The Global Language of Business

GSCN #	GSCN Name	Effective Date
15-285	Definitions for GS1 Company Prefix and U.P.C Company Prefix	2 Oct2016

Associated Work Request (WR) Number:

WR 15-285

Background:

Enhance section 1.4 by adding normative definitions for GS1 Company Prefix, U.P.C Company Prefix and updating related terms and definitions.

The lack of clear definitions in this foundational section on the GS1 identification system causes issues in the development of systems that manage GCPs for Member Organisations. This also affects the development of services such as GEPIR (for GCP lookup) and ONS (for service discovery) that have the GCP at the core of their designs.

GS1 General Specification Change:

The recommended changes are highlighted in the attached excerpt from the GS1 General Specifications, v16.

Disclaimer

GS1®, under its IP Policy, seeks to avoid uncertainty regarding intellectual property claims by requiring the participants in the Work Group that developed this **General Specifications Change Notification** to agree to grant to GS1 members a royalty-free licence or a RAND licence to Necessary Claims, as that term is defined in the GS1 IP Policy. Furthermore, attention is drawn to the possibility that an implementation of one or more features of this Specification may be the subject of a patent or other intellectual property right that does not involve a Necessary Claim. Any such patent or other intellectual property right is not subject to the licencing obligations of GS1. Moreover, the agreement to grant licences provided under the GS1 IP Policy does not include IP rights and any claims of third parties who were not participants in the Work Group.

Accordingly, GS1 recommends that any organization developing an implementation designed to be in conformance with this Specification should determine whether there are any patents that may encompass a specific implementation that the organisation is developing in compliance with the Specification and whether a licence under a patent or other intellectual property right is needed. Such a determination of a need for licencing should be made in view of the details of the specific system designed by the organisation in consultation with their own patent counsel.

THIS DOCUMENT IS PROVIDED "AS IS" WITH NO WARRANTIES WHATSOEVER, INCLUDING ANY WARRANTY OF MERCHANTABILITY, NONINFRINGMENT, FITNESS FOR PARTICULAR PURPOSE, OR ANY WARRANTY OTHER WISE ARISING OUT OF THIS SPECIFICATION. GS1 disclaims all liability for any damages arising from use or misuse of this Standard, whether special, indirect, consequential, or compensatory damages, and including liability for infringement of any intellectual property rights, relating to use of information in or reliance upon this document.

GS1 retains the right to make changes to this document at any time, without notice. GS1 makes no warranty for the use of this document and assumes no responsibility for any errors which may appear in the document, nor does it make a commitment to update the information contained herein.

GS1 and the GS1 logo are registered trademarks of GS1 AISBL.

1.3.5 GS1 business messages

GS1 business messages or GS1 standards-based applications use GS1 identification keys for identification exclusive of GS1 data carrier features. Examples of data carrier features include use of:

- Modulo 103 GS1-128 symbol check character to secure data capture.
- Function 1 Symbol Character (FNC1) in the second position of GS1-128 barcode or an Electronic Product Code (EPC) header value to discriminate between GS1 data content and data carrier overhead.
- FNC1 as separator character or EPC parsing value to parse a decoded data string into significant data parts.

⚠️ **Exception:** If an EPC user is using GS1 system and non-GS1 system headers to support an application, this policy does not apply, and advice should be sought on the use of EPC headers to provide uniqueness among multiple numbering systems.

1.4 ~~GS1 Prefix, GS1-8 Prefix and GS1 Company Prefix~~The GS1 Identification System

1.4.1 Global, open versus restricted

1.4.1.1 Global, open numbers (unrestricted distribution)

Global, Open is an identification number used in unrestricted distribution which signifies that such system data may be applied on goods to be processed anywhere in the world without restraint as to such things as country, company, and industry.

1.4.1.2 Restricted Circulation Numbers

Restricted Circulation Numbers (RCN) are GS1 identification numbers used for special applications in restricted environments, defined by the local GS1 Member Organisation (e.g., restricted within a country, company, or industry). They are allocated by GS1 for either internal use by companies or to GS1 Member Organisations for assignment based on business needs in their country (e.g., variable measure trade item identification, coupons).

- RCN-12 is a 12-digit Restricted Circulation Number
- RCN-13 is a 13-digit Restricted Circulation Number
- RCN-8 is an 8-digit Restricted Circulation Number beginning with GS1-8 Prefix 0 or 2.

