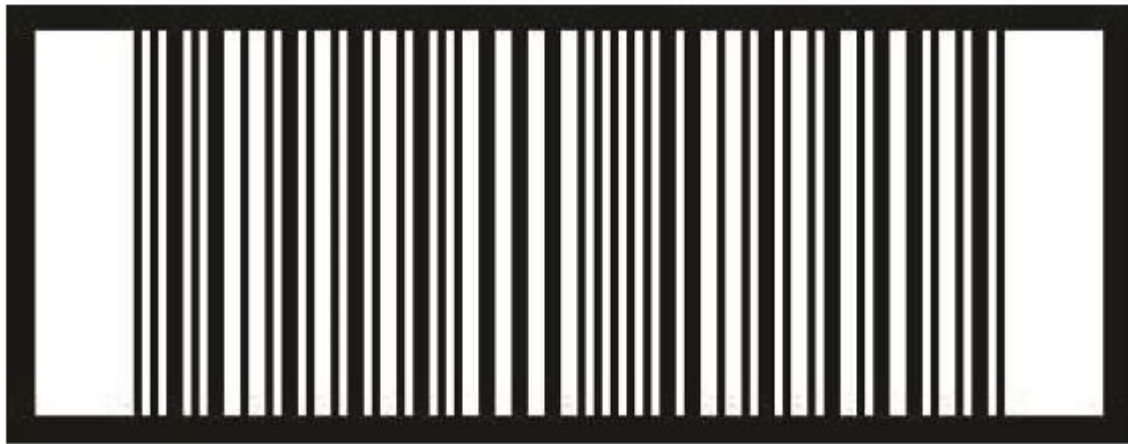




HOME HARDWARE STORES LIMITED

Supplier Guide

Support Document



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BARCODE GUIDELINES





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BARCODE GUIDELINES

1 Introduction

Home Hardware Stores Limited's Barcode Guidelines have been published for the mutual benefit of HHSL, our Home Suppliers and our Home Dealers. This information is designed to assist in the implementation and maintenance of barcoding for both point of sale and shipping and receiving. Overall Supply Chain costs are minimized by all partners in the Supply Chain adhering to identical allocation rules.

We use a **Warehouse Management System (WMS)** in each of our Dealer Support Centres which relies on accurate barcoding as an essential part of our daily operation. We will be scanning barcodes during all of our processes to identify and verify the items we are working with.

A number of steps are vital to ensure that barcodes are accurately communicated within the Supply Chain. These steps ensure that the information linked with any scanned barcode can be associated with accurate, up-to-date data. This is particularly essential for items scanned at the Point of Sale where the absence of accurate data may have legal implications.

Ensuring your products are properly identified at retail point-of-sale terminals on a worldwide basis, speeds data collection and improves inventory data for retailers by eliminating errors. Improved inventory data drives collaboration between you and your trading partners, making your value chain more visible, secure, and sustainable.

1.1 GTIN Overview and Terminology

GTIN describes a family of GS1 (*EAN.UCC*) global data structures that employ 14 digits and can be encoded into various types of data carriers. Currently, GTIN is used exclusively within bar codes, but it could also be used in other data carriers such as radio frequency identification (*RFID*). The GTIN is only a term and does not impact any existing standards, nor does it place any additional requirements on scanning hardware. For North American companies, the UPC is an existing form of the GTIN. The family of data structures (*not symbologies*) comprising GTIN include:

- ◆ GTIN-12 (UPC-A): this is a 12-digit number used primarily in North America
- ◆ GTIN-8 (EAN/UCC-8): this is an 8-digit number used predominately outside of North America
- ◆ GTIN-13 (EAN/UCC-13): this is a 13-digit number used predominately outside of North America
- ◆ GTIN-14 (EAN/UCC-14 or ITF-14): this is a 14-digit number used to identify trade items at various packaging levels



1.1.1 The GTIN Family of Data Structures

Today, five symbologies support this GTIN data structure: UPC; EAN; ITF-14; UCC/EAN Code 128; and GS1 Databar (*formerly Reduced Space Symbology*). Of these, ITF-14, GS1-128, and GS1 Databar employ 14-digit data structures of which the 14th character is a packaging level indicator (*i.e., item or case*). Both UPC and EAN have an implied packaging level of a single item. Therefore, these symbologies support the GTIN data structure without changing the number of encoded data characters.

1.2 GTIN and Barcode Compliance

As a Supplier to HHSL, you are responsible for the accuracy and completeness of the GTIN and Barcode information you provide. Please review details of this compliance in *section 10.4 GTIN and Barcode Compliance Objectives* in our main [Supplier Guide](#).

