
**Information technology — Automatic
identification and data capture
techniques — Aztec Code bar code
symbology specification**

*Technologies de l'information — Techniques d'identification
automatique et de capture des données — Spécification pour la
symbologie de code à barres du code Aztec*

Withhold

PDF disclaimer

This PDF file may contain embedded typefaces. In accordance with Adobe's licensing policy, this file may be printed or viewed but shall not be edited unless the typefaces which are embedded are licensed to and installed on the computer performing the editing. In downloading this file, parties accept therein the responsibility of not infringing Adobe's licensing policy. The ISO Central Secretariat accepts no liability in this area.

Adobe is a trademark of Adobe Systems Incorporated.

Details of the software products used to create this PDF file can be found in the General Info relative to the file; the PDF-creation parameters were optimized for printing. Every care has been taken to ensure that the file is suitable for use by ISO member bodies. In the unlikely event that a problem relating to it is found, please inform the Central Secretariat at the address given below.

Withdrawn



COPYRIGHT PROTECTED DOCUMENT

© ISO/IEC 2008

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

Published in Switzerland

Contents

Page

Foreword.....	v
Introduction	vi
1 Scope	1
2 Normative references	1
3 Terms, definitions, symbols and functions	1
3.1 Terms and definitions.....	1
3.2 Symbols and functions	2
4 Symbology characteristics	3
4.1 Basic characteristics	3
4.2 Summary of additional features	4
5 Symbol description.....	4
5.1 Symbol structure	5
5.2 Symbol character structure and sequence.....	6
5.3 Symbol size and capacity	7
6 General encodation procedures.....	8
7 Symbol structure	9
7.1 Fixed pattern structures.....	9
7.2 Mode Message encoding and structure.....	10
7.3 Data message encoding and structure.....	11
8 Structured Append	14
9 Reader initialization symbols	14
10 Extended Channel Interpretation	15
10.1 Encoding ECIs in Aztec Code.....	15
10.2 Code sets and ECIs	15
10.3 ECIs and Structured Append.....	15
10.4 Post-decode protocol.....	15
11 User considerations	16
11.1 User selection of encoded message.....	16
11.2 User selection of minimum error correction level.....	16
11.3 User selection of Structured Append	16
11.4 User selection of optional symbol formats.....	16
12 Dimensions.....	16
13 User guidelines	17
13.1 Human readable interpretation.....	17
13.2 Autodiscrimination capability	17
13.3 User-defined application parameters	17
14 Reference decode algorithm	17
14.1 Finding candidate symbols	18
14.2 Processing the bullseye image	18
14.3 Decoding the Core Symbol.....	18
14.4 Decoding the data message	19
14.5 Translating the datawords	20
15 Symbol quality	20
15.1 Symbol quality parameters	20

15.2	Symbol print quality grading	21
15.3	Process control measurements.....	22
16	Transmitted data	22
16.1	Basic interpretation	22
16.2	Protocol for FNC1	22
16.3	Protocol for ECIs	22
16.4	Symbology identifier.....	23
16.5	Transmitted data example.....	23
Annex A	(normative) Aztec Runes.....	24
Annex B	(normative) Error detection and correction	26
Annex C	(normative) Topological bullseye search algorithm	29
Annex D	(normative) Linear crystal growing algorithm	33
Annex E	(normative) Fixed Pattern Damage grading	34
Annex F	(normative) Symbology identifiers	36
Annex G	(informative) Aztec Code symbol encoding example	37
Annex H	(informative) Achieving minimum symbol size.....	41
Annex I	(informative) Useful process control techniques.....	43
Bibliography	45

Withdrawing

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. In the field of information technology, ISO and IEC have established a joint technical committee, ISO/IEC JTC 1.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of the joint technical committee is to prepare International Standards. Draft International Standards adopted by the joint technical committee are circulated to national bodies for voting. Publication as an International Standard requires approval by at least 75 % of the national bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO and IEC shall not be held responsible for identifying any or all such patent rights.

ISO/IEC 24778 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 31, *Automatic identification and data capture techniques*.

Introduction

Aztec Code is a two-dimensional matrix symbology whose symbols are nominally square, made up of square modules on a square grid, with a square bullseye pattern at their center. Aztec Code symbols can encode from small to large amounts of data with user-selected percentages of error correction.

Manufacturers of bar code equipment and users of the technology require publicly available standard symbology specifications to which they can refer when developing equipment and application standards. The publication of standardised symbology specifications is designed to achieve this.

Withdrawn

Information technology — Automatic identification and data capture techniques — Aztec Code bar code symbology specification

1 Scope

This International Standard defines the requirements for the symbology known as Aztec Code. It specifies the Aztec Code symbology characteristics including data character encodation, rules for error control encoding, the graphical symbol structure, symbol dimensions and print quality requirements, a reference decoding algorithm, and user-selectable application parameters.

2 Normative references

The following referenced documents are indispensable for the application 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 646:1991, *Information technology — ISO 7-bit coded character set for information interchange*

ISO/IEC 15415:2004, *Information technology — Automatic identification and data capture techniques — Bar code print quality test specification — Two-dimensional symbols*

ISO/IEC 15424, *Information technology — Automatic identification and data capture techniques — Data Carrier Identifiers (including Symbology Identifiers)*

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

AIM Inc. International Technical Specification: Extended Channel Interpretations

- Part 1, Identification Schemes and Protocols
- Part 2, Registration Procedure for Coded Character Sets and Other Data Formats
- Character Set Register