~~A variable measure number (VMN) identifies variable measure trade items for scanning at the point of sale. It is defined per GS1 Member Organisation rules.~~

- ~~VMN-12 is a 12-digit Restricted Circulation Number encoded in UPC-A symbols to allow scanning of variable measure trade items at the point-of-sale. It is defined per target market specific rules that are associated with U.P.C. Prefix 2.~~
- ~~VMN-13 is a 13-digit Restricted Circulation Number encoded in EAN-13 symbols to allow scanning of variable measure trade items at the point-of-sale. It is defined per target market specific rules that are associated with GS1 Prefixes 20 through 29.~~

1.4.2 GS1 Prefix

The GS1 Prefix is a unique string of two or more digits, issued by the GS1 Global Office, and allocated to GS1 Member Organisations to ~~create~~ issue GS1 Company Prefixes or allocated to other specific areas listed in figure 1.4.2-1. The main purpose of the GS1 Prefix is to allow decentralisation of the administration of identification numbers. GS1 Prefix ranges are shown in figure 1.4.2-1.

✅ **Note**: As the GS1 Prefix varies in length, the issuance of a GS1 Prefix excludes all longer strings that start with the same digits from being issued as GS1 Prefixes.

Figure 1.4.2-1. Synopsis of GS1 Prefix ranges

GS1 Prefix ranges	Significance
00000	Unused to avoid collision with GTIN-8
00001 – 00009 0001 – 0009 001 – 019	Used to issue GS1 Company Prefixes from which U.P.C. Company Prefixes can be derived.
02	Used to issue GS1 restricted circulation numbers within a geographic region variable measure trade item identification for restricted distribution
030 - 039	Used to issue GS1 Company Prefixes from which U.P.C. Company Prefixes can be derived.
04	Used to issue GS1 restricted circulation numbers within a company
05	GS1 US rReserved for future use
060 - 099	Used to issue GS1 Company Prefixes from which U.P.C. Company Prefixes can be derived.
100 - 199	Used to issue GS1 Company Prefixes
20 -- 29	Used to issue GS1 restricted circulation number within a geographic region
300 - 950976	Used to issue GS1 Company Prefixes
951	Used to issue General Manager Numbers for the EPC General Identifier (GID) scheme as defined by the EPC Tag Data Standard[1]
952 – 976	Used to issue GS1 Company Prefixes
977	Allocated to ISSN International Centre for serial publications
978 - 979	Allocated to International ISBN Agency for books, portion of 979 sub-allocated to International ISMN Agency for music
980	Used to issue GS1 identification of refund receipts
981-984	Used to issue GS1 coupon identification for common currency areas
985 - 989	Reserved for future GS1 coupon identification
99	Used to issue GS1 coupon identification

✅ **Note**: GS1 Company Prefixes 00 00000 and 00 01000 to 00 07999 have specific application for Locally Assigned Codes (LACs) or Retailer Zero-Suppressed Codes (RZSCs).

1.4.3 GS1-8 Prefix

The GS1-8 Prefix is a unique string of three digits issued by GS1 Global Office and allocated to GS1 Member Organisations for the creation ofto issue GTIN-8s or allocated to create RCN-8s. GS1-8 Prefixes are shown in figure 1.4.3-1.

Figure 1.4.3-1. Synopsis of GS1-8 Prefixes

GS1-8 Prefixes	Significance
000 - 099	Used to issue GS1 restricted circulation number within a company
100 - 199	Used to issue GTIN-8s
200 - 299	Used to issue GS1 restricted circulation number within a company
300 - 97669	Used to issue GTIN-8s
9770 - 999	Reserved for future use

Commented [CJ4]: WR15-285

---

[1] *http://www.gs1.org/epc/tag-data-standard*

1.4.4 GS1 Company Prefix

A GS1 Company Prefix is a unique string of four to twelve digits used to issue GS1 identification keys. The first digits are a valid GS1 Prefix and the length must be at least one longer than the length of the GS1 Prefix. The GS1 Company Prefix is issued by a GS1 Member Organisation or by GS1 Global Office, is based on a GS1 Prefix allocated to the issuer, and is allocated either to a GS1 Member or to the issuer itself (e.g. for issuing individual identification keys).

A GS1 Company Prefix starting with a zero ('0') is used to generate GTIN 12s (as well as the other GS1 Keys). A GS1 Company prefix starting with a digit other than ('0') is used to generate GTIN 13s (as well as the other GS1 Keys).

