



GS1 DataBar

Next Generation Bar Codes





What is GS1 DataBar?

GS1 has announced a global sunrise date of January 2010 for all scanning systems to read GS1 DataBar (formerly known as Reduced Space Symbology – RSS) symbols on any trade item.

This adoption date sets the goal for all trade item bar code scanning systems to be capable of reading GS1 DataBar bar codes and handling GS1 Application Identifiers (AI) by 2010. While scanning systems must be able to read Application Identifiers (AIs), the choice to use the additional data is at the discretion of individual organisations.

GS1 DataBar is the first set of bar codes to be endorsed by GS1 for global for open (unrestricted) trade item identification since the EAN/UPC Symbology was adopted globally in the mid-1970's.

Why GS1 DataBar?

While EAN/UPC Symbols will remain useful for product identification for existing applications, GS1 DataBar enables expanded bar code implementation by meeting the objectives of identifying small items and carrying more information than the current EAN/UPC Bar Codes. GS1 DataBar will enable GTIN (Global Trade Item Number) identification for hard-to-mark products like fresh fruits, vegetables, small cosmetics and more, enhancing the ability to provide category management and increase speed at checkout and self-checkout. GS1 DataBar's ability to carry GS1 Application Identifiers like serial numbers, lot numbers, and expiration dates opens the door to identification solutions supporting product authentication and traceability, product quality and effectiveness, variable measure product identification, and – in some countries – couponing. Recommendations for the use of Application Identifiers are being developed.

GS1 DataBar can provide:

- More space for consumer communication
- The possibility to reduce packaging in an effort to reduce cost of goods
- The ability to print full size symbols and reduce customer complaints
- An alternative to the current "small symbol" options (EAN-8 and UPC-E) where numbering capacity may be an issue in some markets
- A migration from Restricted Circulation Numbers for variable measure products to GTIN-13 to enhance traceability



Industry Sectors - Current uses of GS1 DataBar

Fresh Food Products

Suppliers in the meat, delicatessen, produce, cheese, fish and bakery industries are accustomed to using bar codes of one sort or another for their loose or pre-packed products.

These suppliers will find that GS1 DataBar brings more accurate and expanded data on their goods, and furthermore, includes the "last mile" in the supply chain, unlike the PLU (Price Look-Up Codes) Restricted Circulation Numbers or Variable Measure Numbers they are likely using now.

GS1 DataBar is being implemented by suppliers for international retailers on loose produce (below). Retailers now scan loose produce versus key entering of price look up (PLU) codes, providing 100% accuracy and achieving shrink control by differentiating conventional versus organic.

Example of GS1 DataBar Stacked Omnidirectional



Today in Fresh Foods there are more than 40 different systems across the globe for Fresh Product identification and no global application standards to identify variable measure products sold at the Point-Of-Sale (POS).

Pilots are taking place on fresh variable measure products using GS1 DataBar Expanded Stacked. These bar codes can encode additional information such as best-before-date, country-of-origin, lot number and weight.

The global fresh foods workgroup recommendations have been approved by GS1. For a copy of the fresh foods implementation strategy please contact GS1 Australia.

A global solution (GTIN) is already in place for fixed measure products and should remain.

Example of GS1 DataBar Expanded Stacked and data encoded



Small and Hard-to-Mark Consumer Product Goods

Small and hard to mark consumer products include; cosmetics, jewelry, hardware and pharmaceutical products.

Manufacturers will have the ability to communicate additional attributes about the product.

Replacing undersized or truncated EAN/UPC Symbols with GS1 DataBar Symbols can improve scanning performance, providing a better shopping experience for customers by moving them through the check-out more efficiently.

Coupons

A new "North American Application Guideline using GS1 DataBar Expanded Symbols" for coupons is now available. For additional information contact GS1 Australia



"Some of our health and beauty care products have very small packaging, and strict regulatory requirements mean we have to put a certain amount of text on the boxes, no matter how small they are – and that means less panel space for communication with our customers. We're looking forward to GS1 DataBar Symbols to help us solve this dilemma."

Bud Babcock, Procter & Gamble



"In the US, coupons are a significant business. Unfortunately, it has been limited by constraints around old coupon guidelines and bar code structures. GS1 DataBar will revitalize and provide the potential to greatly improve the coupon industry."

Doug Naal, Kraft

Readiness

Scanning Equipment

All companies that scan trade items in the supply chain will need to identify and list all of their current scanning equipment. For each include make, model, and supplier. This will include, if applicable, all in-store scanners and devices with integrated scanners. Experience of early adopters is that some scanner read points are easily overlooked. Examples of read points are POS (hand held, tabletop, or both types at a single POS), kiosk and self service, specialty departments, seasonal departments, in-store applications such as price verification, ordering, inventory, and store receiving. In-store applications frequently use portable data entry terminals, pocket PC devices, or PCs. Scanners are integrated, wireless, or cabled.

A review of scanning operations in distribution will also apply for; trade items which are separately handled and ultimately sold at POS, and trade items that may need to change from GS1-128 to GS1 DataBar in the future.

Serial Shipping Container Codes (SSCCs) that are encoded in GS1-128 on logistics units need not change.

Scanner Test Cards

To test scanners for GS1 DataBar compliance, we've created printed Scanner Test Cards. Companies can use these cards to see if the GS1 DataBar functionality of their scanners has already been activated or not. Please note: this is NOT a card that can be used to 'switch on' GS1 DataBar scanning capability. Actually enabling the GS1 DataBar scanning capability is a job for equipment suppliers. This test card is quite simply a card for testing whether the GS1 DataBar capability is present.

