



## **GS1 EDI Recommendation**

### **For Transmission of EPC's SSCC & SGTIN Coding Schemes**

**Despatch Advice (DESADV) based on  
EANCOM® 2002 S3**

*Issue 4, May-2008*

## Document Summary

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# Table of Contents

<b>1. Introduction .....</b>	<b>4</b>
<b>2. General Information .....</b>	<b>4</b>
2.1. Despatch Advice – DESADV (EANCOM® 2002) .....	4
<b>3. Implementation .....</b>	<b>5</b>
3.1. Implementation at shipment level .....	5
3.2. Implementation at shipping unit level .....	7
3.3. Implementation at trade item level .....	7
3.4. Differences between EANCOM® 2002 and EANCOM® 1997 .....	9
<b>4. Documentation and Developments .....</b>	<b>9</b>
4.1. Documentation .....	9
4.2. Events .....	9
4.3. Additional links .....	9

# 1. Introduction

This EDI application recommendation describes the parts of the Despatch Advice (DEADV) which pertain to transmission of the EPC coding schemes SSCC and SGTIN. Prior to the physical receipt of goods encoded in this manner, the DESADV is used to:

- Indicate to the trading partner that a shipped article bears an EPC transponder;
- Inform the trading partner of the identity number (i.e., the particular SSCC or SGTIN) encoded in the tagged article's EPC.

This means that, at the time of delivery, the goods indicated in the DESADV can be cross-checked against the goods actually received.

- ✔ **Note:** The combined use of EPCIS (EPC Information Services) and EANCOM<sup>®</sup> messages is reviewed regularly by GS1 organs. Any changes to the flow of data or its contents will be documented in the associated application recommendations.

# 2. General Information

This documentation encompasses only the EPC-relevant segments and segment groups within the DESADV. All other message parts are used as described in the GS1 recommendations, based on EANCOM<sup>®</sup> 2002.

The information in the following segments deals with EPC components which are needed to create SSCC or SGTIN identity numbers. The EPCglobal Subscription of the implementer should be verified prior to implementation, in order to ensure that an EPC Manager number is available for the generation of identity numbers as outlined in the EPCglobal Tag Data Standards.

In this EDI application recommendation, the following code values are used in DE 7233 of the PAC segment, to indicate that an article is tagged with an EPC transponder:

- **56E = Package EPC tagged (GS1 code)**  
*Package tagged with EPC transponder.*  
This code indicates that information on the article is carried solely by an EPC transponder, without a barcode.
- **55E = Package barcoded and EPC tagged (GS1 code)**  
*Package barcoded with GS1-128 Bar Code Symbol and also tagged with EPC transponder.*  
This code indicates the presence of barcoded information in addition to the EPC transponder. Barcoded information may comprise the identity number encoded on the transponder, as well as additional information. For the time being, this code value is intended for testing and migration periods.

Bilateral agreements are required for use of codes 55E and 56E in DE 7233 of the PAC segment.

## 2.1. Despatch Advice – DESADV (EANCOM<sup>®</sup> 2002)

The Despatch Advice allows for a hierarchical description of a shipment's contents. Only the SSCC may be used for identification at shipping unit level, as specified by GS1 recommendations. At trading unit level, it must be possible to transmit the SGTIN's Serial Number. Segments PCI (Package Identification) and GIN (Goods Identity Number) are available for this purpose, at both shipping unit and trading unit level.

## 3. Implementation

### 3.1. Implementation at shipment level

The following examples illustrate the implementation at shipment level -- after the first CPS segment (CPS+1) and before the second CPS segment (CPS+ 2+1):

#### Example 1 Transmission of an SSCC:

...	
CPS+1'	First level of shipment hierarchy
PAC+1+:56E+201::9'	One ISO-1 palette tagged with an EPC transponder
PCI+33E'	Palette is identified with an SSCC
GIN+BJ+SSCC_1'	Serial Shipping Container Code (SSCC_1)
...	

