



## Designing Letter and Reply Mail

Publication 25

November 2008  
Transmittal Letter

- A. Explanation.** This publication provides detailed information to help both mailers, and mailpiece design analysts who assist mailers, in designing letters and reply mail that will meet the machinable standards in the *Domestic Mail Manual* (DMM).
- B. Comments on Content or Format.** Comments or questions regarding the content or format of this publication may be made by email to Postal Explorer at [Pexplore@email.usps.gov](mailto:Pexplore@email.usps.gov). You may also address comments to the following address:
- MAILING STANDARDS  
U.S. POSTAL SERVICE  
475 L'ENFANT PLAZA SW RM 3436  
WASHINGTON DC 20260-3436
- C. Effective Date.** This publication is effective November 2008, and replaces all previous editions.

Maura Robinson  
Vice President  
Pricing

# Contents

- Contents . . . . . i**
  
- Exhibits . . . . . v**
  
- Introduction . . . . . 1**
  - Purpose . . . . . 1
  - Checking the Source . . . . . 1
  
- 1 Automation Benefits . . . . . 3**
  - The Value of Automation . . . . . 3
  - Financial Savings . . . . . 3
  - Postal Processing . . . . . 4
  - Automated Letter Processing Equipment . . . . . 4
  - Postage Discounts . . . . . 5
  - Barcoding Specifications . . . . . 5
  - Assistance . . . . . 6
  - Tools . . . . . 7
  - Barcoding Software and Equipment . . . . . 11
  
- 2 Automation Design Standards . . . . . 13**
  - Overview . . . . . 13
  - Letters . . . . . 13
  - Mailpiece Materials and Construction . . . . . 16
  - Mailpiece Flexibility . . . . . 20
  - Incompatible Materials and Sealing Methods . . . . . 21
  - Window Envelopes and Inserts . . . . . 22
  - Address Labels and Stickers . . . . . 26
  
- 3 Automation Addressing . . . . . 29**
  - Overview . . . . . 29
  - General Standards . . . . . 29
  - Mailpiece Clear Zones on Nonbarcoded Mailpieces . . . . . 30
  - Address Printing Guidelines . . . . . 33
  - Reflectance and Print Contrast . . . . . 38
  
- 4 Barcodes . . . . . 41**
  - Overview . . . . . 41
  - POSTNET Barcodes . . . . . 41
  - Delivery Point Barcode . . . . . 41
  - POSTNET Barcode Format . . . . . 42
  - Bar Spacing (Pitch) . . . . . 46
  - Barcode Locations . . . . . 46
  - Barcode Layout . . . . . 48
  - Barcode Printing . . . . . 50

Intelligent Mail Barcodes . . . . .	52
Bar Spacing (Pitch) . . . . .	56
Barcode Locations . . . . .	56
Barcode Printing . . . . .	60
<b>5 Reply Mail . . . . .</b>	<b>63</b>
Basic Information . . . . .	63
Choosing Reply Mail Type . . . . .	64
Selecting Facing Identification Marks . . . . .	68
FIM Standards . . . . .	70
FIM Positives and Barcodes . . . . .	71
Obtaining FIMs, Barcodes, and ZIP Codes . . . . .	72
Avoiding Sorting Errors . . . . .	72
<b>6 Business Reply Mail . . . . .</b>	<b>75</b>
Receiving Customer Responses . . . . .	75
Following Design Formats . . . . .	75
Meeting Size Standards . . . . .	83
Meeting Printing Standards . . . . .	84
Using Window Envelopes . . . . .	86
Prebarcoding Your BRM . . . . .	89
Adding Optional Elements . . . . .	91
Using BRM Varieties . . . . .	93
Priority Mail Business Reply Mail . . . . .	94
Paying for Replies . . . . .	94
Qualified Business Reply Mail (QBRM) . . . . .	94
International Business Reply Service (IBRS) . . . . .	97
<b>7 Courtesy Reply Mail, Meter Reply Mail, and Permit Reply Mail</b>	<b>105</b>
Courtesy Reply Mail . . . . .	105
Meter Reply Mail . . . . .	112
Permit Reply Mail . . . . .	114
<b>A Ink/Paper Definitions . . . . .</b>	<b>117</b>
Reflectance . . . . .	117
Print Reflectance Difference . . . . .	117
Print Contrast Ratio . . . . .	117
<b>B Ink/Paper Measurement . . . . .</b>	<b>119</b>
Instrument Calibration Standards . . . . .	119
Instrumentation . . . . .	119
Area Resolution . . . . .	120
Address Block Measurements . . . . .	120
POSTNET Barcodes, Intelligent Mail Barcodes and FIM Measurements	120
<b>C Glossary . . . . .</b>	<b>121</b>