Scanner test cards and procedure kits are available can be obtained from GS1 Australia.

Purchasing new Equipment

When purchasing new equipment, ensure that purchase contracts specify GS1 DataBar standards compliance in addition to the other GS1 Bar Codes. For existing scanning equipment, retailers will need contact equipment providers or go to www.gs1.org/productssolutions/barcodes/databar/implement.html for a list of GS1 DataBar Ready Scanners by brand and model.

Note: This list may not include all brands of scanning equipment but will be continually updated as equipment companies provide us with information.

Make sure that GS1 capable scanners read all variations of the GS1 DataBar Symbology. These are on the GS1 DataBar 2010 Test Card.

Make sure GS1 DataBar capability is turned off until ready

Retailers need to make sure that GS1 DataBar capability is turned off on each scanner until the store is ready to read GS1 DataBar Symbols. At that time, it will need to be turned on. The scanner is normally in maintenance mode to enable/disable its functions. If the scanner reads GS1 DataBar symbols containing additional data, it would be treated as an error. The resulting delay would slow throughput.



Readiness

GS1 DataBar impact on your Database

Whilst GS1 DataBar Symbols are capable of encoding 14 digits, the majority of retail POS systems can only hold up to 13 digits. A data restriction will apply at POS so that only GTIN-12 or GTIN-13 can be used. To encode the GTIN-13 or GTIN-12 in a GS1 DataBar Symbol for use at POS one or two filler zeros will be encoded respectively at the start of the GTIN.

Retailers with 14 digit retail systems can decide whether to store and process 14 digits or to drop the lead zeros and store only the GTIN-13 or GTIN-12.

It will be left to the brand owner (the party responsible for specifying package design) to decide which symbology to use.

GS1 DataBar Expanded or Expanded Stacked Symbols are used in applications where information beyond the GTIN (e.g. weight, extended price, dates etc.) is required for items such as variable measure products. GS1 acknowledges that POS systems and applications vary by company and industry.

If additional information (beyond GTIN-13 or -12) is required to support any solutions, a business case will first be developed for the GS1 Global Board's approval.

Changes in Applications

Because GS1 DataBar can carry information beyond the GTIN, industry standards groups are considering what data might be required and when. Building a consensus for this is key to supply chain efficiency because the industry wants to avoid multiple marking requirements (e.g., retail A asks for X additional data, but retailer B asks for Y additional data).

For supply chain applications GS1 is forming, or will form, groups to make decisions on data usage to enable global package marking efficiencies to be maintained and to ensure interoperability between industry systems. To date, there are two global level groups working on when, where, and what data to use in the future. One is Fresh Foods Identification and the other Coupons in the US.












Once an industry consensus is reached, you will want to properly manage and analyse the new data available to you.

Steps to launching GS1 DataBar

1. Identify a GS1 DataBar Program Leader.
2. Contact GS1 Australia.
3. Communicate the business benefits of GS1 DataBar internally to category, buying and merchandising managers.
4. Contact your scanning and/or scale labelling supplier to determine the status of your equipment to support GS1 DataBar.
5. Set target dates with your IT department teams to test your systems and scanners once the appropriate changes have been made.

Additional tools to assist in your GS1 DataBar readiness, can be found at www.gs1.org/productsolutions/barcodes/databar



	Example of Symbol	Omnidirectional Scanning – (POS)	General Distribution Environment	Attribute Information	Limited Applications	General Information
EAN-8		✓	Some instances Not general practice			
EAN-13		✓	✓			Encode GTIN-13 Used for all items intended to be scanned at POS If supplying to the US or Canada, consult your trading partner or GS1 Australia
GS1 DataBar Omnidirectional		✓	✓			Encode GTIN-12 or 13 with leading zero/s* Used for small products that cannot fit an EAN-13 Bar Code
GS1 DataBar Stacked Omnidirectional		✓	✓			Encode GTIN-12 or 13 with leading zero/s* Used for small products that cannot fit an EAN-13 Bar Code
GS1 DataBar Expanded		✓	✓	✓		Encode GTIN-12 or 13 with leading zero/s* and Application Identifiers up to 74 alpha numeric characters Strategy developed for Fresh Foods Industry Consult a GS1 Australia Industry Advisor for other industry initiatives
GS1 DataBar Expanded Stacked		✓	✓	✓		Encode GTIN-12 or 13 with leading zero/s* and Application Identifiers up to 74 alpha numeric characters Strategy developed for Fresh Foods Industry Consult a GS1 Australia Industry Advisor for other industry initiatives
GS1-128			✓	✓		Encode GTIN-12 or 13 with leading zero/s*, GTIN-14 and/or Application Identifiers up to 48 alpha numeric characters Used for non retail items units when additional information over and above GTIN is required to be captured, e.g. batch, expiry, pack date. Also used for logistics labels
ITF-14			✓			Encode GTIN-12 or 13 with leading zero/s* or GTIN-14 Used for non retail items that have poor quality substrate and when no attribute data is required.
GS1 DataBar Truncated					✓	Designed for hand scanning environments only Use only after consulting all trading partners or consult GS1 Australia
GS1 DataBar Stacked					✓	Designed for hand scanning environments only Use only after consulting all trading partners or consult GS1 Australia.
GS1 DataBar Limited					✓	Designed for hand scanning environments only Used in the Healthcare Industry Use only after consulting all trading partners or consult GS1 Australia

* GS1 DataBar requires a 14 digit field, please read the section GS1 DataBar impact on your Database.

Like EAN/UPC Symbols, GS1 DataBar Symbols that are designed for Point-of-Sale can also be scanned in a General Distribution environment.



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