Note: As the GS1 Company Prefix varies in length, the issuance of a GS1 Company Prefix excludes all longer strings that start with the same digits from being issued as GS1 Company Prefixes.

1.4.5 U.P.C. Prefix

A U.P.C. Prefix is derived from a GS1 Prefix that starts with zero ('0') by removing that leading zero. A U.P.C. Prefix is:

- used to issue U.P.C. Company Prefixes;
- reserved for Restricted Circulation Numbers; or
- reserved for special functions.

U.P.C. Prefix ranges are shown in Figure 1.4.5-1.

Figure 1.4.5-1. Synopsis of U.P.C. Prefix ranges

Synopsis of U.P.C. Prefixes		
GS1 Prefix range	U.P.C. Prefix range	Significance
00000	N/A	Unused to avoid collision with GTIN-8
00001 – 01999	0001 – 1999	Used to issue U.P.C. Company Prefixes
02	2	Used to issue GS1 Variable Measure Trade Item identification for restricted distribution
03	3	Used to issue U.P.C. Company Prefixes, reserved for alignment with FDA Labeler Code
04	4	Used to issue GS1 restricted circulation numbers within a company
05	5	Reserved for future use
06 – 09	6 – 9	Used to issue U.P.C. Company Prefixes

1.4.6 U.P.C. Company Prefix WR15-285

A U.P.C. Company Prefix is derived from a GS1 Company Prefix that starts with zero ('0') by removing that leading zero. A U.P.C. Company Prefix SHALL only be used to construct 12-digit trade item identifiers; see section 2 for details.

When a leading zero is added to a U.P.C. Company Prefix it becomes a GS1 Company Prefix that may be used to issue all other GS1 identification keys.

Note: For example, the 6-digit U.P.C. Company Prefix 614141 is derived from the 7-digit GS1 Company Prefix 0614141.

Commented [CJ5]: WR15-285

Commented [CJ6]: WR15-285 new section

Formatted: Font: Not Bold

Commented [CJ7]: WR15-285 new section

1.4.7 GS1 Identification Key

A GS1 Identification Key is a unique identifier for a class of objects (e.g. trade items) or an instance of an object (e.g. logistic unit).

The type of the GS1 Identification Key is declared implicitly or explicitly by the data carrier or electronic message in which the key is used.

> ✅ **Note**: For example:
>
> - in a bar code, the type is declared by the preceding GS1 Application Identifier (AI);
>   - in the case of EAN/UPC and ITF-14 symbologies the AI (01) is implied;
> - in electronic communication (EDI messages, EPCIS, semantic tags, etc.), the type is declared by the underlying schema or specification.

The type defines the syntax (character set and structure) of the value. At minimum, the GS1 Identification Key value contains one of the following:

- a GS1 Prefix;
- a GS1-8 Prefix (only for GTIN-8);
- a GS1 Company Prefix;
- a U.P.C. Prefix; or
- a U.P.C. Company Prefix (only for GTIN-12).

1.4.8 Character set

The GS1 Identification System supports three characters sets; the specific character set depends on the identification key type. The three character sets are:

1. digit characters ('0' to '9');
2. characters from the ISO/IEC 646 Table 1 – Unique graphic character allocations[2], referred to within this standard as GS1 AI encodable character set 82 (see Figure 7.11-1); and
3. digit characters ('0' to '9'), upper case alphabetic characters ('A' to 'Z'), and three special characters ('#', '-', and '/'), referred to within this standard as GS1 AI encodable character set 39 (see Figure 7.11-2).

Regardless of the identification key type, the GS1 Prefix and (if applicable) the GS1 Company Prefix within any identifier use only the digit characters. Some identification key types that have a serial component also support different characters sets for the serial component than for the portion that precedes it.

GS1 identification key type	Character set
Global Trade Item Number (GTIN)	Digit characters
Global Location Number (GLN)	Digit characters
Serial Shipping Container Code (SSCC)	Digit characters
Global Returnable Asset Identifier (GRAI)	Digit characters (before serial component)
	GS1 AI encodable character set 82 (serial component)
Global Individual Asset Identifier (GIAI)	GS1 AI encodable character set 82
Global Service Relation Number (GSRN)	Digit characters

---

[2] While the ISO/IEC 646:1991 specification is not publicly available, the 6th edition of ECMA-6 corresponds to it and is available at *http://www.ecma-international.org/publications/files/ECMA-ST/Ecma-006.pdf*.

