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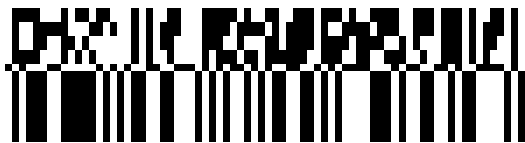
Bar Codes 101

Introduction to RSS Symbology

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Symbology History

- Introduced by the UCC
- AIM standard released in 1999

- The Reduced Space Symbology (RSS) family of symbols has been developed for items too small to accommodate the traditional EAN.UCC system linear bar code symbols.

- EAN.UCC RSS bar code symbols are exclusively reserved for encoding identification numbers and data supplementary to the identification.

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Symbology Overview

- Omni-directional capability in some forms

- Multi-width bars and spaces

- Linear and stacked versions

- Most compact linear symbology

- Limited error correction available in Composite Component

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Symbology formats

The RSS family of bar code symbols has three different members that can be used within the EAN.UCC system:

- RSS-14
- RSS Limited
- RSS Expanded

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Symbology family members

RSS 14

Encodes the full 14 digit EAN.UCC item identification in a linear symbol. Read by suitably programmed point-of-sale scanners.

Can be formatted 4 different ways.

RSS 14 (Standard)

RSS 14 Truncated: Reduced height to fit on small, narrow items

RSS 14 Stacked: Reduced length for short items with limited space

RSS 14 Omni directional: Designed to be read by retail omni-directional scanners

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Symbology family members

RSS Limited

Encodes the full 14-digit EAN.UCC item identification with indicator digits of zero or one in a linear symbol for use on small items. Not designed for point-of-sale scanners.

Only one formatting option.

(01) 00614141000012

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Symbology family members

RSS Expanded

Encodes EAN.UCC item identification plus supplementary AI element strings such as weight and "expiration date" in a linear symbol. Read by suitably programmed point-of-sale scanners.

Two formatting options:

(01) 00614141000012

RSS Expanded®

(01) 00614141000012

RSS Expanded Stacked

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Linear combinations of RSS Symbols

RSS 14™

RSS-14™
(01) 00614141000012

RSS-14 Truncated
(01) 00614141000012

RSS-14 Stacked
(01) 00614141000012

RSS-14 Stacked
Omnidirectional
(01) 00614141000012

RSS Limited

RSS Limited®
(01) 00614141000012

RSS Expanded

RSS Expanded®
(01) 00614141000012

RSS Expanded
Stacked
(01) 00614141000012

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Composite component

RSS can encode additional information by linking in a Composite Component, capable of containing up to 2,361 data characters (depending on which symbology is selected.)

**RSS-14 Limited
With PDF417 Composite Component**

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Composite Component

Linear and 2D combinations of composite symbols

RSS-14 Truncated with a 4-column CC-A

EAN-13 with CC-A

3 312345 678903

UPC-E with CC-A

c 121230 9

RSS-14 Limited with a 3-column CC-B

UPC-A with CC-B

c 14141 01234 2

EAN-8 with CC-A

c 1234 5670 >

UCC/EAN-128 with a 5-column CC-C

UCC/EAN-128 with CC-A

UCC/EAN-128 with CC-C

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Advantages and disadvantages

RSS compared to linear bar codes

Advantages	Disadvantages
ν **Small, flexible size**	ν **New symbology**
ν **Easy to print and read**	
ν **Increased data**	
ν **Uses common printing methods**	
ν **Customer number assigned**	
ν **Increased data capacity**	
ν **Can be read by some omni-directional scanners**	

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Advantages & disadvantages

RSS/Composite compared to 2D matrix codes

Advantages	Disadvantages
ν Flexible size	ν Orientation requirements
ν Uses common printing methods	ν Limited direct marking options
ν Customer number assigned	ν Less compact
ν Read by lasers in controlled application	

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More information

- If you have questions regarding this topic, send us an e-mail to training@microscan.com

- If you would like further information about bar code symbologies, we recommend you view **Intro to Linear Bar Codes** and **Intro to PDF417.**