



Guidelines for Companies Intending to Issue MICR Encoded Cheques

This document provides an overview of the approval process and requirements associated with the printing of the MICR codeline.

Cheques and deposit forms are Magnetic Ink Character Recognition (MICR) encoded to facilitate processing by imaging, reading and sorting equipment used by financial institutions.

If you're considering producing your own MICR encoded documents, you must have your financial institution's approval.

Company cheques are valuable: lack of care can lead to misuse resulting in potentially disastrous fraud losses. Following these Guidelines will help to eliminate cheque fraud.

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Introduction

Issuing and MICR encoding cheques is the process of overprinting the security background of base stock cheque paper with the cheque format, other personalisation details and the MICR codeline.

This document:

- Is intended for companies, and other parties seeking to issue MICR encoded documents using their own computer software which will be printed on a MICR enabled printer.
- Emphasises the need for Security Control Procedures.
- Provides some guidelines for paper handling, to optimise the performance of your laser printing system; and
- Should be read in conjunction with and does not replace the specifications contained in APCA Publications "[Design Specifications for Cheques and Deposit Forms](#)" and "[Magnetic Ink Character Recognition \(MICR\) Technical Specifications](#)" or their subsequent replacements. Both publications can be downloaded from the www.apca.com.au website, or are available from APCA on request.

Printing of the MICR codeline is only one aspect of issuing cheques and deposit forms. For an overview of the processes involved in purchasing and using specially printed cheques, refer to "APCA Guidelines for the Purchase and Use of Specially Printed Cheques".

What approvals do I need?

To print the MICR codeline on cheques and deposit forms, you have to:

- Obtain a Printer Identifier number from APCA; and
- Get your financial institution's approval.

Obtaining Your Printer Identifier

All organisations that MICR encode cheques and/or deposit forms must be listed with APCA and allocated a Printer Identifier. You will need the Printer Identifier APCA assigns when you apply for printing approval from your financial institution.

You can download a copy of the Printer Identifier Registration Form from the www.apca.com.au website, or contact APCA.

Financial Institution Approvals

You need to provide your Financial Institution with sample cheques that have been MICR encoded by your system to ensure that they meet the standard for MICR outlined in "Magnetic Ink Character Recognition (MICR) Technical Specifications"

If the samples are acceptable, your Financial Institution will allocate a Design Approval Number (DAN) and Printing Approval Number (PAN) and issue you a Confirmatory Authority giving you permission to start printing and MICR encoding your own cheques.

For more information about financial institution approval and authorisation processes, refer to Appendix E of "Design Specifications for Cheques and Deposit Forms".

MICR Printing Requirements

The MICR codeline is used to facilitate high-speed cheque processing by financial institutions.

Your financial institution may charge you a fee for MICR encoded documents that cannot be processed by their automated clearing systems.

Printing equipment, types of toners, character positioning, formation and alignment have an impact on the efficient and accurate processing of MICR encoded documents.

Printing Equipment

Printing equipment used to overprint the MICR codeline should be of high standard, capable of producing MICR encoding to the APCA specifications in Section 3 of Magnetic Ink Character Recognition (MICR) Technical Specifications. APCA maintains a register of accredited MICR printing systems.

Toner

The MICR codeline must be overprinted using specialised magnetic toners, to optimise cheque processing.

Use MICR toner that is recommended by the manufacturer for the printing system.

MICR Overlays and Test Equipment

The quality of the MICR on cheques you print is your responsibility. Your Financial Institution may charge *you* to process poor quality MICR that cannot be processed by the automated clearing system. You must therefore ensure that standards are maintained to prevent poor quality cheque printing.

There are tools and equipment available that can be used as overlays, or for testing the quality of MICR printing, some of which can be purchased from APCA:

- MICR codeline layouts can be used to check the positioning of the MICR codeline on cheques and deposit forms; and
- The APCA Position and Layout Gauge allows you to check spacing, skews, format and alignment of MICR characters.
- Optical Comparator with a 12x magnification loupe with an E13B MICR character measuring reticule.

For your own interest, you may wish to purchase special equipment so that you can test on a daily basis that the quality of the MICR encoding is acceptable. You will also be required to submit monthly or quarterly cheque samples to your Financial Institution for testing. Your Financial Institution can also provide you with information on how to obtain the necessary equipment to ensure your cheques maintains the required standards and that the MICR code line is always correctly positioned.

Base Stock

Cheque base stock must be printed by a commercial printer with a Print Identifier Number (PID). To guard the cheque against alteration and counterfeiting, the minimum requirements are:

- The paper must be sensitised
- The background printed in a primary solvent sensitive ink
- And at least one other security feature:

Refer to Section 6 of APCA Publication Design Specifications for Cheques and Deposit Forms for more information.

The amount of information already printed on the base stock can vary with each order and you should seek advice from your Financial Institution.

