

**CANADIAN PAYMENTS ASSOCIATION**  
**ASSOCIATION CANADIENNE DES PAIEMENTS**

**STANDARD 006**  
**SPECIFICATIONS FOR MICR-ENCODED PAYMENT**  
**ITEMS**

**PART A: SPECIFICATIONS FOR IMAGEABLE MICR-ENCODED**  
**PAYMENT ITEMS**

**(Cheques, Money Orders, Bank Drafts, Inter-Member Debits, Settlement Vouchers, Canada Savings Bonds, Provincial Savings Bonds, Gift Certificates and Store Coupons, and Paper Pre-authorized Debits)**

**PART B: SPECIFICATIONS FOR OTHER MICR-ENCODED**  
**PAYMENT ITEMS**

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## Standard 006 – Specifications for MICR-Encoded Payment Items

### Implemented

February 1992

### Amendments Pre-November 2003

November 18, 1992, April 28, 1993, October 15, 1993, February 3, 1994, March 31, 1994, June 1994, March 23, 1995, November 27, 1995, March 25, 1996, May 23, 1996, August 23, 1996, September 18, 1996, November 25, 1996, January 27, 1997, October 9, 1997, May 19, 1998, December 3, 1998, December 7, 1998, July 6, 1999, October 7, 1999, March 8, 2000, May 7, 2000, July 24, 2000, October 5, 2000, May 28, 2001, June 28, 2001, July 26, 2001, November 29, 2001, April 15, 2002, July 15, 2002, November 28, 2002, February 20, 2003, March 31, 2003, June 1, 2003, and January 27, 2004.

### Amendments Post-November 2003

1. Sections 2.1.3 and 2.7, approved by the Board November 27, 2003, effective January 27, 2004.
2. Standard 006 divided into Part A (cheques) and Part B (other documents), approved by Board December 1 2004, is effective on January 6, 2005. The deadline for cheques to comply with the new specifications as outlined in Standard 006, Part A, is December 31, 2006. (NOTE: In May 2006, the deadline for cheques was extended to June 30, 2007.)
3. Amendment to section 6.18.3 to reserve paper transaction code 05 for future use, approved by the Board February 24, 2005, effective April 25, 2005.
4. ISO format added as a third option for the date field, with bilingual date field indicators allowed in the ISO format. (See Part A, Section 5.4)
5. Amendment to Part A, Section 4.13.2.1 and Part B, Section 6.18.3 to add a new paper transaction code for US Dollar Items, approved by the Board June 15, 2005, effective August 15, 2005.
6. Amendment to Appendix IV made under the authority of the CPA General Manager effective December 1, 2005.
7. Clarifications to Standard 006, sections 5.4.1 (6), 6.4.1 (8), 5.4.1 (9), 5.4.1 (11), 5.4.1 (12), 5.4.2, 5.4.3, 5.4.5 (1), and 5.4.5 (2), approved by the Board December 1, 2006, effective January 12, 2006.
8. Amendments to Appendix IV made under the authority of the CPA General Manager effective February 23, 2006.
9. Specifications for imageable Bank Drafts, Money Orders, Inter-Member Debits, Settlement Vouchers, Point of Sale Contingency Vouchers, Canada Savings Bonds, Provincial Savings Bonds, and Canada Post Money Orders added to Part A. (See Section 6.) The deadline for these items to comply with these specifications is December 31, 2007. Clarifications made to Part A sections 1.0, 2.2, 2.14, 3.5, 5.2, 5.3, 5.4.1, and 5.4.5. Formatting and editorial changes made throughout. Approved by the Board March 30, 2006, effective June 28, 2006.
10. Specification for Gift Certificates, Store Coupons, and Pre-Authorized Debits (PADs) added to part A section 6. Amendments to Part B, Section 7.17.3 to clarify that the section deals with transaction codes for non-imageable paper items only, to remove paper transaction codes, to include a reference to Appendix VII and to remove code 81 from the reserved codes note. Amendments to section 4.4.2.1 to clarify that the section deals with transaction codes for imageable items only, to add a new transaction code 81 for Gift Certificates and Store Coupons, to include other transaction codes applicable to imageable paper items, to include a reference to Appendix VII and a note indicating the reservation of code 05 for future use. Amendments to Section 3.6.2 to allow guide marks in a specific location on items. Amendments to section 5.3 to remove the reference to pixels as measurement increment and clarification on symbols other than asterisks in the convenience amount. Amendments to section 5.4.3 to clarify the appearance of the dollar sign.
11. Amendment to remove the Specifications for Point of Sale Contingency Vouchers, approved by the Board November 29, 2007, effective April 30, 2008; and amendment to the title of section 5 to clarify that the section refers to cheques, made under the authority of the CPA General Manager.

