# GS1 US

**An Introduction to the
Global Service Relation Number (GSRN)**

**BarCodes and eCom**™

<div align="center">

**An Introduction to the**
# Global Service Relation Number (GSRN)

</div>

## Executive Summary

The modern world demands data concerning all aspects of multinational commerce and the relationships between and among business, government and individuals. Keeping information keyed to a particular individual has raised serious privacy concerns in all fields of endeavor. The Global Service Relation Number (GSRN) can resolve these seemingly conflicting desires, one for information and another for privacy.

The GS1 System (formerly the EAN.UCC System) defines a unique numbering scheme that allows a service provider (public or private) to track any entity's service requirements and needs over a continuing relationship.  The purpose of this document is to provide an introduction to applying the GSRN.

## Key Benefits of the GSRN

- Allows service providers to assign GSRNs rather than a third party.
- Identifies service relationships with a globally unique number.
- They can be used globally, with no need for proprietary numbers.
- A Check Digit ensures data integrity.
- Employs the globally accepted GS1 System whose language is standardized, understood, and used by multiple industries.
- Allows accurate machine reading of GSRNs, which can be encoded into GS1-128 (formerly UCC/EAN-128) and RSS Expanded® symbols.

## Definition

The GSRN is a non-significant number used to identify a database entry for recording recurring services. These services are considered to be activities carried out by a service provider for a service user, based upon a bilateral agreement.  Consequently, the GSRN identifies a particular service arrangement with reference to a particular service provider and to a particular user. It may in

December 2006

some instances identify the user as a participant (member) in a program. However, it **never** constitutes a person's personal identification number because it is always related to a given service arrangement.

## *Business Use*

An example use of the GSRN is the identification of "membership" within a student library. The library would issue all "members" with a card bar coded with a unique GSRN identifying the relationship between the library and a student. The library would then scan the GSRN, or membership number, whenever a book was lent or returned. The electronic message from the scanner would then be used to automatically update the library's stock management database.

The major benefit of using the, globally unique, GSRN number for this hypothetical application is that it may also be used in other applications, such as providing access to other student libraries where a co-operative lending agreement exists.

Another example of the use of GSRNs is the identification of patients in hospitals. In this case, the service provider is the hospital and the service recipient is the patient. The GS1 Company Prefix to be used is the one allocated to the hospital. The hospital generates a GSRN for each of its patients and encodes it in a GS1-128 symbol on the patient's wristband and the corresponding medical record.



When a product or service is administered (e.g. a particular treatment is given) it can easily be associated with the patient by scanning the GSRN of the patient and the Global Trade Item Number® (GTIN®) of the product or service.

It should be noted that the GSRN is not meant to identify a single service as a trade item. Neither is it used to identify a physical unit as a trade item, but it may identify a physical unit for service purposes (for example a computer with a service agreement).

## GSRN Construction

The GSRN is used to identify the recipient of services in the context of a service relationship.  It is a fixed length 18 all numeric character field.

The GSRN basic components are:
- A GS1 Company Prefix
- A Service Reference
- A Check Digit

| GS1 Company Prefix | Service Reference | Check Digit |
|---|---|---|
| $N_1$ $N_2$ $N_3$ $N_4$ $N_5$ $N_6$ $N_7$ $N_8$ $N_9$ $N_{10}$ $N_{11}$ $N_{12}$ $N_{13}$ $N_{14}$ $N_{15}$ $N_{16}$ $N_{17}$ | | $N_{18}$ |

**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 GSRN. 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 GSRNs.
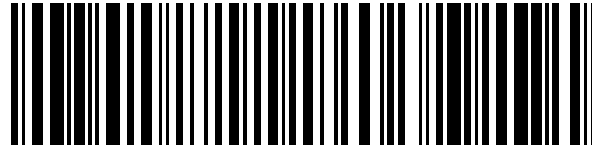
| **U.P.C. Company Prefix** | **Converted to GS1 Company Prefix** |
|---|---|
| 801234 | 0801234 |
| 8412340 | 08412340 |
| 81123400 | 081123400 |

**Service Reference** – The number assigned by the holder of the GS1 Company Prefix to uniquely identify the Service Reference. The Service Reference varies in length as a function of the GS1 Company Prefix length.  Note: The combined length of the GS1 Company Prefix and Service Reference is always 17 digits.

