

# GS1 DataBar™ (RSS) Stacked OmniDirectional Barcodes for Variable Weight Produce at the Item Level\*

## FAQS

### What is GS1 DataBar™?

This is the family of barcodes formerly known as RSS,--- Reduced Space Symbology.

### What is a DataBar Stacked OmniDirectional code?

It is a small barcode being used to identify loose produce, specifically variable weight at the item level, and it encodes a 14-digit number made from either a 12- or 13-digit GTIN (see below). For brevity, this barcode will be referred to as a DataBar.

### Why are supermarket retailers using DataBar to mark loose produce?

Retailers have expressed that barcoding loose produce will yield benefits including improved category management, increased check-out accuracy, a reduction in shrink and providing item-level identification. Some retailers also feel it will help increase through-put at self check-out.

### Is the produce industry the only fresh food sector that is changing how product is being marked (identified)?

No, many categories in the fresh food sector are also implementing DataBar for the same reasons as mentioned above. These categories include meat and poultry, seafood, dairy, deli and bakery. The DataBar code for other categories, however, is a different code--- not the Stacked OmniDirectional format.

### What does a DataBar bar code for variable weight measure look like?

This small barcode has two rows that are 'stacked' and it does not show the 14-digit GTIN that is encoded which means it's not humanly readable, unlike an EAN or U.P.C.



DataBar-14 Stacked OmniDirectional barcode

*in comparison to a U.P.C.:*



This number is the GTIN-12

### What is a GTIN?

It is an acronym for **Global Trade Item Number**. The DataBar code holds a 14-digit number by encoding a GTIN-12 or GTIN-13 data structure and by adding one or two zeros to make it 14 digits in length. A GTIN is comprised of four parts: an identifier; a GS1 Company Prefix (CP); Item Reference (IR); and the check digit (CD).

\*does not apply to case level or fixed weight items



## How do I construct a 14-digit number to be encoded in the DataBar bar code?

If you have been given a Company Prefix from GS1 Canada or GS1 US:

1. Begin with two 0s in the first 2 positions.

1	2	3	4	5	6	7	8	9	10	11	12	13	14
0	0	CP	CP	CP	CP	CP	CP	CP/IR	CP/IR	CP/IR	IR	IR	CD
0	0												

2. Add your Company Prefix,--- this number is 6 to 9 digits in length.

1	2	3	4	5	6	7	8	9	10	11	12	13	14
0	0	CP	CP	CP	CP	CP	CP	CP/IR	CP/IR	CP/IR	IR	IR	CD
0	0	8	2	5	6	7	0						

3. Add your Item Reference (product code) for that particular product,--- this number is 2 to 5 digits in length, depending on the length of your Company Prefix.

1	2	3	4	5	6	7	8	9	10	11	12	13	14
0	0	CP	CP	CP	CP	CP	CP	CP/IR	CP/IR	CP/IR	IR	IR	CD
0	0	8	2	5	6	7	0	1	2	3	4	5	

4. Use the link below to calculate the check digit:

1	2	3	4	5	6	7	8	9	10	11	12	13	14
0	0	CP	CP	CP	CP	CP	CP	CP/IR	CP/IR	CP/IR	IR	IR	CD
0	0	8	2	5	6	7	0	1	2	3	4	5	9

[http://www.gs1.org/productssolutions/barcodes/support/check\\_digit\\_calculator.html](http://www.gs1.org/productssolutions/barcodes/support/check_digit_calculator.html)

For company prefixes assigned anywhere aside from GS1 Canada or GS1 US, follow the same above steps **with the exception of only adding one leading "0"** and not two as shown in step #1.

Example:

1	2	3	4	5	6	7	8	9	10	11	12	13	14
0	CP	CP	CP	CP	CP	CP	CP	CP/IR	CP/IR	CP/IR	IR	IR	CD
0	8	2	5	6	7	0	9	1	2	3	4	5	4

Note: only one 0 begins the data structure.

### Can the PLU be used for the Item Reference?

Yes, it can assuming there are enough digits once your Company Prefix, check digit and 00 or 0 as the first/ second digits are added. Many packer/shippers may find they may have only two digits that comprise the Item Reference, and it may be useful to devise your own numbering system that works best with your database, data retrieval and/or inventory system. It is best not to build intelligence into the GTIN, and a sequential numbering format of Item References is preferred.

Given best practices suggested by the PEIB, there should be a 1:1 ratio of PLU to GTIN.



Example of how GTINs may be organized as a 1:1 ratio of GTIN:PLU:

1	2	3	4	5	6	7	8	9	10	11	12	13	14	Product Description				
0	0	CP	CP	CP	CP	CP	CP	CP/IR	CP/IR	CP/IR	IR	IR	CD	PLU	Category	Commodity	Variety	Size
0	0	8	2	5	6	7	0	0	0	0	0	0	2	4015	Fruit	Apple	Red Delicious	Small
0	0	8	2	5	6	7	0	0	0	0	0	1	9	4016	Fruit	Apple	Red Delicious	Large
0	0	8	2	5	6	7	0	0	0	0	0	2	6	4170	Fruit	Apple	Rome	Small

Notice in columns 12 and 13 (which indicate a 2-digit Item Reference) the sequential numbering: 0 0; 0 1; 0 2. . . and so on.