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12. Amendments to remove conditional statements provisions in sections 5.4.1 and 6.7 and to remove references to image exchange from the Preface and the Supplement, approved by the Board November 27, 2008, effective January 26, 2009.

## Standard 006 – Specifications for MICR-Encoded Payment Items

### PREFACE

Magnetic Ink Character Recognition (MICR) technology has been used by Canadian financial institutions for over four decades, to process – economically and expeditiously – a large volume of paper-based payment instruments on a daily basis.

Over the years, this Standard has been revised periodically to reflect growing knowledge, experience and advances in MICR technology. Most recently, specifications have been added to ensure that cheques and some other MICR-encoded payment items are designed in such a way as to permit the capturing of clear images. An explanation of testing procedures is contained in the Supplement to this Standard.

Document processing by image technology will not replace MICR processing. Instead, image and MICR technology will coexist as two equally important technologies for document processing. Electronic imaging of MICR-encoded payment items places new requirements on the overall design of these documents. Financial institutions and their clients must be assured that all essential information is readily legible when viewing the *image* of the payment item rather than the item itself.

The MICR and image requirements have been developed to achieve consistency in the evaluation of MICR-encoded and image-friendly documents, regardless of the financial institution conducting the evaluation. This should help printers produce documents that meet a common minimum quality level for all financial institutions.

**By September 2, 2008, cheques and other paper payment items covered in this Standard are required to meet the imageability, MICR-encoding and document design specifications set out in Part A.**

Printers who require technical information regarding MICR print specifications should refer to ISO 1004-1995, which is available from IHS Canada ([canada.ihs.com](http://canada.ihs.com)).

Additional copies of this Standard can be downloaded from the Canadian Payments Association's web site at [www.cdnpay.ca](http://www.cdnpay.ca) and questions may be directed to [info@cdnpay.ca](mailto:info@cdnpay.ca).

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## APPENDICES

<b>Appendix I</b>	Technical Specifications for E-13B Characters in MICR Band
<b>Appendix II</b>	Quality Assurance
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<b>Appendix IV</b>	MICR Field Placement and Content
<b>Appendix V</b>	Quality Assurance Department List
<b>Appendix VI</b>	Allowable Signal Level Range Exhibits
<b>Appendix VII</b>	List of All Paper Transaction Codes Reserved for CPA Use

<b>Supplement</b>	<b>Standard Procedures for the Evaluation of Imageable MICR-Encoded Documents</b>
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## Standard 006 – Specifications for MICR-Encoded Payment Items

### 1. INTRODUCTION AND SCOPE

This Standard defines the location and background design of the necessary data element fields for imageable MICR-Encoded Payment Items and other MICR-Encoded Payment Items.

#### 1.1 General Comments on MICR-Encoding

MICR printing requires a specialized skill and well-calibrated and maintained equipment.

High-quality MICR printing is important because it is read by machines and what seems relatively unimportant to the human eye (a small hole or void in one of the characters, for instance) is of vital importance to the machine.