**Check Digit** – A calculated one-digit number used to ensure data integrity. It is calculated in the same manner as a Serial Shipping Container Code (SSCC).  To understand how this digit is calculated; visit GS1 US at www.gs1us.org/checkdig.

| AI | Full Title | Data Format | Data Title |
|---|---|---|---|
| 8018 | Global Service Relation Number | N4+n18 | GSRN |

GSRN encoded in a GS1-128 Symbol.



(8018) 061414123456789012

## *GS1 Identification Numbers*

GS1 Identification Numbers 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**).
- **Logistics 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 locations, functional entities 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.

## *Frequently Asked Questions*

**1. What is a GSRN?**

The Global Service Relation Number (GSRN) may be used to identify the recipient of services in the context of a service relationship. It provides a unique and unambiguous identification number for the service provider to store data relevant to service(s) provided to the recipient.  The GSRN is the key to access information stored on computer systems or reference information transferred via electronic commerce transactions.

**2. What is the data carrier for the GSRN?**

The two data carriers for the GSRN are GS1-128 and Reduced Space Symbology (RSS) Expanded.

December 2006

### 3. What are examples of service relationships?

The GSRN can identify the service relationships in a:
- Hospital admission, used to identify the patient for recording room charges, medical tests, and other charges.
- Membership in a Frequent Flyer Program, used for recording awards, claims, and preferences.
- Membership in a Loyalty Program, used for recording visits, purchase value, and awards.
- Membership in a club, used for recording entitlements, use of facilities, or subscription.
- Service agreement, such as for a TV or a computer, used for managing agreed services and warranties.

### 4. Are there other service relation methods?

There are many proprietary methods of identifying service relations in the marketplace today. They differ by industry and company.

### 5. What is the relationship between a GTIN and a GSRN?

There is no relationship other than the use of similar techniques to manage the uniqueness of the numbers. A GTIN will identify a trade product or process. The GSRN identifies a service relationship.

### 6. How is a GSRN assigned?

The exact method used to assign the GSRN is left to the discretion of the issuing organization. However, the GSRN must be unique for each individual service recipient and remain unique for a period well beyond the lifetime of the records relevant to the service relationship.  For ease of administration, GS1 and GS1 US recommend that GSRNs be allocated sequentially and not contain 'classifying' elements. It is also recommended that a particular function or individual (GS1 Coordinator) within the organization be given the task of assigning GSRNs. This same function or individual should have the responsibility of ensuring the data integrity of the GSRN database/table.

### 7. How is a GSRN stored in a database/database table?

The GSRN is a stand alone identifier. All information required by the service provider should be established on a computer file using the GSRN as the key to access the information. The type of information stored will be determined by the nature of the service relationship. Typical information would include the service recipient's: full name and address, details on services rendered, etc. The GSRN should be stored its own file/table.

**8. What is the first step for public or private entities to assign GSRNs?**

If the public or private entity does not have an assigned GS1 Company Prefix, contact GS1 US to obtain a membership application or visit the website at www.gs1us.org/pc. If the company already has a GS1 Company Prefix, the company can begin assignment immediately.

**9. What happens to the GSRN if there is a change in the service relationship?**

From time to time the details related to a GSRN may change. The following are general cases, which may occur if the circumstances under which the GSRN was originally set up change:

If a service provider ceases trading (possibly because of liquidation), any GSRNs allocated by that organization should be phased out. If the activity covered by the GSRN is transferred, the new service provider may continue to use existing GSRNs, but should allocate further GSRNs using their GS1 Company Prefix.
If the range of services identified by a GSRN changes, the service provider should change the details associated with the GSRN on the related computer file record. The assignment of a new GSRN is not required in this case.

A GSRN used to identify a particular service relationship that has terminated should not be reallocated for a period well beyond the lifetime of the relevant records.

**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®/**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*

### *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 create GSRNs and encode them in bar codes. This easy-to-follow reference 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*

email:  info@gs1us.org
Phone:  +1 937.435.3870
Web site: www.gs1us.org/barcodes

**GS1**
US

CORPORATE HEADQUARTERS
Princeton Pike Corporate Center
1009 Lenox Drive, Suite 202
Lawrenceville, New Jersey 08648  USA

CUSTOMER SERVICE
7887 Washington Village Drive, Suite 300
Dayton, OH 45459-8605  USA
T +1 937.435.3870
F +1 937.435.7317
email: info@gs1us .org

www.gs1us.org