- The coloured security background will always be pre-printed.
- It is preferable to pre-print the \$ sign and as many other personalisation details as appropriate, leaving only the account name, number and MICR codeline to be overprinted.
- Base stock cheques should be pre-printed with a sequential number to assist your stock control: these numbers are not the serial number of the cheques.

Security and Control Procedures

For your own protection, you should implement basic security measures associated with cheques, such as keeping cheque blanks in safes or secure cabinets. The following points need careful consideration:

- Ensure blank cheques are kept in a safe or a secure cabinet, particularly overnight.
- Do not permit anyone to take blank cheques home at any time.
- Ensure that cheques have been removed from the computer printer after use and stored securely.
- Ensure that cheque completion is properly supervised at all times.
- Never leave cheques, whether signed or unsigned, on a desk unattended.
- Avoid holding excess stock and shred any obsolete stock.
- Take care to check against the possibility of individual blank cheques being removed from the middle of packages.
- Ensure that spoiled cheques are properly accounted for and destroyed.
- Undertake regular audits of cheque stock. Any discrepancies should be investigated and your financial institution advised.
- Cheques must only be signed by authorised signatories who should have sighted the underlying papers (invoices) etc.
- Cheques should never be signed blank.
- Inform your bank of any changes to the mandate, particularly when authorised signatories leave the company.
- The issue of cheques with pre-printed facsimile signatures should be strictly audited.
- When signing machines are used, tight computer access controls and audit procedures should be established under the supervision of senior personnel.
- Ensure access to computer programs is controlled by use of passwords and that all activities are recorded on an audit trail.
- The payee's name, amount and date, etc should be printed in the same font. The minimum size recommended is 10 point with the exception of the Amount in Figures, which should be printed in not less than 12 point.

Despatch by Post

- Ensure that window envelopes do not reveal the contents.
- Use envelopes of sufficient quality so that the contents cannot be revealed when held up to light.
- Discuss with your financial institution alternative methods of remitting large amounts.

Paper Handling

Other considerations associated with MICR encoding relate to maintaining the condition of paper used when laser printing MICR encoded documents, to optimise the efficiency of your printing system.

Environmental conditions have a major impact on laser printing operations. Of equal importance is acclimatising ("pre-conditioning") the paper before printing.

The following guidelines can help you avoid problems with paper handling, and poor adhesion of the toner to the paper. These guidelines are based on commonly accepted practices within the printing industry.

Adjusting Temperature and Humidity

Temperature and humidity control are important factors in printing performance. High humidity can cause paper to develop wavy edges, while low humidity can cause paper to have tight edges. Both of these conditions can cause misfeeds, jams, or wrinkling during printing.

The moisture content of the paper will affect how well toner adheres to the paper when the amount and payee details are printed on the cheque ("toner adhesion") and thus "permanence" of the printing on the cheque.

Optimum conditions for storage and printing are:

- A temperature of 20-24 ° C for paper storage and printing;
- A relative humidity of 45-55% for paper storage; and
- A moisture content of 4-6% in the forms going into the laser printer (a moisture content of 4-5% is recommended for optimum performance).
- Maximum toner adhesion and permanence is achieved when the moisture content of the paper is maintained at 4.5% to 5.5%.
- Printing on paper with moisture content above 5.5% will reduce toner adhesion which may mean that the printing does not have an acceptable level of permanence.

When adjusting relative humidity to remedy signs of paper waviness, tight edges or excessive away-from-image curl, do so in increments of 5-10%, and allow sufficient time between adjustments to test the effectiveness of the new conditions.

Acclimatising Paper

Large, sudden changes in temperature and humidity can cause paper to distort, affecting printing performance. When moving stock from the storage to the printing area:

- Avoid placing forms in front of air-conditioning or heating vents;
- Place the forms in the printing area long enough for them to acclimatise to the new conditions;
- Remove moisture proof wrappers only when the temperature has stabilised; and
- Allow sufficient time after removal of wrappers for the moisture content of the paper to stabilise.

The following table can be used as a guide for determining the time needed to pre-condition stacked, unopened cartons containing five reams of paper, moved as stacked pallets. The numbers of hours listed in the table indicate the *minimum* numbers of hours the cartons should be left unopened in the printing area prior to use, based on differences in storage and printing temperatures.

Number of Cartons	Temperature Difference between Storage and Printing Areas (Degrees Celsius)						
	5.5°	8.5°	11°	13°	17°	22°	28°
1	4 hrs	8 hrs	11 hrs	14 hrs	17 hrs	24 hrs	34 hrs
5	5 hrs	9 hrs	12 hrs	15 hrs	18 hrs	25 hrs	35 hrs
10	8 hrs	14 hrs	18 hrs	22 hrs	27 hrs	38 hrs	51 hrs
20	11 hrs	16 hrs	23 hrs	28 hrs	35 hrs	48 hrs	67 hrs
40	14 hrs	19 hrs	26 hrs	32 hrs	38 hrs	54 hrs	75 hrs

Acclimatising can be accelerated by unstacking the cartons or reams of paper. Reams however, should only be unsealed when you are ready to load the paper into the printer.