

# RSS and Composite Symbology: A new Development in Barcoding

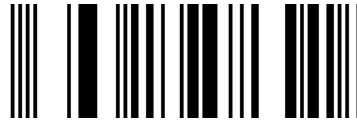
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Reduced Space Symbology (RSS) and Composite Symbology are the latest development in space-constrained identification from EAN International and the Uniform Code Council, Inc.

## Small is only the half of it.

Reduced Space Symbology (RSS) is a family of linear symbologies capable of encoding the 14-digit EAN/UCC Global Trade Item Number (GTIN). RSS is designed to bring the benefits of full product identification, as well as other supply chain applications, to space-constrained situations where existing linear symbologies could not normally be used.

Four versions of the RSS symbol have been defined so far:



**RSS-14**

This compact linear symbol encodes a full 14-digit GTIN and, optionally, a code indicating a link with a two-dimensional symbol carrying supplementary information.



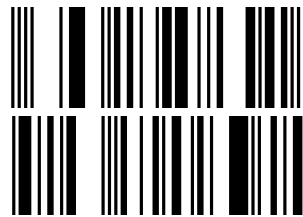
**RSS-14 Stacked**

This version of the RSS symbology also encodes a 14-digit GTIN. It is presented in two stacked segments. This feature enables making optimal use of space available.



**RSS-14 Limited**

This version encodes 14-digits with the restriction that the first digit (logistic variant) has the value of either 1 or 0. Therefore it can not encode the full range of EAN/UCC-14 numbers. However, it supports the EAN/UCC-8, UCC-12 and EAN/UCC-13 numbers.



**RSS Expanded**

The RSS Expanded version encodes up to 72 numeric or 42 alphabetic characters. The symbol encodes the GTIN or another EAN/UCC identification number plus additional data as required.

## Combined Power.

RSS bar codes can be combined with a unique 2D Composite Component to form an entirely new class of symbology called EAN/UCC Composite Symbology. The result is a big step towards identification and supply chain management capabilities for those limited by today's solutions.

Composite Symbology consists of a linear symbol accompanied by a two-dimensional symbol printed on top of the linear. This can be any existing linear symbology including RSS. A remarkable characteristic of this technical solution is that the linear symbol acts as a "finder pattern" for the 2D symbol. This permits to keep the 2D component very small.



RSS-14 + 2D Component

When the linear bar code is an RSS, the link between the linear and the 2D component is established in the symbol itself. Consequently, a scanner can not decode the 2D component without decoding simultaneously the linear component.



UCC/EAN-128 + 2D Component

Potentially, a 2D component could be used in conjunction with an UCC/EAN-128 bar code representing for example the Application Identifier of the Serial Shipping Container Code (SSCC).



EAN/UPC + 2D Component

A 2D component could also be linked to an EAN/UPC bar code symbol. In that case, there would not be any link between the linear and the 2D components.

### Types of 2D Components

Three types of 2D components have been defined as follows:

- Composite Component A (CC-A): A new 2D symbology capable of encoding up to 56 characters.
- CC-B: A subset of Micro PDF (Portable Data File) used to encode between 56 and 200 characters.
- CC-C: A "regular" PDF 417 symbol used to encode more than 200 characters.

## In Harmony with the Marketplace...

Both RSS and Composite Symbology allow for the co-existence of symbologies already being used. They can be supported by laser and imaging-based scanning equipment. Users at different points in the supply chain may choose the depth of information they require and make appropriate upgrades only when they want composite-level information in addition to standard linear information.

The following linear symbol types could be used and combined with any of the CC-A, CC-B or CC-C 2D components:

- RSS-14 Composite
- RSS-14 Stacked Composite
- RSS-14 Limited Composite
- UPC-A Composite
- UPC-E Composite
- EAN-8 Composite
- EAN-13 Composite
- UCC/EAN-128 Composite

## ...and the Public Domain

EAN International, in conjunction with the Uniform Code Council, intend to support the on-going specification and global standardisation process for both symbologies, and will be placing the patents in the public domain once they have been issued.

## One small Addition for EAN and the UCC: One giant Leap for the global Marketplace.

Reduced Space Symbology and Composite Symbology potentially offer new business opportunities to those who could not use other EAN/UCC solutions. EAN International and the Uniform Code Council perceive the following areas as potential applications for the new technology:



**VARIABLE MEASURE MARKETS - RSS-14 Expanded** could allow customers to take advantage of opportunities such as:

- full product identification
- the capture of weight, price and currency identification
- apply product traceability
- and otherwise enable implementation of ECR

**LOGISTICS APPLICATIONS - UCC\*EAN 128 Composite** opens the opportunity to facilitate and streamline transportation with the application of just one symbol:

- more robust identification (such as mixed pallets)
- encode customs information
- record hazardous material data



**SMALL PRODUCT & PACKAGES - RSS-14 Limited Composite and RSS-14 Stacked Composite** has the potential to create the right-sized solutions for healthcare, electronic components and telecommunications delivering:

- the absolute best performance for size
- an expanded opportunity for lot numbers and expiration dates and other data

**PRODUCE - RSS-14** could replace the unpractical marking and reading of fruit and vegetable in the human readable only price look up code:

- more reliable data
- fully machine-readable



For further information, please contact your national Numbering Organisation or EAN International directly at:



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