1.3 Barcode Types

The table below illustrates the relationship between GTIN, legacy terminology, symbologies and use at point of sale. In most cases, the legacy terminology and the symbology are called by the same name. GTIN changes this by separating the name of the data structure from the data carrier or, in this case, the symbology.

GTIN Data Structure	Legacy Terminology	Symbology	Use at POS
GTIN-12	UPC, UCC-12	UPC-A, UPC-E	Yes
GTIN-13	EAN, JAN, EAN-13	EAN-13	Yes
GTIN-8	EAN-8	EAN-8	Yes
GTIN-14	EAN / UCC-14	GS1 Databar Family	Not Yet
GTIN-14	ITF Symbol, SCC-14, DUN-14, UPC Case Code, UPC Shipping Container Code, UCC Code 128, EAN Code 128	GS1 Databar Family	Not Yet

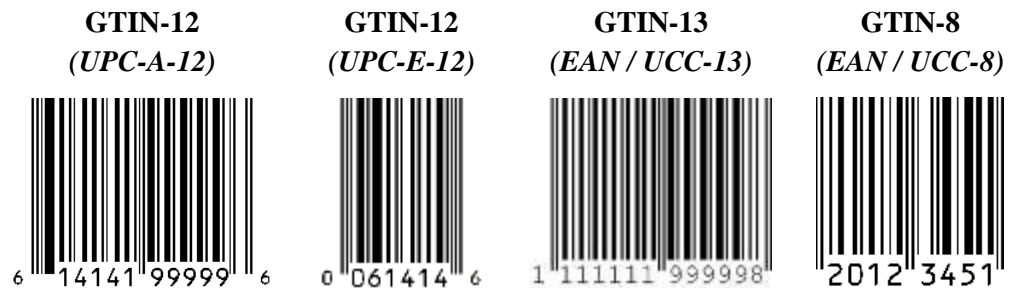
The barcode types used at HHSL to process consumer sales are outlined and illustrated as follows:



1.3.1 UPC/EAN (GTIN-8 / GTIN-12 / GTIN-13)

- ◆ Universal Product Code (UPC) and European or International Article Number (EAN)
- ◆ The GTIN is the human readable number that is encoded or displayed at the bottom of the barcode
- ◆ Used at retail Point of Sale (POS)
- ◆ Both UPC and EAN have an implied packaging level of a single item
- ◆ For relationships between GTIN, legacy terminology, symbologies and use at point of sale for these barcodes, please see the table in [section 1.3 Barcode Types](#) above.
- ◆ Includes human readable code
- ◆ All types acceptable at HHSL

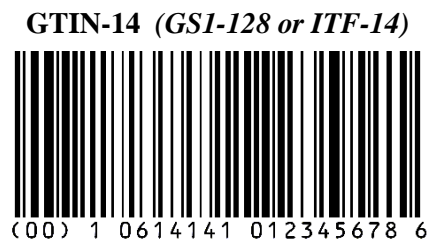
Examples:



1.3.2 GS1-128 (GTIN-14)

- ◆ Previously referred to as UCC-128 or EAN-128
- ◆ Employs 14-digit data structures of which the 1st character is a packaging level indicator (*i.e.*, *item or case*)
- ◆ For relationships between GTIN, legacy terminology, symbologies and use at point of sale for these barcodes, please see the table in [section 1.3 Barcode Types](#) above.
- ◆ Includes human readable code
- ◆ Uses application identifiers
- ◆ Can carry all GS1 keys but cannot be used to identify items crossing Point of Sale
- ◆ 48 alpha numeric capacity
- ◆ Specific information can be encoded in GS1-128 barcodes to add security and sustainability. For example, Best Before Date, Batch/Lot Number, Serial Number.
- ◆ The Serial Shipping Container Code (SSCC) is an example of the data that can be encoded in a GS1-128 barcode which uses an application identifier code of (00).

Example:





1.3.3 ITF-14 (GTIN-14)

- ◆ Can only carry GTINs
- ◆ Can be printed directly on cardboard but **cannot** be used to identify items crossing Point of Sale
- ◆ Referred to as “Interleaved 2 of 5”
- ◆ Employs 14-digit data structures of which the 1st character is a packaging level indicator (*i.e.*, *item or case*)
- ◆ For relationships between GTIN, legacy terminology, symbologies and use at point of sale for these barcodes, please see the table in [section 1.3 Barcode Types](#) above.
- ◆ Includes human readable code
- ◆ The ITF-14 barcode encodes GTIN-14 information
- ◆ Typically used for direct printing on corrugate due to the barcode’s simple construction and the lower reflectance of corrugated materials
- ◆ Lines at the top and the bottom of the barcode are called "bearer bars" and are used to prevent a "short scan".
- ◆ Bearer bars disrupt the scan and ensure that only complete scans will return a valid barcode read.
- ◆ The use of this symbol supports fast and accurate tracking of inventory, adding visibility to the supply chain.

