



**International
Standard**

ISO/IEC 15434

**Information technology —
Automatic identification and data
capture techniques — Syntax for
high-capacity ADC media**

*Technologies de l'information — Techniques automatiques
d'identification et de capture des données — Syntaxe pour
supports de CAD à haute capacité*

**Fifth edition
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Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives or www.iec.ch/members_experts/refdocs).

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This document was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 31, *Automatic identification and data capture techniques*.

This fifth edition cancels and replaces the fourth edition (ISO/IEC 15434:2019), which has been technically revised.

The main changes are as follows:

- format “14” has been assigned to data structured with JSON syntax (see [5.3.2.16](#) and [5.4.15](#));
- format “15” has been assigned to data containing an ISO/IEC 20248 verifiable data construct (see [5.3.2.17](#) and [5.4.16](#));
- [Annex B](#) has been added to provide examples of syntax used to encode data into high-capacity ADC media.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html and www.iec.ch/national-committees.

Introduction

This document defines the manner in which data is transferred to high-capacity automatic data capture (ADC) media from a supplier's information system and the manner in which data is transferred to the recipient's information system. It does not define the internal data storage format for specific high-capacity ADC media. This document does not specify the application of data structures provided by a specific data syntax format. The application of the data structure may be specified by industry conventions.

Users of automatic identification and data capture (AIDC) techniques benefit by being able to receive data in a standard form and by being able to provide data in a standard form. Low capacity ADC media, such as linear bar code symbologies and optical character recognition, typically encode a single field of data. Most applications of these technologies involve the encoding of a single field of data by the supplier of the medium and the subsequent decoding of the data field by the recipient. Encoding single fields of data permits the supplier to perform the encoding from a single field within the supplier's information system. Decoding single fields of data permits the recipient to input this data into a single field in the recipient's information system, in lieu of key entry.

High-capacity ADC media, such as two-dimensional symbols, RFID transponders, contact memories and smart cards, encode multiple fields of data. These multiple fields are usually parsed by the recipient's information system and then mapped to specific fields of data in the recipient's information system. This document defines the syntax for high-capacity ADC media, so as to enable ADC users to utilize a single mapping utility, regardless of which high-capacity ADC medium is employed.

The benefits of using high-capacity ADC media come with challenges. The ability to convey both data and meaning (e.g. assuming an encoded serial number is "12345"; "12345" is the data and the understanding "12345" is a serial number is the meaning) within a single technology has been executed differently by many industries in a variety of ways. The widespread use of these different data and meaning formats has led to an additional challenge of identifying which format is being used. To address this challenge, this document assigns many of the data and meaning formats a unique two-digit number called a format indicator which identifies the data structure for the encoded data. These format indicators enable a user to employ one or more formats within a single high-capacity ADC media and accurately decode the data stream.

This document defines a syntax to indicate the message encoded in the high-capacity ADC media conforms to this document. Its defined syntax also indicates which data format or formats are being used to provide data and meaning. The purpose of the syntax is to provide a mechanism for an automated information system consuming data through high-capacity ADC media to adaptively interpret and parse the data meaningfully.

Information technology — Automatic identification and data capture techniques — Syntax for high-capacity ADC media

1 Scope

This document specifies a transfer structure, syntax, coding of messages and data formats when using high-capacity automatic data capture (ADC) media.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO/IEC 646, *Information technology — ISO 7-bit coded character set for information interchange*

ISO/IEC 19762, *Information technology — Automatic identification and data capture (AIDC) techniques — Harmonized vocabulary*

ISO/IEC 21778, *Information technology — The JSON data interchange syntax*

ISO/IEC 20248, *Information technology — Automatic identification and data capture techniques — Digital signature data structure schema*

ANS MH10.8.2, *ASC MH 10 Data Identifiers and Application Identifiers*

ANS X12, *Electronic Data Interchange*

CII Syntax Rule (Vers 3.00), CII Syntax Rule Specifications (3.00) (Electronic Data Interchange — Japan)

GS1 General Specifications Standard

Airlines for America, *ATA Common Support Data Dictionary (CSDD)*