assigned to companies in varying lengths. Some GS1 US BarCodes and eCom™ members may have a membership certificate that shows only a U.P.C. Company Prefix (formerly a UCC Company Prefix). A U.P.C. Company Prefix must be converted to a GS1 Company Prefix for use in the GIAI. This is accomplished by adding a zero to the front of the U.P.C. Company Prefix. The following table illustrates the conversion of a U.P.C. Company Prefix to a GS1 Company Prefix for use with GIAIs.

U.P.C. Company Prefix	Converted to GS1 Company Prefix
801234	0801234
8412340	08412340
81123400	081123400

Location reference – the number assigned by the holder of the GS1 Company Prefix to uniquely identify a location within the company. The Location Reference varies in length as a function of the GS1 Company Prefix length. Note: The combined length of the GS1 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, refer to www.gs1us.org/checkdig.

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 a GS1 Company Prefix may assign 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.

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 locations:** 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 D&B 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 GS1 Company Prefix, contact GS1 US to obtain a membership application. If a company already has a GS1 Company Prefix, the company can begin assignment now!

5. Does a company need an assigned GS1 Company Prefix to create GLNs?

Yes. GLNs are created using the GS1 Company Prefix assigned to the company. The GS1 Company Prefix may be directly assigned to the company or the company may utilize the GS1 Company Prefix of its parent company, with the knowledge and consent of the parent company. However, a parent company may not use a GS1 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-sector:** 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 GS1 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 the Location Reference 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 GS1 System.
- GLNs can be encoded in GS1-128 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 GS1-128 bar codes?

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

14. What can be identified using the GS1 Identification Numbers?

- **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 products of any kind that need to be tracked and traced individually in a supply chain (Serial 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).

Note: All GS1 identifiers use the same GS1 Company Prefix assigned to the company or organization.

Resources

Data Driver

Data Driver is a tool developed by GS1 US to assist companies with the assignment and management of GTINs. *Data Driver* is a key benefit of GS1 US **Partner Connections** and is presently used by companies of all sizes and in various industries to manage GLNs. Companies new to GLNs or those who are in the process of migrating to GLNs are urged to use *Data Driver*. Find out more about *Data Driver* and GS1 US **Partner Connections** at www.gs1us.org/dd or contact GS1 US for more information at info@gs1us.org.

Solutions Center

The Solutions Center is your one-stop source for GS1 System solutions 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 GS1 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, *Bar Codes for Different Uses* will guide you through the implementation process, giving you specific solutions and guidelines to properly mark products and logistics units for use within the GS1 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 of the Solutions Center can be seen at www.gs1us.org/solutionscenter.

GS1 US Glossary

www.gs1us.org/glossary

GS1 US Product Catalog

www.gs1us.org/productcatalog

Further Help

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