GS1 identification key type	Character set
Global Document Type Identifier (GDTI)	Digit characters (before serial component)
	GS1 AI encodable character set 82 (serial component)
Global Identification Number for Consignment (GINC)	GS1 AI encodable character set 82
Global Shipment Identification Number (GSIN)	Digit characters
Global Coupon Number (GCN)	Digit characters
Component/Part Identifier (CPID)	GS1 AI encodable character set 39

As every identifier in the GS1 Identification System is a string, even when it is composed only of digit characters, all characters including leading zeroes are significant.

1.5 GS1 Company Prefix Allocation

A GS1 Company Prefix gives access to all the applications using GS1 system identification standards.

The GS1 Company Prefix may not be sold, leased, or given, in whole or in part, for use by any other company. This restriction applies to all GS1 identification keys even those which are constructed without a GS1 Company Prefix. This requirement applies to GS1 identification keys which have been assigned individually by a GS1 Member Organisation to an individual user company.

As the GS1 Company Prefix varies in length, the issuance of a GS1 Company Prefix excludes all longer strings that start with the same digits from being issued as GS1 Company Prefixes. Note that the *GS1 EPC Tag Data Standard* supports only GS1 Company Prefixes between six and twelve digits in length (inclusive), a four- or five-digit GS1 Company Prefix SHALL be treated as a block of consecutive six-digit values for the purposes of RFID tag encoding and EPC URI generation.

See section *1.6* for additional guidelines that apply when a company changes legal status as a result of an acquisition, merger, partial purchase, split, or "spin-off."

A GS1 Company Prefix assigned to a member of any Member Organisation entitles that member to create any of the GS1 identification keys:

- Global Trade Item Number (GTIN).
- Global Location Number (GLN).
- Serial Shipping Container Code (SSCC).
- Global Returnable Asset Identifier (GRAI).
- Global Individual Asset Identifier (GIAI).
- Global Service Relation Number (GSRN).
- Global Document Type Identifier (GDTI).
- Global Shipment Identification Number (GSIN).
- Global Identification Number for Consignment (GINC).
- Global Coupon Number (GCN).
- Component / Part Identifier (CPID).

1.6 Allocation

GS1 Member Organisations licence GS1 Company Prefixes and in some cases also assign individual GS1 identification keys (e.g. GTIN and GLNs) to companies.

2.1.2.1 General retail consumer trade items scanned in general retail at POS

A general retail consumer trade item that is intended to be read at high-volume POS. The general retail consumer trade item must carry a barcode from the EAN/UPC symbology family and in limited circumstances (see Note below) a symbol from the GS1 DataBar® Retail POS Family (*). Therefore, these trade items support only GTIN-8, GTIN-12, or GTIN-13s.
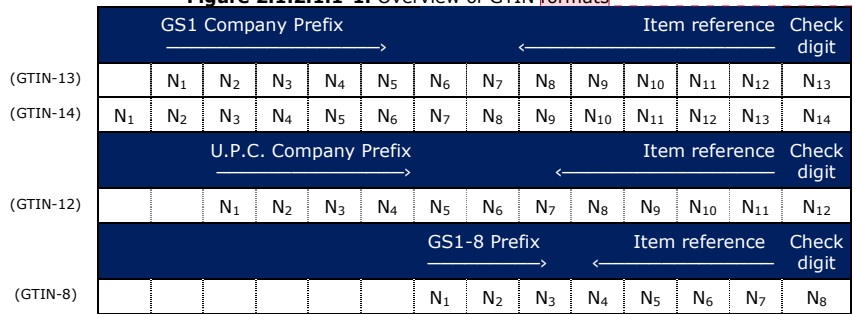
Some point-of-sale scanning systems may be able to handle symbologies other than the EAN/UPC symbology. However, in an open environment, it is not possible to predict the type of scanner that will be used. Therefore, items that may be scanned at point-of-sale must be marked with an omnidirectional barcode. To support new applications additional GS1 approved data carriers (encoding additional data with the GTIN) may be applied with mutual agreement between trading partners. For information on how to manage multiple barcodes see section *4.15*.

(*) In 2014 GS1 DataBar became an open symbology and all scanning environments must be able to read these symbols.

