



# An Introduction to the Serial Shipping Container Code (SSCC)

**BarCodes and eCom™**

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## ***Executive Summary***

There are many reasons to use the Serial Shipping Container Code (SSCC) but the most compelling would be the primary benefit of speeding your products through the process of shipping and receiving. When used in conjunction with the Advance Ship Notice (ASN), SSCC allows entire cases or pallets of products to be scanned and quickly processed through distribution centers and other receiving locations.

The SSCC is a critical element when electronically exchanging information about the movement and location of logistics units. A logistic unit is defined as any composition established for transport and/or storage, which needs to be tracked through the supply chain (cartons or pallets). Data exchange and tracking of logistics units is an application of the GS1 System (formerly the EAN.UCC System). This can be accomplished through the use of the SSCC.

The SSCC is the “license plate” to identify specific information about cartons, pallets, or even trailer loads of products. The SSCC moves products from one trading partner to another quickly and efficiently. More importantly, the costs associated with moving and receiving products are greatly reduced.

## ***Key Benefits of the SSCC***

- Identifies logistics units with a number that is unique worldwide
- Links bar coded information on a logistics unit and the information that is communicated between trading partners via electronic business transactions
- Employs the globally accepted GS1 System whose language is standardized, understood, and used by multiple industries
- Applies to the entire supply chain, from raw materials supplier to manufacturer to distributor/wholesaler to end user/retailer

- Applies to both inter- and intra-company transactions
- Encompasses a common vendor numbering scheme that uses the GS1 Company Prefix so that the number cannot be duplicated

## ***Definition***

The unique identification of logistics units is achieved in the GS1 System by the use of the SSCC. The SSCC is an identifier or “license plate” that provides access to information stored in computer files, which are transferred through electronic business transactions. The SSCC is an 18-digit number. The uniqueness of the number is ensured through the use of the GS1 Company Prefix, which is supplied by GS1 US or other GS1 Member Organization.

## ***Business Use***

The SSCC is used in electronic messages such as the Advance Ship Notice (ASN). When used in conjunction with electronic business transactions, information about the products that are contained in a particular carton, pallet, or truck are linked to the SSCC and then scanned by the receiving party to speed trade items through the supply chain.

Examples of logistics units that need to be tracked through the supply chain with a unique number are pallets, cases, or cartons that may be assigned to a specific customer, delivery, or purchase order. Logistics units that are marked with an SSCC often include multiples of the same trade items or a mixture of different trade items. In addition, the SSCC can be used to identify and track an entire trailer or truckload of products through the supply chain.

## ***How the SSCC Works***

A typical example using the SSCC in conjunction with an electronic transaction is described in the following steps:

1. A buyer sends a purchase order to a supplier.
2. The supplier begins to pick the order. As the order is picked, the supplier maintains a record of which products are picked and placed into a particular carton or pallet. Global Trade Item Numbers<sup>®</sup> (GTINs<sup>®</sup>) identifying the picked products and the quantity of each is information that would be collected during the picking process.
3. When the carton is closed, the supplier assigns an SSCC to that carton/pallet. The SSCC is cross-referenced in the database of the supplier with the contents of that particular carton/pallet.

4. The SSCC (or license plate) is encoded in a GS1-128 bar code on the shipping label and placed on the carton/pallet.
5. The supplier creates and transmits an electronic message known as the Advance Ship Notice (ASN) or Ship Notice Manifest (856) to the buyer or receiving party. The ASN contains all the information concerning the order and each carton/pallet within the order that the buyer needs to know (quantity of GTINs, purchase order number, etc.). It is the responsibility of the supplier to ensure that the buyer receives the electronic transmission prior to the physical receipt of the product.
6. The buyer receives and processes the ASN and stores the information in their system.
7. The buyer, upon receipt of the ASN containing the SSCC(s), can use the information to schedule appointments for carriers to deliver the products and to schedule labor and equipment needed to unload and process the shipments.
8. The shipment is delivered to the receiving location.
9. The receiver scans the SSCC located on the carton/pallet.
10. The receiver's application retrieves the information that relates to the SSCC that was just scanned.
11. Using the SSCC as the search key, the system finds all the details for that carton/pallet.
12. The receiver is now able to process the carton/pallet without having to open the carton and manually account for the contents. It should be noted that this assumes sufficient audits of prior shipments have been conducted to ensure the accuracy of the shipper. This process can account for significant cost savings while reducing the time to get the product to the destination (a specific department, reseller, customer, etc.)
13. The carton/pallet may now move directly to location in the receiving/distribution facility to be stocked for future orders, or cross-docked for shipment to a distribution center or customer.

### **Special Note**

The SSCC can be used in a non-electronic commerce environment as well. One application would be to have the SSCC that is affixed to the pallet act as a license plate for the supplier to internally track inventory while the pallet is still in the supplier's warehouse. Since the SSCC is only serving as an internal tracking

number, the receiver of the marked pallet would not be able match it to an ASN to determine its contents. However, the receiver could use the SSCC to manage the carton/pallet from the receiving dock to the put-away location if it is not disassembled.

### **Structure of a SSCC**

|                 |   |                 |
|-----------------|---|-----------------|
| Extension digit | GS1 Company Prefix →      ← Serial Reference  | Check Digit     |
| N <sub>1</sub>  | N <sub>2</sub> N <sub>3</sub> N <sub>4</sub> N <sub>5</sub> N <sub>6</sub> N <sub>7</sub> N <sub>8</sub> N <sub>9</sub> N <sub>10</sub> N <sub>11</sub> N <sub>12</sub> N <sub>13</sub> N <sub>14</sub> N <sub>15</sub> N <sub>16</sub> N <sub>17</sub> | N <sub>18</sub> |

#### **Extension digit**

The Extension digit has no defined logic, and is available to the member company to increase the capacity of the Serial Reference.

