

## 2.4.23 Compound Message [Data Structure 023]

**Purpose:** Data Structure 023 shall allow multiple data structures to be combined into a single data string to facilitate use of newer technology delivery systems.

**Structure:** =+aabbb

Element	Length	Type
=	1	data identifier, first character
+	1	data identifier, second character
aa	2	numeric {0–9}
bbb	3	numeric {0–9}

The five-character data content string, **aabbb**, shall be encoded and interpreted as follows:

**aa** shall specify the number of ISBT 128 data structures that follow;

**bbb** shall be either:

- all zeroes – indicating this is an undefined message, i.e. only the number of data structures is identified, but not what each one is or the order in which they occur
- a three-digit number referencing an entry in an ICCBBA maintained table that defines the sequence of the data structures within a compound message (see Table W2, [RT017] ICCBBA-Specified Compound Messages described in Section 4.3, page 109)

*Note: Because of the complexity created by multiple product categories and the many codes that would result from permutations of order of data structures, ICCBBA now encourages the use of undefined messages.*

Rules for constructing compound messages:

1. A compound message shall comprise a string of ISBT 128 data structures (excluding nationally-defined structures), beginning with the Compound Message [Data Structure 023].
2. Data structures shall be combined with no intervening characters. Each data structure shall begin with its data identifier characters.
3. The string shall only contain ISBT 128 data structures.
4. The number of data structures following the Compound Message Data Structure shall be indicated in element aa of the Compound Message Data Structure.

5. If the sequence of the message is unspecified, the Compound Message Data Structure shall have elements bbb set to zeroes and element aa shall be set as specified in Rule 4.
6. If a specified sequence is used, the reference number of the selected message from Table RT017 shall be included in element bbb of the Compound Message Data Structure. The order of the data structures shall be that shown on Table RT017 for the reference number selected.

ICCBBA-specified compound messages are defined in Table W2, ICCBBA-Specified Compound Messages (described in Section 4.3, page 109). While ICCBBA now encourages the use of undefined messages, requests for additional entries may be submitted to the ICCBBA office ([tech.manager@iccbba.org](mailto:tech.manager@iccbba.org)).

Reading software should be able to interpret both unspecified sequence and specified sequence compound messages. The software should always verify the integrity of the data string, including checking that the correct number of data structures appears and, when specified sequence messages are used, that the sequence of data structures is correct. Data should only be interpreted if the integrity of the relevant data structures has been confirmed.

For examples of its use see *Implementation Guide: Use of Data Matrix Symbols with ISBT 128* (IG-014),