2.1.2.1.1 GTIN data string

A GTIN may be an eight, twelve, thirteen or fourteen-digit ~~number~~ string as explained in the sections below. These ~~numbers~~ strings will be unique when they incorporate a GS1 Company Prefix, U.P.C. Company Prefix or GS1-8 Prefix ~~or GS1 Company Prefix~~ as required, and if they are always treated as a data string of ~~numbers~~ digits plus a final check digit. The check digit is explained in section *7.9*. Its verification~~, carried out automatically by the barcode reader,~~ ensures that the number is correctly composed.

Figure 2.1.2.1.1-1. Overview of GTIN formats

	GS1 Company Prefix									Item reference			Check digit
(GTIN-13)	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}
(GTIN-14)	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}

(GTIN-14 row: N_1 starts in first column)

		U.P.C. Company Prefix								Item reference			Check digit
(GTIN-12)			N_1	N_2	N_3	N_4	N_5	N_6	N_7	N_8	N_9	N_{10}	N_{11}	N_{12}

					GS1-8 Prefix			Item reference				Check digit
(GTIN-8)						N_1	N_2	N_3	N_4	N_5	N_6	N_7	N_8

GTIN	GTIN format
~~GTIN-8~~	~~N7 + C~~
~~GTIN-12~~	~~N11 + C~~
~~GTIN-13~~	~~N12 + C~~
~~GTIN-14~~	~~N13 + C~~
~~N - numeric digit~~	
~~C - check digit~~	

When any of these GTINs is encoded in a data carrier that must encode a fixed-length data string of 14-digits, the GTINs less than 14-digits in length must be prefixed by leading zeroes that simply act as filler ~~character~~digits~~s~~.

Commented [CJ12]: WR15-285 new figure

Formatted: GS1_Body

Figure 2.1.2.1.1-2. 14-digit representation of the four GTIN formats

	added zero(es)						right aligned GTIN string						
	← ─ ─ ─ ─ ─ ─ ─ ─ ─ ─						─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ →						
(GTIN-8)	0	0	0	0	0	0	N_1	N_2	N_3	N_4	N_5	N_6	N_7	N_8
(GTIN-12)	0	0	N_1	N_2	N_3	N_4	N_5	N_6	N_7	N_8	N_9	N_{10}	N_{11}	N_{12}
(GTIN-13)	0	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}
(GTIN-14)	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}

The presence or lack of these leading zeroes does not change the GTIN concerned.

✅ **Note**: These series of GTINs may be stored with or without leading zeroes in the same database field, depending on the requirements of the particular application.

✅ **Note**: A GTIN-12 may start with one, two or three leading zeros. These zeroes are meaningful since they are part of the U.P.C. Company prefix, and therefore these must be preserved when storing the GTIN-12 in a database field. For the list of U.P.C. Prefix ranges GS1 Prefix use see section *1.4*.

2.1.2.1.2 GTIN-12 and GTIN-13

Application description

Figure 2.1.2.1.2-1. GTIN-12 / GTIN-13 data structure

	GS1 Company Prefix						Item reference						Check digit
(GTIN-13)	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}
(GTIN-12)	0	N_1	N_2	N_3	N_4	N_5	N_6	N_7	N_8	N_9	N_{10}	N_{11}	N_{12}

	GS1 Company Prefix						Item reference						Check digit
(GTIN-13)	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}
	U.P.C. Company Prefix						Item reference						Check digit
(GTIN-12)	N_1	N_2	N_3	N_4	N_5	N_6	N_7	N_8	N_9	N_{10}	N_{11}	N_{12}

The GS1 Company Prefix is allocated by a GS1 Member Organisation to a system user. It makes the ID number unique worldwide but does not identify the origin of the item. Any valid GS1 Company Prefix, other than ones starting with a zero, may be used to issue a GTIN-13 and any valid U.P.C Company Prefix may be used to issue a GTIN-12. The GS1 Prefixes used for this purpose can be found in section *1.4.2*.

The item reference is assigned by the system user, who must observe the rules in section 4.

The check digit is explained in section *7.9*. Its verification, carried out automatically by the barcode reader, ensures that the number is correctly composed.

GS1 key

Definition

- The GTIN-12 is the 12-digit GS1 identification key composed of a U.P.C. Company Prefix, item reference, and check digit used to identify trade items.
- The GTIN-13 is the 13-digit GS1 identification key composed of a GS1 Company Prefix, item reference, and check digit used to identify trade items.