Example: The Interleaved 2 of 5 symbology is used to create GTIN-14 bar codes for standard containers. It can be printed directly on corrugated cardboard.

Several features are built into the Interleaved 2 of 5 symbol to help the scanner locate and read the symbol when it is printed on a rough surface. These features include:

- ◆ Bearer bars: the thick lines around the symbol, which provide support for the printing plate when printing directly on corrugate.
- ◆ Quiet zones: the clear space to the left and right of the bars.



1.3.4 Choosing GS1-128 or ITF-14

- ◆ GS1-128 is used on a fixed container with an application identifier or on a variable container, and ITF-14 is used on a fixed container with no application identifier.

For more detailed information, see GS1 Canada document: [Bar Coding Basics](#).



2 Barcodes and Packaging Requirements & Standards

Our goal is to ensure that product moves from your facility to our retail stores in the best possible condition, through safe and efficient handling. In Canada, packaging and labelling standards are governed by both federal and provincial legislation, and accordingly compliance at both levels must be ensured. For more on HHSL packaging requirements, please review *section 9 Shipping and Marking Standards* in our main [Supplier Guide](#).

Through the use of barcodes, it is our objective to optimise the Supply Chain; increasing profitability and enhancing the competitive edge of HHSL, their Dealers and Suppliers.

To help accomplish this objective, we have set the following targets:

- ◆ Achieve a 95% first pass read rate at retail Point of Sale
- ◆ Develop policies, procedures, and systems at all levels of the Supply Chain that will facilitate the successful implementation of barcoding
- ◆ Provide Dealers, Suppliers, and HHSL associates with helpful information about barcoding
- ◆ Develop an audit and control system for ensuring the ongoing accuracy of barcoding information between HHSL, Dealers and Suppliers
- ◆ Add in targets for receiving

2.1 Barcode Standards

HHSL adheres to the best practice guidelines and standards for all barcode applications as governed by GS1. The GS1 general specifications have been developed by manufacturers, distributors and retailers to help eliminate any confusion between product identification and product listing within the Supply Chain. For additional information on these standards, please visit their global website at [GS1 Global](#), or the Canadian website at [GS1 Canada](#).

2.2 Need A Barcode?

GS1 and its Member Organizations, in over 100 countries, is the official source for your barcode numbers. GS1 barcodes identify items in the supply chain and are used in all industry sectors including retail, manufacturing and healthcare. GS1 ensures that the barcode numbers that you receive are unique against all other numbers and will be registered in the [GS1 Global Trade Item Number Registry, GEPIR](#). If you are not already registered with GS1, please contact them via their global website at [GS1 Global](#) or the Canadian website at [GS1 Canada](#).

2.3 GTIN/Barcode Contact at HHSL

If you have any questions concerning the use of GTINs and/or barcodes at HHSL, please contact our Supplier Compliance Coordinator via e-mail at: SupplierCompliance@homehardware.ca.



3 Point of Sale Guidelines

Prospective new Home Suppliers must be in compliance with HHSL barcode policies and standards prior to the commencement of purchasing activity. We will work with our existing Suppliers to ensure compliance is obtained as quickly and efficiently as possible.

All items shipped into our Dealer Support Centres or directly to Home Dealers are required to have accurate and scannable barcodes on 3 levels of packaging hierarchy: each (individual product retail unit), inner and case.

The Global Trade Item Number (*GTIN*) provides a Supply Chain solution for the identification of any item that is traded (*priced, invoiced or ordered*). HHSL requires that all of its Suppliers provide products which contain GTIN codes on all levels of item packaging. GTIN use will enhance order accuracy with our Suppliers, accuracy of our inventory, and ultimately the filling of orders to our Dealers.

HHSL expects all Home Suppliers to:

- ◆ Verify that all consumer products have been assigned retail GTINs of either UPC-A, UPC-E, EAN-13 or EAN-8 code type.
- ◆ Ensure the accuracy of all GTINs provided, both new and those that were previously provided.
- ◆ Incorporate accurate and scannable barcodes on all retail levels of item packaging.
- ◆ Perform ongoing quality and scanability checks of product packaging containing barcodes and any barcode labels that may be affixed to packaging.
- ◆ Appoint a “Product Code Contact” to work with HHSL for the purpose of ensuring that our barcode data is current and accurate. Please communicate this individual's name and phone number to HHSL’s Supplier Compliance Coordinator.