#### **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 SSCC. 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 the SSCC.

| <b>U.P.C. Company Prefix</b> | <b>Converted to GS1 Company Prefix</b> |
|------------------------------|--|
| 801234                       | 0801234                                |
| 8412340                      | 08412340                               |
| 81123400                     | 081123400                              |

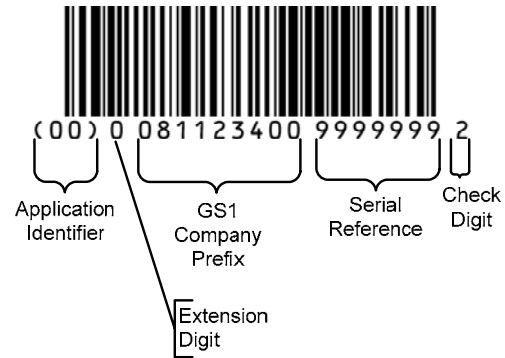
**Serial Reference** – The number assigned by the holder of the GS1 Company Prefix to uniquely identify the logistic unit. The Serial Reference varies in length as a function of the GS1 Company Prefix length. Note: The combined length of the GS1 Company Prefix and Serial Reference is always 16 digits.

**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](http://www.gs1us.org/checkdig).

## Examples of a SSCC in a GS1-128 bar code



Example of an SSCC with a 7-digit GS1 Company Prefix

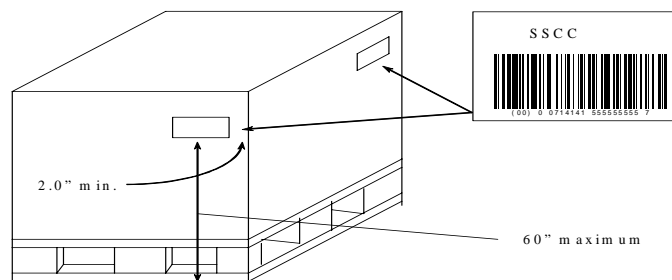


Example of an SSCC with a 9-digit GS1 Company Prefix

## Example of a SSCC on a pallet

Each pallet should have at least one bar code. It is recommended, however, that a pallet should contain an additional bar code on the adjacent side. This is especially helpful when the pallet is turned sideways in the truck or on the rack in the warehouse.

The SSCC should appear on the upper right half side of the pallet. Labels with bar codes should appear on the side of the pallet, from 14" to 28" above the surface on which the pallet stands.



## Buyer and Receiver Issues for Scanning

As with all scanning applications, it is important to refer to the following best practices:

### 1. Scanners and related information

It is important to note that scanning products at the warehouse level or back door of a retail store is different than scanning at the point of sale. For this

reason, be sure that the equipment you choose can read EAN/UPC, ITF-14 and GS1-128 symbols. (The SSCC is encoded in a GS1-128 bar code.) Your equipment provider can supply you with the necessary information.

## **2. Tracking Issues**

Allow for some type of quality control process that will allow you to quickly identify a trading partner whose cartons or items are not scanning correctly.

## ***Frequently Asked Questions***

### **1. Does my company need another GS1 Company Prefix to use SSCCs?**

No. The GS1 Company Prefix that you already have been assigned is used in the SSCC.

### **2. What are some examples of when I should apply an SSCC?**

A shipping container could be a case, carton, pallet, or air cargo container of trade items.

### **3. Should the GTIN be included in the SSCC?**

No. GTIN information is included in the Advance Ship Notice (ASN) that is sent to the receiver of the product prior to shipment. The SSCC acts as a license plate number. That number is linked to the ASN and provides access to the GTIN information.

### **4. How is an SSCC different than a GTIN?**

**Serial Shipping Container Codes (SSCCs) are not Global Trade Item Numbers<sup>®</sup> (GTIN<sup>®</sup>s).** The SSCC acts as a license plate to track a shipment of logistics units through the supply chain. The GTIN uniquely identifies trade items (products and services).

### **5. Can the SSCC be used at the point of sale?**

No. The SSCC is only used at the distribution or warehouse environment and is not a GTIN.

### **6. What is an Extension digit?**

The extension digit is available to the member company to increase the capacity of the number. It has no defined logic.

## **7. Do I need to purchase special equipment to scan an SSCC?**

The equipment that you choose should have software that is compatible with the type of scanner that you have selected and should be able to read the GS1-128 symbol.

## **8. How many SSCCs can I create?**

With a 7-digit GS1 Company Prefix, one can assign 10 billion SSCCs (1 digit Extension digit times a 9 digit Serial Reference). With a 9-digit GS1 Company Prefix, one can assigned 100 million SSCCs (1 digit Extension digit times a 7 digit Serial Reference).

## **9. Do I need to put more than one SSCC label on a carton or pallet?**

Each logistics unit should have at least one bar code. It is recommended that a pallet should contain an additional bar code on the adjacent side.

## **10. 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<sup>®</sup>/**GTIN**<sup>®</sup>).
- **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**

### **Solutions Center**

The Solutions Center is your one-stop source for GS1 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 implement 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](http://www.gs1us.org/solutionscenter).

### ***GS1 US Glossary***

[www.gs1us.org/glossary](http://www.gs1us.org/glossary)

### ***GS1 US Product Catalog***

[www.gs1us.org/productcatalog](http://www.gs1us.org/productcatalog)

### ***Further Help***

email: [info@gs1us.org](mailto:info@gs1us.org)

Phone: +1 937.435.3870

Website: [www.gs1us.org/barcodes](http://www.gs1us.org/barcodes)



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