Rules

All the GTIN Allocation Rules described in section 4.

Attributes

Required

Not applicable

Optional

For all the Application Identifiers (AI) that can be used with a GTIN, see section 3.

Rules

Not applicable

Data carrier specification

Carrier choices

The data carriers for this element string are:

- UPC-A barcode (carrying a GTIN-12).
- EAN-13 barcode (carrying a GTIN-13).
- GS1 DataBar Retail POS family (carrying GTIN-12 or GTIN-13 represented in a fixed-length data string of 14 digits by adding leading zeroes) (*).

EAN-13 and UPC-A is generally referenced as a common symbology called EAN/UPC.

The system recognises this element string by the symbology identifier **]E0** and **]e0** (*) and a valid GS1 Company Prefix (also see section *1.4.2*).

The data transmitted from the barcode reader means that one fixed measure trade item with a GTIN-13 or GTIN-12 has been captured.

(*) In 2014 GS1 DataBar became an open symbology and all scanning environments must be able to read these symbols.

Symbol X-dimensions, minimum symbol height, and minimum symbol quality

See section *5.5.2.7.1*, GS1 system symbol specification table 1, and section *5.5.2.7.3*, GS1 system specification Table 3.

Symbol placement

All the symbol placement guidelines are defined in section 6.

Unique application processing requirements

For a description of processing requirements, see section 7.

2.1.2.1.3 GTIN-12 Carried by a UPC-E barcode

Application description

~~Only U.P.C. Company Prefixes beginning with zero can be used to construct UPC-E barcodes. Distribution of a U.P.C. Company Prefix in this range is restricted to proven need only (e.g., for items whose packaging does not include enough available space to permit the use of any other barcode). Companies with these prefixes are encouraged to manage their finite resource carefully.~~

Some GTIN-12s beginning with the U.P.C. Prefix 0 may be represented in a small symbol called the UPC-E barcode. The GTIN-12 is condensed into a barcode consisting of six symbol character positions. For application processing, the GTIN-12 must be transformed into its full length by the barcode reader software or by the application software. There is no six-digit UPC-E barcode. See section 7.100 for UPC-E barcode options.

GS1 key

Definition

The 12-digit GS1 identification key composed of a U.P.C. Company Prefix, item reference, and check digit used to identify trade items.

Rules

All the GTIN Allocation Rules described in section 4.

Attributes

Required

Not applicable

Optional

Not applicable

Rules

Not applicable

Data carrier specification

Carrier choices

The UPC-E barcode is a barcode of the EAN/UPC symbology representing a GTIN-12 in six explicitly encoded digits using zero-suppression techniques.

Symbol X-dimensions, minimum symbol height, and minimum symbol quality

See section 5.5.2.7.1, GS1 system symbol specification table 1.

Symbol placement

All the symbol placement guidelines defined in section 6.

Unique application processing requirements

For a description of processing requirements, see section 7.

2.1.2.1.4 GTIN-8 Carried by an EAN-8 barcode

Application description

The GTIN-8 is available for items whose packaging does not include enough available space to permit the use of an EAN-13 or UPC-A symbol. GTIN-8s are individually assigned by GS1 Member Organisations on request. Figure 2.1.2.1.3-1 shows the data structure of a GTIN-8.

Figure 2.1.2.1.4-1. GTIN-8 data structure

GS1-8 Prefix				Item reference			Check digit
N_1	N_2	N_3	N_4	N_5	N_6	N_7	N_8
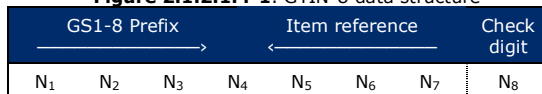
The GS1-8 Prefix is a unique string of three digits issued by GS1 Global Office. See section 1.4.3 for the GS1-8 Prefixes used in this element string.

The item reference is assigned by the GS1 Member Organisation. The GS1 Member Organisations provide procedures for obtaining GTIN-8s.

The check digit is explained in section *7.9*. Its verification, carried out automatically by the barcode reader, ensures that the number is correctly composed.

GS1 key

Definition

The 8-digit GS1 identification key composed of a GS1-8 Prefix, item reference, and check digit used to identify trade items.