### How do I begin moving toward using DataBar labels?

1. Apply for a GS1 Company Prefix. This number identifies each manufacturer (or in this case packer/shipper) uniquely. Contact your local GS1 Member Organization office or [www.gs1.org](http://www.gs1.org) to apply for a company prefix. Be mindful of how many items you plan to barcode--- both now and in the future--- when applying for a Company Prefix. This is particularly important if you are using GTINs at the case level, by implementing the milestones outlined in the Produce Traceability Initiative.

2. Requisition artwork for your DataBar label(s). The smallest label a DataBar code fits on is a CP 3.0-23 non tab or Tab-Lift™. If a 2.5-size label (or smaller) is currently being utilized, a change to the 3.0-23 or larger is necessary. Potentially, a larger size may be necessary to accommodate branding, graphics, etc.

3. Choose a label size for your DataBar labels. This will also determine if changes in labeling applicators or cassettes is necessary. Determining machine requirements once a new label size is chosen is critical. Lead-times vary, but it can take at least 4 weeks to requisition parts and to complete the equipment conversions, depending on the amount of equipment and season timing.

**Note:** *If the transition to DataBar means running 'dual' label inventories--- existing labels (non DataBar) and new labels (DataBar), you need to decide what equipment will be affected. Running two vs. one label inventory will determine how much equipment needs modification and how many cassettes are affected. Your Sinclair representative can help you determine this.*

4. Complete the Item Set-up Form (digitally) and send back to Customer Service so label artwork may be finalized. Each DataBar code encodes a GTIN unique to each PLU for each packer/shipper. Please see Item Set-up Form for more complete information.

5. Approve artwork and place label order.

### Are there 'guidelines' or rules on how DataBar bar codes are formatted?

Yes, Sinclair follows the Application Guidelines published by GS1. A complete copy of these guidelines may be found at:

[http://barcodes.gs1us.org/dnn\\_bcec/DesktopModules/Bring2mind/DMX/Download.aspx?TabId=136&DMXModule=731&Command=Core\\_Download&EntryId=48&PortalId=0](http://barcodes.gs1us.org/dnn_bcec/DesktopModules/Bring2mind/DMX/Download.aspx?TabId=136&DMXModule=731&Command=Core_Download&EntryId=48&PortalId=0)

In brief, the Application Guidelines outline:

- Use 8 mil, 100% height DataBar Stacked OmniDirectional symbol.
- Print the PLU number on the label. (*Reason: this is a convenient back-up for retailers who currently do not have GS1 DataBar scanners.*)
- Minimum ISO Symbol Grade 1.5

In addition, Sinclair also recommends:

- The quiet zone around the barcode should be at least 20 mil,\*\* and
- Background behind the code is white and the barcode symbol is black.

### What is the smallest label an 8mil 100% height DataBar bar code can fit on?

The smallest label that accommodates DataBar is a CP 3.0-23 or the CP 3.0-23 Tab-Lift™.

### What changes can be expected from using bar coded labels?

Label graphics may be affected as the barcode,---depending on the size of the label--- can comprise up to 65% of the label. Below are some examples of bar coded labels illustrating the various information on different size labels:

**CP 3.0-23 TL**



- DataBar
- PLU
- Variety
- COOL

**CP 3.75-23 TL**



- DataBar
- PLU
- Variety
- Brand/Logo
- COOL

**CP 4.3-26**



- DataBar
- PLU
- Variety
- Brand/Logo
- COOL

**CP 5.0-26 TL**



- DataBar
- PLU
- Variety
- Brand/Logo
- COOL

### Will barcoding affect my label lead-time?

While the printing of DataBar labels is not expected to increase delivery times, the requirement for higher data integrity and the diminished shared-label programs brought on by DataBar do have effect on label production through-put. It is best, at least during the initial stages of industry implementation, to adjust order quantities so that a slight increase to 'safety stock' may be taken into account.

It is important to note that several modifications have been made to help ensure success. Some examples are:

- DataBar codes on Sinclair labels are printed according to GS1 standards specifically the Application Guidelines, including ISO specifications.
- Customers are asked to sign off on artwork proofs to specifically verify that the GTINs shown are, indeed, the GTINs having been provided.
- The 14-digit GTIN for each label will be printed on the box label, to help aid customer identification in their own label inventory management programs.
- Several QC points have been implemented to ensure a high level of data integrity throughout Sinclair's label procurement and internal production processes.
- Additional presses and equipment have and will continue to be commissioned, commensurate with market demand.

\*\* a mil is a unit of measure which is 1/1,000 of an inch