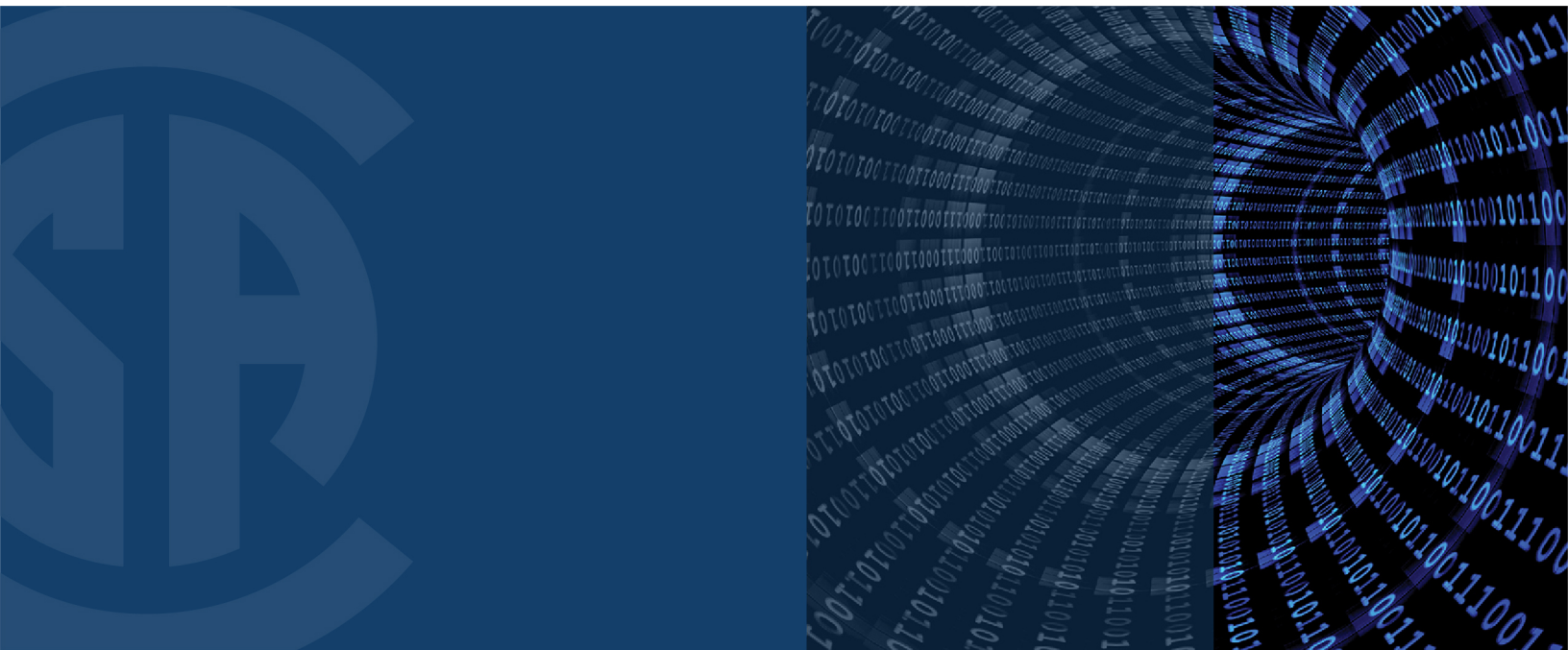




7-bit and 8-bit Coded Character Sets for Information Processing and Interchange



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This standard has been adopted by the Government of Canada.

Details concerning its use within the Government of Canada are contained in the Treasury Board Information Technology Standards publication TBITS - 3, "7-bit and 8-bit Coded Character Sets for Information Processing and Interchange". For a copy of this publication or for a complete list of the publications available in the Treasury Board Information Technology Standards series, write to:

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Information Management Division
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Treasury Board Secretariat
10th Floor, East Tower, L'Esplanade Laurier
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Contents