3.1 Barcode Types - Point of Sale

The barcode types used for scanning at point of sale are the UPC/EAN family of codes as outlined in [section 1.3.1 UPC/EAN \(GTIN-8/GTIN-12/GTIN-13\)](#).

3.2 Barcodes and Packaging Hierarchy - Point of Sale

HHSL requires barcodes at 3 hierarchy levels for each item. These levels are “Each”, “Inner” and “Case”. Not every item may be packaged in all of these levels, but when they are, a **unique number** GTIN/Barcode will be required for each of those levels.

Note on Bulk Items - HHSL requires barcodes to be applied on bulk items at no additional charge. If there is no way of getting the product barcoded at the same or competitive price, the Merchandise Manager has been instructed to review alternative sources. As barcoded product is the cornerstone of Supply Chain effectiveness, it is unlikely, but possible that HHSL may exempt an item from the barcoding requirement. This exemption must be negotiated with the Merchandise Manager and then accepted by the Director of Hardlines Merchandising.



3.2.1 Each Level

The “each” level describes the lowest consumer unit of measure that carries a UPC/EAN barcode. In most cases this will identify the unit that is sold to the consumer, commonly identified as a “Consumer (End-User) Trade Item”. At this “each” level, the item will always be identified with a scannable UPC/EAN barcode. Please see [section 1.3.1 UPC/EAN \(GTIN-8/GTIN-12/GTIN-13\)](#) for details on this type of barcode.

3.2.2 Inner Level

The “inner” level of packaging describes a collection of eaches that are packed together at something lower than the case level. This inner level of packaging is frequently sold at the consumer level. If it is to be sold, then it also needs to be identified with a UPC/EAN barcode and associated GTIN. The GTIN/Barcode at this inner packaging level needs to be a unique number from the GTIN/Barcode at the “each” level. Please see [section 1.3.1 UPC/EAN \(GTIN-8/GTIN-12/GTIN-13\)](#) for details on this type of barcode.

If the “inner” level of packaging is not intended to be sold at the consumer level, then a choice of a GTIN/Barcode of GS1-128 or ITF would also be appropriate. Please see [section 1.3.2 GS1-128 \(GTIN-14\)](#) and [section 1.3.3 ITF-14 \(GTIN-14\)](#) for details on these types of barcodes. In this situation, having no barcode on the inner packaging would also be satisfactory.

3.2.3 Case Level

The “case” level of packaging describes a collection of eaches and/or inners that are packaged together at a higher level for either retail or shipping purposes. If the case is being sold as a retail unit (*e.g. a case of paper towels*), then it must have a retail GTIN/Barcode as described for the each and inner levels. In addition to the GTIN/Barcode the case may also have a GS1-128 or ITF barcode for shipping. Please see [section 1.3.2 GS1-128 \(GTIN-14\)](#) and [section 1.3.3 ITF-14 \(GTIN-14\)](#) for details on these types of barcodes.

3.3 Quality Standards

The usefulness of barcodes relies on the ability to scan them quickly, accurately and on the first pass (*or scan*) of a barcode. The percentage of successful first scans to the total number of scans performed is referred to as the “first pass read rate”. HHSL considers any first pass read rate at or above 95% to be acceptable. Meeting this goal depends on the quality of the barcode manufacturers place on their products.

HHSL requires that all barcode symbols be printed in conformance with GS1 industry guidelines. High quality barcodes must exist in order for scanning equipment to decode the information. However, if for any reason a product cannot be scanned, it is critical that all the human readable characters to be printed with the barcode. The printing of these numbers is necessary for compliance with GS1 standards. Please see [section 3.6 Barcoding for Designers, Printers and Packagers](#) for further information on printing standards.

HHSL recommends that all barcodes be verified to meet GS1 standards. There are a number of third-party companies that provide barcode conformance or verification testing. GS1 Canada also provides these services. For more information on the GS1 Canada Barcode Scan Verification services, please see the following: [GS1 Canada Barcode Scan Verification Service](#).



3.4 Maintenance of GTIN and Barcode Accuracy

Ensuring the ongoing accuracy of GTINs and Barcodes is the responsibility of HHS, Home Dealers and Home Suppliers. As a result, each of these groups shares the responsibility for GTIN/Barcode accuracy in the following manner:

HHS - We provide our Dealer Support Centres and Dealers with internal contacts for reporting scanning problems or discrepancies. Our Supplier Compliance Coordinator discusses those issues and policy violations with the appropriate Merchandise Manager. Resulting Supplier notification, problem investigations, and the administration of any subsequent probation will be a cooperative effort between the Supplier Compliance Coordinator and that Merchandise Manager.