Rules

In addition to the GTIN Allocation Rules described in section 4, the following guidelines should be observed. Before deciding to use a GTIN-8 as opposed to a GTIN-13 or GTIN-12, companies, working jointly with their printer, should consider options such as:

- Whether the barcode can be reduced in size (e.g., printed at a lower X-dimension, taking into account the minimum barcode print quality requirements (see section *5.5*).

- Whether the label or artwork can reasonably be changed to enable the inclusion of an EAN-13 or a UPC-A barcode or a symbol from the GS1 DataBar Retail POS family.

- For example, redesigning the label and increasing the label size may be an option, especially when the existing label is small in comparison with the pack area.

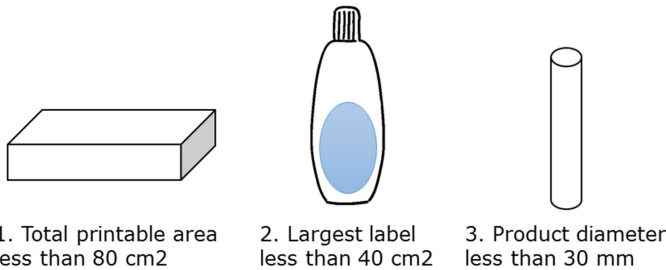- Whether a truncated barcode can be used.

> ✅ **Note**: A truncated barcode (normal length, but reduced in height) may only be used if there is absolutely no possibility of printing a full size barcode. Truncation removes the omnidirectional scanning capability. A barcode with excessive truncation will not be of any practical use. Users considering this option should consult their customers to see if an acceptable compromise can be reached.

Pack size constraints

The use of a GTIN-8 is authorised when:

- The total printable area of the product packaging is less than 80 cm², or

- The area of the largest label for the item is less than 40 cm², or

- The product is cylindrical with a diameter less than 30 mm.

Figure 2.1.2.1.4-2. GTIN-8 pack size constraints

1. Total printable area less than 80 cm2

2. Largest label less than 40 cm2

3. Product diameter less than 30 mm

Attributes

Required

Not applicable

Optional

For all the Application Identifiers (AI) that can be used with a GTIN, see section 3.

Rules

Not applicable

Data carrier specification

Carrier choices

The data carriers for a GTIN-8 are the EAN-8 barcode or a symbol from the GS1 DataBar Retail POS family (*).

The system recognises this element string by the symbology identifier **]E4 or]e0** (*) and by N_1 not being 0 or 2. The data transmitted from the barcode reader means that one fixed measure trade item with a GTIN-8 has been captured.

(*) In 2014 GS1 DataBar became an open symbology and all scanning environments must be able to read these symbols.

Symbol X-dimensions, minimum symbol height, and minimum symbol quality

See section *5.5.2.7.1*, GS1 system symbol specification table 1.

Symbol placement

All the symbol placement guidelines defined in section 6.

Unique application processing requirements

For a description of processing requirements, see section 7.

2.1.2.1.5 Hardcover books and paperbacks: ISBN, GTIN-13, and GTIN-12 scanned in general retail at POS

Application description

When identifying books and paperbacks a company may identify them in the same manner as any other retail trade items (see section *2.1.2.1*). However, the recommended option is to use the International Standard Book Number (ISBN numbering system). The GS1 Prefixes 978 and 979 (*) have been allocated to ISBN (*http://www.isbn-international.org/*), which allocates numbers from these 'Bookland' prefixes.

(*) Within GS1 Prefix 979 a subset 9790 has been allocated to the International ISMN Agency for notated music.

Note: ISBNs SHALL NOT be allocated to non-book products even if the products are related to a book (e.g., teddy bears, coffee mugs, T-shirts, etc. related to a book launch). Such non-book products SHALL be identified and barcoded in the same manner as any other retail trade item (see section *2.1.2.1*). A trade item grouping of identical book items would normally be identified according to section *2.1.2.6.2*. However, an ISBN may also be used to create a 14-digit GTIN with an indicator to identify a trade item grouping of identical book items (refer to section *2.1.2.6.2)* provided that the publisher that issues the 14-digit GTIN is a member of a GS1 organisation or is authorised to act through an agreement between its local GS1 Member Organisation and the local organisation representing publishers.

GS1 key

Definition

The Global Trade Item Number® (GTIN) is the GS1 identification key used to identify trade items. The key comprises a GS1 Company Prefix, an item reference and a check digit.

Rules

All the GTIN Allocation Rules described in section 4.