Technical Committee on Character Sets and Information Coding 5

Preface 6

1. Scope 9

2. Definitions 9

3. Reference Publications 10

4. Conformance and Implementation 11

4.1 Conformance 11

4.1.1 General 11

4.1.2 Conforming Interchange 11

4.1.3 Conforming Systems 12

4.1.4 Statements of Conformance 12

4.1.5 Composite Graphic Characters 12

4.2 Implementation 13

5. Coding 13

5.1 Code Positions 13

5.2 Code Sets 13

5.3 Code Structure 14

6. 7-bit Code 14

6.1 Structure of the 7-bit Code 14

6.2 Elements of the 7-bit Code 15

6.3 Conformance Level 0 17

6.4 Conformance Level 0 Alternative 17

7. 8-bit Code 17

7.1 Structure of the 8-bit Code 17

7.2 Elements of the 8-bit Code 18

7.3 Conformance Level 1 18

8. Code Extension 21

8.1 Extended 7-bit Code 21

8.1.1 General 21

8.1.2 Conformance Level 1 21

8.2 Extended 8-bit Code 22

8.3 General Code Extension 22

8.3.1 General 22

8.3.2 Conformance Level 2 22

8.3.3 Conformance Level 3 22

8.3.4 Conformance Level 4 22

9. Control Sets 22

9.1 General 22

9.2 Primary Control Set 22

9.3 Supplementary Control Set 29

10. Primary Graphic Character Sets 37

10.1 General 37

10.2 Primary Graphic Set 37

10.3 Alternative Primary Graphic Set 1 40

10.4 Alternative Primary Graphic Set 2 41

11. Supplementary Graphic Character Sets 41

11.1 General 41

11.2 General Purpose Supplementary Graphic Set 41

11.3 Latin Alphabet No. 1 Supplementary Graphic Set 44

Appendices

A—Related Standards 49

B—Overview of This Standard 50

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In addition to the members of the Committee, the following made valuable contributions to the development of this Standard:

J.W. Brahan	National Research Council of Canada, Ottawa, Ontario	<i>Past Chairman</i>
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Preface

This is the third edition of CSA Standard Z243.4 (now CAN/CSA-Z243.4), *7-bit and 8-bit Coded Character Sets for Information Processing and Interchange*. It contains some corrections and modifications from the Preliminary Standard published in 1985, which superseded the previous edition, published in 1973 with the title *7-Bit Coded Character Set for Information Processing Interchange*. This Standard has been extended, relative to the 1973 edition, to include 8-bit codes and also incorporates techniques for code extension based on ISO Standards that are referenced in this Standard.

The primary 7-bit coded character set of this Standard is defined in accordance with Clause 6 of ISO Standard 646, *Information Processing—ISO 7-bit Coded Character Set for Information Interchange*, and is hence to be considered the Canadian version of ISO 646.

The first edition of this Standard was limited by the technology available at the time for implementation of the code. With advances in the technology that have taken place since, it has been possible to address these limitations in the current edition. However, the current Standard provides for compatibility with equipment based on the 1973 edition.

Since the first version of this Standard, ISO has created many related Standards. The Committee has chosen to consolidate many of those Standards into a single document for Canadian use. Thus, with a single Standard, the reader should be able to implement hardware and software that conforms to both the Canadian and international standards.

In accordance with an agreement established some time ago, the Technical Committee also assumes an advisory role to GESC (Government EDP Standards Committee) with respect to character sets and information coding Standards. To support this arrangement, the Technical Committee has active representation from a number of federal government agencies.

The Committee envisages further development of this Standard based on user requirements. So that the Standard may evolve in a meaningful and orderly manner, equipment suppliers and users are requested to notify CSA of any shortcomings of the Standard for their requirements.

This Standard was prepared by the Technical Committee on Character Sets and Information Coding under the jurisdiction of the Standards Steering Committee on Information Processing Systems. It has been approved as a National Standard of Canada by the Standards Council of Canada.

July 1987

Notes:

- (1) *Use of the masculine gender in this Standard is not meant to exclude the feminine gender. Similarly, use of the singular does not exclude the plural (and vice versa) when the sense allows.*
- (2) *Although the intended primary application of this Standard is stated in its Scope, it is important to note that it remains the responsibility of the user of the Standard to judge its suitability for his particular purpose.*
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- (b) *provide an explanation of circumstances surrounding the actual field condition; and*
- (c) *be phrased where possible to permit a specific "yes" or "no" answer.*

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CAN/CSA-Z243.4-87

7-bit and 8-bit Coded Character Sets for Information Processing and Interchange

1. Scope

1.1

This Standard consists of primary and supplementary graphic and control sets, 7-bit and 8-bit codes based on the above sets, and rules for code extension. The character sets are intended for general usage in data processing, programming, and information interchange. These character sets include letters, figures, punctuation marks, and other symbols and controls, with their coded representation.

1.2

The requirements for graphic characters and control functions in various applications and the limitations imposed by computer and ancillary equipment characteristics have been taken into account in determining these character sets. Specific considerations included the following:

- (a) the need for a set of graphic characters sufficient to support information interchange using both the English and the French languages;
- (b) the need for an adequate number of device controls and format effectors;
- (c) the need to provide for compatible interchange with existing systems in North America and internationally;
- (d) physical limitations of media and facilities;
- (e) data manipulation and interactive computing requirements;
- (f) programming requirements;
- (g) keyboard conventions and limitations.

1.3

The primary and supplementary character sets described in this Standard are primarily intended for the interchange of information among data processing systems and associated equipment. They may be regarded as basic alphabets in an abstract sense. The range of applications may be extended through the application of the code extension techniques defined herein and through the use of the coded character sets included in the *ISO International Register of Coded Character Sets to be Used with Escape Sequences*, available from

Registration Authority for ISO 2375
European Computer Manufacturers Association
114, Rue du Rhône
CH-1204 Geneva
Switzerland

2. Definitions

2.1

The following definitions apply in this Standard:

Bit combination—an ordered set of bits used for representation of a character.