Home Dealers - HHS recommends that its Dealers adhere to GS1 guidelines to ensure GTIN and Barcode accuracy within their stores. Problems with GTIN and Barcode quality or accuracy identified by a Dealer are to be reported to the HHS Supplier Compliance Coordinator.

Home Suppliers - HHS requires that Suppliers perform periodic quality checks on GTIN/Barcodes as outlined in [section 3 Point of Sale Guidelines](#). Any new product offered by the Supplier must also be in accordance with GS1 standards. Any changes to HHS products affecting GTIN information must be reported to the appropriate Merchandise Manager at HHS 60 days prior to the product shipment. The Supplier must provide a “Product Code Contact” to work with HHS for the purpose of verifying GTIN/Barcodes and resolving any GTIN/Barcode problems that arise. It is important that this person be given sufficient authority to rectify GTIN/Barcode problems. In some instances, this may require a decision to: redesign product packaging, change GTIN/Barcode printing method, or change GTIN/Barcode location on a product.

3.5 When to Change GTIN

Generally, a manufacturer should not assign more than one GTIN code to the same product. There are however circumstances where changing a product GTIN/Barcode is appropriate, and manufacturers, wholesalers, and retailers should be aware of them.

The following are some of these circumstances:

- ◆ Product gross weight change of more than 20%
- ◆ Quantity or count change
- ◆ Bonus packs (*i.e. 30% more free promotions*)
- ◆ Promotional price-off on label
- ◆ Holiday packs (*modification for seasonal theme*)
- ◆ After a merger or acquisition, unless the merger agreement included the transfer of the company prefix

More information about when to change a product’s GTIN is available from GS1 by reviewing: [GS1 GTIN Allocation Rules](#).

As noted earlier, HHS recommends GS1 as the source to obtain GTIN/Barcode information. If you are not already registered with GS1, please contact them via their global website at [GS1 Global](#), or the Canadian website at [GS1 Canada](#).



3.6 Barcoding for Designers, Printers and Packagers

It is important that all barcodes are printed and located properly on your product and cartons. GS1 Canada provides a full document outlining these requirements. To review them, please see the following: [Bar Coding Basics](#).



4 Point of Receipt Guidelines

Proper labelling for shipping creates efficiencies for both the Supplier and HHSL. The correct labelling of all cartons and the compliant logistics labels are critical to achieving this efficiency. The carton label and marking allows the product to be tracked when the carton is not associated with a pallet. The Serial Shipping Container Code (*SSCC-18*) is to identify and track items throughout the supply chain by either a pallet, loose carton, or mixed re-packed carton. The proper SSCC-18 label or License Plate (*LPN*) facilitates the efficient flow of goods between the Supplier and HHSL.

Please review the barcode checklist of what HHSL expects from all Home Suppliers as outlined in [section 3 Point of Sale Guidelines](#).

4.1 Barcode Types - Point of Receipt

The barcode types that are used during the receiving process are either GS1-128 or ITF-4 codes as outlined in [section 1.3.2 GS1-128 \(GTIN-14\)](#) and [section 1.3.3 ITF-14 \(GTIN-14\)](#) respectively. Choosing between these two types of code is outlined in [section 1.3.4 Choosing GS1-128 or ITF-14](#).

4.2 Barcodes and Packaging Hierarchy - Point of Receipt

HHSL may require an ITF or GS1-128 barcode at the case level and will require a barcode within the GS1 logistics label on all shipping containers.

4.2.1 Case Level

Please review the “case” level of packaging as outlined earlier in [section 3.2.3 Case Level](#).

4.2.2 Shipping Containers

HSL requires all shipping containers, for example stretch wrapped pallets, loose cartons, or mixed re-packed cartons, be labelled with an industry standard GS1 logistics label. Barcoding for these shipping containers (“*Serial Shipping Container Code*” (*SSCC*) or “*License Plate*” (*LPN*)) to identify an individual logistic unit will be a requirement of HHSL going forward. Please review details of this type of label in [section 9.2.2 Serialized Shipping Container Code \(SSCC-18\) Labelling](#) in our main [Supplier Guide](#).

4.3 Quality Standards

Please review the Quality Standards as outlined earlier in [section 3.3 Quality Standards](#).

4.4 SSCC Label Examples

To see examples of this type of shipping label, please review [section 9.2.2 Serialized Shipping Container Code \(SSCC-18\) Labelling](#) in our main [Supplier Guide](#).



5 Supplier Guide Glossary of Terms

Please see the Supplier Guide Support Document [Glossary of Terms](#) for a listing of all terms used within the Supplier Guide and all support documents.