

Section 2.3:

Numbering and Symbol Marking of Assets

Table of Contents

2.3.1 Introduction.....	2
2.3.2 Data Carrier	2
2.3.3 Application Overview	3
2.3.3.1 Identification of an Asset	3
2.3.3.1.1 EAN.UCC Global Returnable Asset Identifier (GRAI): AI (8003)	3
2.3.3.1.2 EAN.UCC Global Individual Asset Identifier (GIAI): AI (8004).....	4
2.3.4 Allocating EAN.UCC System Asset Identifiers	5
2.3.4.1 General Rule	5
2.3.4.1.1 Allocating EAN.UCC Global Returnable Asset Identifiers (GRAIs): AI (8003).....	5
2.3.4.1.1.1 Identical Assets and the EAN.UCC Global Returnable Asset Identifier	6
2.3.4.1.1.2 Serial Number (Optional)	6
2.3.4.1.2 Allocating EAN.UCC Global Individual Asset Identifiers (GIAIs): AI (8004)	7
2.3.4.2 Change of Asset Ownership.....	7
2.3.4.3 Information Associated with EAN.UCC Asset Identifiers.....	7

2.3.1 Introduction

The EAN.UCC System provides a method for the identification of assets. The object of asset identification is to identify a physical entity as an inventory item.

Each company holding an EAN.UCC Company Prefix may assign asset identifiers to the assets or trade items supplied to their customers. Best practices may dictate that the trade item manufacturer apply the asset identifier during the manufacturing process. This number may then be used for ordering new assets of an identical type. The EAN.UCC System asset identifiers act as keys to access the characteristics of an asset stored in a computer file and/or to record movements of assets.

Asset identifiers may be used for simple applications, such as the location and usership of a given fixed asset (e.g., a personal computer) or for complex applications, such as recording the characteristics of a Returnable Asset (e.g., a reusable beer keg), its movements, its life-cycle history, and any relevant data for accounting purposes.

2.3.2 Data Carrier

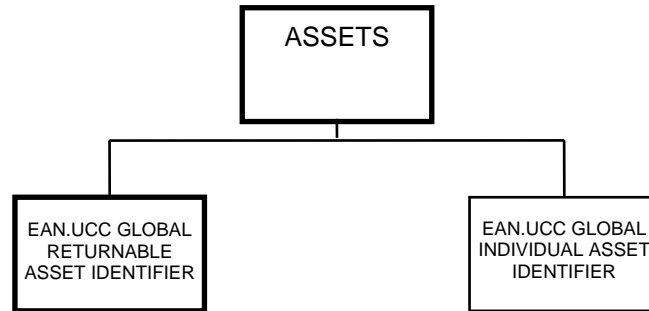
The only data carrier used to represent EAN.UCC System asset identifiers is the UCC/EAN-128 Bar Code Symbology. When encoding an asset identifier, UCC/EAN-128 Bar Code Symbols should be printed at an X-dimension between 0.25 mm (0.00984 in.) and 1.016 mm (0.040 in.).

2.3.3 Application Overview

2.3.3.1 Identification of an Asset

2.3.3.1.1 EAN.UCC Global Returnable Asset Identifier (GRAI): AI (8003)

Figure 2.3.3.1.1 – 1



A Returnable Asset is a reusable package or transport equipment of a certain value, such as a beer keg, a gas cylinder, a plastic pallet, or a crate. The EAN.UCC System identification of a Returnable Asset, the EAN.UCC Global Returnable Asset Identifier (GRAI), enables tracking as well as recording of all relevant data.

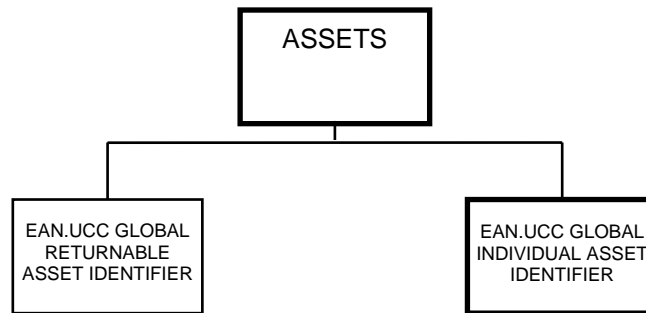
The Element String is comprised of the GRAI and an optional serial number (see [Section 3.6.49](#)). The GRAI is composed of the EAN.UCC Company Prefix of the company assigning the asset identifier and of the Asset Type. The latter is assigned to uniquely identify, together with the EAN.UCC Company Prefix, a particular kind of asset. The GRAI remains the same for all identical Returnable Assets. Although consecutive numbering is recommended, the structure is left to the discretion of the assigning company. An optional serial number may be used to distinguish Individual Assets within a given asset type.

A typical application using this Element String is in tracking returnable beer kegs. The owner of the beer keg applies a bar code symbol carrying a GRAI to the keg using a permanent marking technique. This bar code symbol is scanned whenever the keg is supplied full to a customer and scanned again when it is returned. This scanning operation allows the beer keg owner to automatically capture the life-cycle history of a given keg and to operate a deposit system, if desired.

Note: This Element String identifies a physical entity as a Returnable Asset. When such a physical entity is used to transport or to contain a trade item, the Element String AI (8003) must never be used to identify the transported or contained trade item.

2.3.3.1.2 EAN.UCC Global Individual Asset Identifier (GIAI): AI (8004)

Figure 2.3.3.1.2 – 1



In the EAN.UCC System, an Individual Asset is considered a physical entity made up of any characteristics.