#### Example 2: Transmission of several non-consecutive SSCCs:

(e.g., where SSCC\_1 = 340123450000000014, SSCC\_2 = 340123450000000031):

...	
CPS+1'	First level of shipment hierarchy
PAC+2+:56E+201::9'	Two ISO-1 palettes tagged with EPC transponders
PCI+33E'	Palettes are identified with SSCCs
GIN+BJ+ SSCC_1'	Serial Shipping Container Code (SSCC_1)
GIN+BJ+ SSCC_2'	Serial Shipping Container Code (SSCC_2)
	<i>or</i>
GIN+BJ+ SSCC_1+ SSCC_2'	Serial Shipping Container Codes (SSCC_1 and SSCC_2) *
...	

\* A maximum of five individual SSCCs per GIN segment, by means of five C208 data element groups.

**Approach employing the iteration of segment groups / segments in cases where a large number of SSCCs must be transmitted:**

There can be a maximum of 99 iterations of segment group 15 (following the PCI+33E' segment), which contains the GIN segment. Each GIN segment can be used to transmit five individual SSCCs. If additional SSCCs need to be transmitted, the PCI segment (PCI+33E') from segment group 13 can be reiterated (for a maximum of 1000 PCI segments altogether), followed once again by segment group 15, bearing the GIN segment:

...
PCI+33E'
GIN+BJ+NVE_1+NVE_2+NVE_3+NVE_4+NVE_5'
GIN+BJ+NVE_6+NVE_7+NVE_8+NVE_9+NVE_10'
GIN+BJ+....'
....
GIN+BJ+NVE_491+NVE_492+NVE_493+NVE_494+NVE_495'
PCI+33E'
GIN+BJ+NVE_496+NVE_497+NVE_498+NVE_499+NVE_500'
GIN+BJ+....'
...

**Example 3: Transmission of an uninterrupted range of consecutive SSCCs**

(without regard to the check digits, e.g., SSCC\_1 = 340123450000000014, SSCC\_2 = 340123450000000024 und SSCC\_3 = 340123450000000031):

...	
CPS+1'	First level of shipment hierarchy
PAC+3+:56E+201::9'	Three ISO-1 palettes tagged with EPC transponders
PCI+33E'	Palettes are identified with SSCCs
GIN+BJ+SSCC_1:SSCC_3'	Uninterrupted range of consecutive SSCCs (SSCC_1, SSCC_2, SSCC_3)*
...	

\* A maximum of five individual SSCCs per GIN segment, by means of five C208 data element groups.

### 3.2. Implementation at shipping unit level

This section describes the implementation at shipping unit level:

...	
CPS+2+1'	Second hierarchical level, first pallet
PAC+1+:56E+201::9'	One ISO-1 pallet tagged with an EPC transponder
PCI+33E'	Pallet is identified with an SSCC
GIN+BJ+SSCC_1'	Serial Shipping Container Code (SSCC_1)
...	

### 3.3. Implementation at trade item level

This section details the implementation at trade item level (i.e., on units identified with an SGTIN):

#### Example 1: Transmission of a single SGTIN:

...	
PAC+2+:56E+CT'	2 cartons with EPC transponders on the pallet
LIN+1++GTIN_1:SRV'	GTIN of the trade item (GTIN_1)
QTY+12:1'	Delivered quantity: 1
PCI+34E'	Trade item is identified with a GTIN
GIN+SRV+GTIN_1'	GTIN of the trade item (GTIN_1)
GIN+BN+SN_1'	Corresponding serial number (SN_1)
...	
LIN+2++GTIN_2:SRV'	GTIN of the trade item (GTIN_2)
QTY+12:1'	Delivered quantity: 1
PCI+34E'	Trade item is identified with a GTIN
GIN+SRV+GTIN_2'	GTIN of the trade item (GTIN_2)
GIN+BN+SN_2'	Corresponding serial number (SN_2)
...	

#### Example 2: Transmission of multiple, non-consecutive serial numbers for units which are identified with an SGTIN:

...	
PAC+4+:56E+CT'	4 cartons with EPC transponders on the pallet
LIN+1++GTIN_1:SRV'	GTIN of the trade item (GTIN_1)
QTY+12:4'	Delivered quantity: 4
PCI+34E'	Trade item is identified with a GTIN
GIN+SRV+GTIN_1'	GTIN of the trade item (GTIN_1)
GIN+BN+SN_31+SN_33+SN_35+SN_37'	Serial numbers (SN_31, SN_33, SN_35, SN_37)*
...	