The modern reader-sorter processes documents at high speeds, magnetizes the encoded characters, reads the MICR line and sorts these documents into selected pockets. Documents may be rejected by the machine as unreadable if, for instance, the document size does not meet the standards for MICR-sorting devices or the density of ink is too low or too high. These rejected documents must be taken out of the stream and sorted and entered by hand.

The role of the printer is to produce documents that will process with a reject rate of less than 1%. In order to do so, the printer should acquire certain pieces of equipment to measure the MICR document “tolerances” described in this Standard and work closely with its client’s deposit-taking financial institution (see Appendix V) to produce documents that meet the MICR specifications.

**New specification sheets must be obtained prior to printing or reprinting documents (see Appendix III).** Parties who print documents and who fail to comply with this requirement may be requested to reprint at their own cost.

#### 1.2 General Comments on Image Technology

Advances in Optical Character Recognition (OCR) and Intelligent Character Recognition (ICR) have made it possible to improve the automation of MICR-encoded document processing by means of image technology. This technology can reproduce documents in a digitized format for highly efficient electronic processing and storage.

A document properly designed for imaging is one where all essential information can be captured by the imaging processes, the image will be usable, and the file sizes will be small enough so that the images can be stored and retrieved in a convenient manner.

The capture of paper-based documents is accomplished via a digital camera, normally loaded directly onto the reader-sorter machine. ICR may be used to read hand-written or machine-printed amounts on the document image. Successful imaging and character recognition can be affected by many factors in the document design, including background colour, screening, background pattern of the document, security patterns and the ink used to print the data. The effect of these design characteristics can be assessed by Reflectance and contrast measurements.

The new image specifications are in effect as of January 2005.

**Effective June 30, 2007, cheques must conform to the specifications contained in Part A of this Standard.**

## Standard 006 – Specifications for MICR-Encoded Payment Items

By **December 2007**, the following Items are required to comply with the specifications set out in section 6:

- Money Orders and Bank Drafts;
- Inter-Member Debits;
- Settlement Vouchers;
- Canada Savings Bonds; and
- Provincial Savings Bonds.

This will permit the continued efficient handling of these items by CPA members in an imaging environment. **Cheques and other MICR-encoded Payment Items that do not conform to this Standard may risk processing delays and potential additional costs for members, printers and customers.**

### 1.3 Tolerance Data

To attempt to interpret the tolerances acceptable by electronic sorting machines in terms of micro-measurements and to suggest that all printers measure these tolerances is considered to be a most impractical approach. For example, to suggest that a printer measure a horizontal distance .020 cm (.008") is a difficult request. Micro-measurements, for the practical use of the printer, must be interpreted in some other terms than centimetres, even though the tolerances required do fall within such dimensions.

Instruments help confirm your judgement. In matters of positioning, a gauge placed over a proof determines exactly the requirements of an area. In matters of size of characters and overall quality, a comparator provides an adequate check. To determine the proper reading by a sorting machine, you may use a gauge which measures the amount of ink on your rollers or a tester to measure the signal strength of the ink on the document. Recognizing the practical and real limitations of measuring, it is highly recommended that samples of MICR-encoded documents be submitted to a Financial Institution's Quality Assurance Department for testing.

### 1.4 Testing Equipment

A variety of testing equipment is available:

- a) printing and layout gauges, which check position, skew, alignment, character location, etc.; and
- b) pocket comparators with grids, which permit a check on character dimensions voids, edge irregularity and overall print quality.

More complex and more accurate equipment is available for shops with extensive document printing operations. These include:

- a) signal level testers;
- b) comparators (more complex than the pocket variety), which permit close inspection of quality factors, spacing, skew, voids, etc.; and
- c) stereoscopic microscopes which provide a three-dimensional picture of the character image and surrounding areas to detect degree of impression or debossment, amount of squeeze-out and other factors.

Colour measurement systems include:

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- a) Reflectance scanners, which are used for measuring design and quality of Reflectance on documents; and
- b) Print Contrast scanners, which are used for measuring design and quality of Print Contrast on documents.