This Element String identifies a particular physical entity as an asset. It must not be used for other purposes and must be unique for a period well beyond the lifetime of the relevant asset records. Whether or not the assigned EAN.UCC Global Individual Asset Identifier (GIAI) may remain with the physical item when changing hands depends on the particular business application. If it remains with the physical item, then it must never be re-used.

The GIAI comprises the EAN.UCC Company Prefix of the company assigning the asset identifier and an Individual Asset Reference (see [Section 3.6.50](#)). The Individual Asset Reference is alphanumeric. Its structure is left to the discretion of the company applying the Element String.

This Element String might, for example, be used to record the life-cycle history of aircraft parts. By symbol marking the GIAI, AI (8004), on a given part, aircraft operators are able to automatically update their inventory database and track assets from acquisition until retirement.

2.3.4 Allocating EAN.UCC System Asset Identifiers

2.3.4.1 General Rule

EAN.UCC System asset identifiers can be used to identify any fixed assets of a company. It is left to the discretion of the issuer to determine whether the EAN.UCC Global Returnable Asset Identifier (GRAI), AI (8003), or EAN.UCC Global Individual Asset Identifier (GIAI), AI (8004), is more suitable for the application concerned.

Asset identifiers must not be used for any other purpose and must remain unique for a period well beyond the lifetime of the relevant records.

If a company assigns asset identifiers to trade items supplied to its customers, the company must ensure that the asset identifiers are never re-used.

2.3.4.1.1 Allocating EAN.UCC Global Returnable Asset Identifiers (GRAIs): AI (8003)

The structure of the Element String for an EAN.UCC Global Returnable Asset Identifier (GRAI) can include two parts: the mandatory GRAI and an optional serial number (see [Section 3.6.49](#)).

Figure 2.3.4.1.1 – 1

Format of the Element String					
Application Identifier	EAN.UCC Global Returnable Asset Identifier				Serial Number (optional)
	EAN.UCC Company Prefix			Asset Type	
(UCC-12)	8 0 0 3	0 0	N ₁ N ₂ N ₃ N ₄ N ₅ N ₆ N ₇ N ₈ N ₉ N ₁₀ N ₁₁	N ₁₂	X ₁ — variable → X ₁₆
(EAN/UCC-13)	8 0 0 3	0	N ₁ N ₂ N ₃ N ₄ N ₅ N ₆ N ₇ N ₈ N ₉ N ₁₀ N ₁₁ N ₁₂	N ₁₃	X ₁ — variable → X ₁₆

The exact method used to allocate the GRAI is left to the discretion of the issuing organisation. However, a unique number, the Asset Type, must be assigned for each type of asset being identified, and for ease of administration, the EAN.UCC System recommends that numbers be allocated sequentially and not contain classifying elements.

When it is not possible to assign an Asset Type (e.g., for museum exhibits), or when the type of asset is not required by the application (e.g., when the item is only used for a single type of asset), then the EAN.UCC Global Individual Asset Identifier (GIAI), AI (8004), should be used.

2.3.4.1.1.1 Identical Assets and the EAN.UCC Global Returnable Asset Identifier

A single EAN.UCC Global Returnable Asset Identifier (GRAI) should be assigned to a series of identical assets (see Figure 2.3.4.1.1.1. – 1).

Figure 2.3.4.1.1.1 – 1

Asset Type	GRAI
50 litre aluminium beer keg	0 12345 6789 000 5
10 litre aluminium beer keg	0 12345 6789 001 2
10 litre wooden beer keg	0 12345 6789 002 9

2.3.4.1.1.2 Serial Number (Optional)

The owner of the asset assigns the optional serial number. It denotes an Individual Asset within a given Asset Type. The field is alphanumeric and is used to distinguish individual assets with the same Asset Types.

2.3.4.1.2 Allocating EAN.UCC Global Individual Asset Identifiers (GIAIs): AI (8004)

The EAN.UCC Global Individual Asset Identifier (GIAI) is structured according to Figure 2.3.4.1.2 - 1 (see [Section 3.6.50](#)).

Figure 2.3.4.1.2 – 1

Format of the Element String	
Application Identifier	EAN.UCC Global Individual Asset Identifier
	<div style="display: flex; justify-content: space-between; align-items: center;"> <div style="text-align: center;"> EAN.UCC Company Prefix $\xrightarrow{\hspace{10em}}$ </div> <div style="text-align: center;"> Individual Asset Reference $\xrightarrow{\hspace{10em}}$ </div> </div>
8 0 0 4	$N_1 \dots N_i \quad X_{i+1} \dots \text{variable length} \quad X_j \text{ (} j \leq 30 \text{)}$

The exact method used to allocate the GIAI is left to the discretion of the issuing organisation. However, each GIAI must be unique for each individual asset being identified and, for ease of administration, the EAN.UCC System recommends that GIAIs be allocated sequentially and not contain classifying elements.

2.3.4.2 Change of Asset Ownership

EAN.UCC Asset Identification Numbers are used in a diverse range of business applications ranging from tracking the movements of re-usable packaging trays to recording the life-cycle history of aircraft parts. If a company sells an asset to another company then the asset identifier should ideally be replaced by another GIAI [Global Individual Asset Identifier] or GRAI [Global Returnable Asset Identifier] or be removed. It is permissible for the asset identifier to remain on the item when the ownership changes if the new owner takes responsibility for EAN.UCC Company Prefix associated with the asset identifier.

For further information regarding changes of ownership, please refer to Section 1.2.

2.3.4.3 Information Associated with EAN.UCC Asset Identifiers

The attributes of the asset should be established on a computer file using the EAN.UCC System asset identifier as the key to the information. Examples of the type of information held include the full name and address of the party who owns the asset, the value of the asset, the location of the asset, and the life-cycle history of the asset.