\* A maximum of five serial numbers, by means of five C208 data element groups.

**Approach employing the iteration of segment groups / segments in cases where a large number of SSCCs must be transmitted:**

Below the LIN segment there can be a maximum of 10 iterations of the segment group 23 (following the PCI+34E' segment), which contains the GIN segment. Each GIN segment can be used to transmit five individual SGTINs. If additional SGTINs need to be transmitted, the PCI segment (PCI+34E') from segment group 22 can be reiterated (for a maximum of 9,999 PCI segments altogether), followed once again by segment group 23, bearing the GIN segment:

...
PCI+34E'
GIN+SRV+GTIN_1'
GIN+BN+SN_1+SN_2+SN_3+SN_4+SN_5'
GIN+BN+SN_6+SN_7+SN_8+SN_9+SN_10'
GIN+BN+SN_11+SN_12+SN_13+SN_14+SN_15'
GIN+BN+SN_16+SN_17+SN_18+SN_19+SN_20'
GIN+BN+SN_21+SN_22+SN_23+SN_24+SN_25'
GIN+BN+SN_26+SN_27+SN_28+SN_29+SN_30'
GIN+BN+SN_31+SN_32+SN_33+SN_34+SN_35'
GIN+BN+SN_36+SN_37+SN_38+SN_39+SN_40'
GIN+BN+SN_41+SN_42+SN_43+SN_44+SN_45'
PCI+34E'
GIN+SRV+GTIN_1'
GIN+BN+SN_46+SN_47+SN_48+SN_49+SN_50'
GIN+BN+...'
...

**Example 3: Transmission of one or more uninterrupted ranges of serial numbers for units which are identified with a GTIN:**

...	
PAC+11+:56E+CT'	11 cartons with EPC transponders on the pallet
LIN+1++GTIN_1:SRV'	GTIN of the trade item (GTIN_1)
QTY+12:11'	Delivered quantity: 11
PCI+34E'	Trade item is identified with a GTIN
GIN+SRV+GTIN_1'	GTIN of the trade item (GTIN_1)
GIN+BN+SN_100:SN_105+SN_108:SN_110'	Uninterrupted ranges of consecutive serial numbers (first range: SN_100, SN_101, SN_102, SN_103, SN_104, SN_105 Second range: SN_108, SN_109, SN_110)*
...	

\* A maximum of five serial numbers per GIN segment, by means of five C208 data element groups

### 3.4. Differences between EANCOM<sup>®</sup> 2002 and EANCOM<sup>®</sup> 1997

For implementations involving EANCOM<sup>®</sup> 1997, both the qualifiers from the corresponding EANCOM<sup>®</sup> 1997 code list as well as the corresponding message structures must be taken into account. However, the basic approach remains unchanged. In particular, the following codes must be substituted in the aforementioned examples:

EANCOM <sup>®</sup> 2002	EANCOM <sup>®</sup> 1997
LIN+2++GTIN_1:SRV'	LIN+2++GTIN_1:EN' (or UP)
GIN+SRV+GTIN_1'	GIN+EU+GTIN_1'

## 4. Documentation and Developments

### 4.1. Documentation

GS1 reports continuously on the state of development on its internet site and in other publications.

### 4.2. Events

Symposia, seminars and workshops afford the opportunity to speak with representatives of user companies and GS1, to get informed on the implementation and development of EPC/RFID, as well as ECR process recommendations.

### 4.3. Additional links

- [www.gs1-germany.de](http://www.gs1-germany.de) –GS1 Germany GmbH
- [www.epcglobal.de](http://www.epcglobal.de) – EPC/RFID division at GS1 Germany GmbH
- [www.gs1.org](http://www.gs1.org) – GS1 Global Office
- [www.epcglobalinc.org](http://www.epcglobalinc.org) – EPCglobal Inc.
- [www.epcglobaleurope.org](http://www.epcglobaleurope.org) – European presence of EPCglobal