



BARCODE Requirements

BCR-SEL-Rev03

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01	Issue	Sarti	26 Jan 2012
02	§1: added Selcom website link	Domenichini	03 Feb 2012
03	§2: changed company details	Pelgreffi	08 Jun 2017

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1. Scope and application field

This document describes how to build a two-dimensional **bar-code** that fits the whole meaningful information needed by Selcom Group.

This document is valid for a given part number when it's claimed by relevant supply specifications or other Selcom document regarding that part number, and does not overwrite such documents.

Last revision issued of this document shall be checked and downloaded from Selcom website.

2. Format and syntax

Required 2D bar-code format is: **PDF417** (UNI CEI EN ISO/IEC 15438).

Bar-code shall be printed on a label applied on each single shipping package. Printed final shape of the 2D bar-code shall have horizontal bar dimension between 12 and 20 mils (optimal **15 mils**). Examples are shown at paragraph 5.

The information text carried by the 2D bar-code shall contain the following **minimum** list of **items** (which are included between "<" and ">" chars):

- <Selcom part number>;
- <packaging date>; (see rule ii)
- <expiration date>; (see rule iii)
- <production date-code/batch-no.>*<related quantity>; (see rule iv)

The information text shall be written in compliance with the following syntax rules:

- i. Unless exceptions described in following rules (ii) (iii), each item cannot include the chars ";" (semicolon) and "*" (asterisk), that are used as **separation items**, nor the chars "/" (slash) and ":" (colon).
- ii. **Packaging date** (if not already recognizable through a prefix, see paragraph 3) must be written in the format **YYYY/MM/DD**, (i.e. with the year on four digits, the month number on two digits, and the day number on two digits), with a "/" (slash) as separator.
- iii. **Expiration date** (if not already recognizable through a prefix, see paragraph 3) must be written in the format **YYYY:MM:DD**, (i.e. with the year on four digits, the month number on two digits, and the day number on two digits), with a ":" (colon) as separator.
- iv. If a package contains more than one date-code, each related pair of items **<production date-code/batch no.>*<related quantity>** must be sequentially listed.
- v. The item production date-code/batch-no.> must be built as required by Selcom supply specifications of that part/number. Usually (but not always) it is a string like "XYYWWz", where X is a char identifying manufacturer's plant (assigned once by Selcom Sourcing Dept.), YY are the two last digits of the production year, WW are the two digits of week number, and z (if applicable) is a low-case letter to identify the sub-batch. This is the format that will be used in the next examples.

3. Alternative identification of items

For identification of each **item** it is optionally allowed to use a **prefix** compliant with the formats described in **ANSI MH10.8.2** standard. Thus, each item can also be alternatively generated according to the following syntax: [prefix data identifier][textual contents of the item][separator]

Among those described by **ANSI MH10.8.2** standard, Selcom acknowledges the following **data identifiers** (**DI**) prefixes (just for reference, see in last column the GS1 Application Identifier):

DI	Description	GS1 A.I.
P	Part number assigned by Selcom	(241)
12D	Packaging date.	(13)
14D	Expiration date.	(17)
Т	Traceability date-code/batch-number (as per Selcom requirements)	(10)
Q	Quantity in the package (for each p/n)	(30)

4. Non-printable chars

For the PDF417 contents, another standard (the ANSI MH10.8.3) foresees the usage of some non-printable chars, named <group separator>, <record separator> and <end of text>, having respective hexadecimal coding 0x1D, 0x1E, 0x04, hereunder represented with GS, RS e EOT.



Non-printable chars are not reproducible by readers when working in keyboard-emulator mode, and this can create compatibility issues between different readers, and/or can make they send control-chars sequences that could be differently understood by different operating systems.

For these reasons Selcom does not recommend (although tolerates) the usage of non-printable chars.

In further detail, ANSI MH10.8.3 standard (likewise above mentioned MH10.8.2) requires the PDF417 content to have the following seven-chars prefix, called **header**:

[)><mark>RS</mark>06**C**

where "c" is meant as the group-separator char to be used inside text to separate items, and often the nonprintable ANSI char **GS** is used for this purpose. Selcom instead requires to use the char ";" (and sometimes also "*"), so the amended previous header should be:

[)><mark>RS</mark>06**;**

Also, standard ANSI MH10.8.3 puts at the end of the text string the following two non-printable chars called **trailer**:

RSEOT

Selcom instead just requires the use of the char ";" at the end of the string.

Anyway, as aforesaid, Selcom does not recommend the usage of header and/or trailer sequences. In case they are anyway applied, please use the alternative amended versions just shown.

5. Examples of acceptable strings

This paragraph lists examples of acceptable text string, to be coded in PDF417 format.

All examples refer to the same package having the following supposed content:

- Selcom part number CS-AAA354
- packaged by manufacturer in date December 20th 2011
- having expiration date November 12th 2012
- package contains 350 pieces with datecode A1148 and 50 pieces with date-code A1149a

Example #1

CS-AAA354;2011/12/20;2012:11:12;A1148*350;A1149a*50;

This string includes only the minimum required fields, listed in simple text mode format (with no prefixes) and without DI.



CS-AAA354;2011/12/20;2012:11:12;A1148*350;A1149a*50;

X expansion factor: 3 Y expansion factor: 15 15 mils



Example #2

\$2MN3567;02CYU00023;CY3;2011/12/20;CS-AAA354;2012:11:12;A1148*350;A1149a*50;

In this string (simple text, non-DI, non-prefixed mode) manufacturer also added its own part number and other internal logistic codes, and sorted items in its own order sequence (adding a "\$2" header). Items are anyway readable by Selcom as the part number is present, dates have the "/" and ":" respectively required separators, and the batch-quantity pairs have the "*" separator.



\$2MN3567:02CYU00023;CY3;2011/12/20;CS-AAA354:2012:11:12;A1148*350;A1149a*50;

X expansion factor: 3 Y expansion factor: 15 15 mils

Example #3

12D2011/12/20;PCS-AAA354;14D2012:11:12;TA1148*Q350;TA1149a*Q50;

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In this string manufacturer used DI (Data Identifiers) prefixes compliant with ANSI MH10.8.2, anyway items are still readable by Selcom because they keep the dates formats and the batch-quantity pair separators required by Selcom syntax.



.12D2011/12/20; PCS-AAA354; 14D2012:11:12; TA1148*Q350; TA1149a*Q50;

X expansion factor: 3 Y expansion factor: 15 15 mils



Example #4

12D20111220;PCS-AAA354;14D20121112;TA1148;Q350;TA1149a;Q50;

In this string manufacturer used a text structure totally according to ANSI MH10.8.2 also in the items content, that are all recognized by means of the DI prefixes. Char ";" (semicolon) was used as separator also into the batch-quantity pairs.

~ ~ ~



12D20111220; PCS-AAA354; 14D20121112; TA1148; Q350; TA1149a; Q50;

X expansion factor: 3 Y expansion factor: 15 15 mils

6. String syntax used by supplier

Given all requirements shown in this document are fit, **supplier shall choose its own string syntax and declare it to Selcom**, then never change it unless new approval is given by Selcom. Selcom approval is necessary in case supplier's string does not fit one or more of above mentioned requirements.