<b>D Decimal Equivalents</b> .....	<b>127</b>
<b>E Getting More Information</b> .....	<b>129</b>
References .....	129
Postal Groups, Activities, and People .....	129
Non-Postal Sources .....	130
Postal Publications .....	131
Addressing Software .....	132
Trade Associations .....	132
Other References .....	132
<b>F Checklists</b> .....	<b>133</b>
Business Reply Mail .....	133
Courtesy Reply Mail .....	134
Meter Reply Mail .....	135
Permit Reply Mail .....	136
OCR Readability .....	137



# Exhibits

1-1	Notice 3-A, Letter-Size Mail Dimensional Standards Template . . . . .	7
1-2	Notice 67, Automation Template . . . . .	8
1-3	POSTNET Eyepiece with Reticle . . . . .	9
1-4	Intelligent Mail Barcode Eyepiece with Reticle . . . . .	10
2-1	Letter Mail Dimensions . . . . .	13
2-2	Aspect Ratio . . . . .	15
2-3	Maximum Weight Limits . . . . .	15
2-4	Placement of Tabs and Wafer Seals . . . . .	18
2-5	Postcard Mail Dimensions . . . . .	19
2-6	Address/Window Clearance . . . . .	22
2-7	Excessive Address Insert Shift . . . . .	22
2-8	Barcode/Window Clearance—POSTNET Barcode . . . . .	23
2-9	Barcode/Window Clearance—Intelligent Mail Barcode . . . . .	23
2-10	Excessive Barcode Insert Horizontal Shift . . . . .	24
2-11	Window Clear Space . . . . .	26
2-12	Address Label—POSTNET barcode . . . . .	27
2-13	Address Label—Intelligent Mail barcode . . . . .	28
3-1	Mailpiece Clear Zones and Free Space . . . . .	31
3-2	Nonaddress Printing Space (Unshaded Area) . . . . .	32
3-3	Unacceptable Type Styles . . . . .	33
3-4	Preferred vs. Flat-Top Characters . . . . .	34
3-5	Dot Matrix Characters . . . . .	34
3-6	Type Sizes . . . . .	35
3-7	Character Stroke Width . . . . .	36
3-8	Character Spacing . . . . .	36
3-9	Word Spacing . . . . .	37
3-10	Line Spacing . . . . .	37
3-11	Address Block Skew . . . . .	38
4-1	Delivery Point Barcode . . . . .	42
4-2	POSTNET Barcode Specifications . . . . .	43
4-3	Delivery Point POSTNET Format . . . . .	44
4-4	Code Elements . . . . .	45
4-5	Barcode Placement Areas . . . . .	46
4-6	Address Block Barcode Placement Options . . . . .	47
4-7	Lower Right Corner Barcode . . . . .	48
4-8	Height-Modulated Barcode . . . . .	49
4-9	Barcode Baseline Shift . . . . .	49
4-10	Overinking (Extraneous Ink) . . . . .	50
4-11	Voids . . . . .	51
4-12	Height-Modulated Barcode . . . . .	52
4-13	Intelligent Mail Barcodes . . . . .	53
4-14	Intelligent Mail Barcode Specifications . . . . .	54
4-15	Horizontal Lengths . . . . .	55
4-16	Clear Zone . . . . .	55
4-17	Barcode Placement Areas . . . . .	56

4-18	Barcode Skew	57
4-19	Bar Rotation	58
4-20	ACS, POSTNET and PLANET Code Placement	58
4-21	Intelligent Mail Barcode Placement	59
4-22	Overinking (Extraneous Ink)	60
4-23	Voids	61
5-1	BRM Postcard and Envelope	64
5-2	CRM Postcard and Envelope	65
5-3	MRM Postcard and Envelope	66
5-4	PRM Postcard and Envelope	67
5-5	FIMs A, B, C, and D	69
5-6	FIM Location	70
5-7	BRM CAMERA-READY FIM and Barcode	71
5-8	CRM CAMERA-READY FIM and Barcode	72
6-1	BRM Design Format	75
6-2	“No Postage Necessary” Endorsement	76
6-3	Horizontal Bars	77
6-4	FIM Location	78
6-5	Business Reply Legend, Permit Number, Postage Endorsement	79
6-6	Complete Delivery Address Placement	80
6-7	Barcode Clear Zone	81
6-8	Reply Mail Specifications	82
6-9	Standard BRM Dimensions	83
6-10	BRM Window Envelope	86
6-11	BRM Window Alternate Format	87
6-12	Address Clearance	88
6-13	Address Block Barcode Placement	90
6-14	Company Logo with Barcode	91
6-15	Company Logo without Barcode	91
6-16	Attention or Information Line	92
6-17	Permit Holder’s Space	92
6-18	Business Reply Label	93
6-19	Business Reply Label Instructions to Customers	94
6-20	IBRS Dimensions	97
6-21	IBRS Design Format	98
6-22	Postage Endorsement	99
6-23	Horizontal Bars	100
6-24	Business Reply Legend	101
6-25	Complete Delivery Address	102
6-26	Air Mail Endorsement	103
7-1	CRM Design Format	106
7-2	CRM Envelopes	106
7-3	CRM Envelopes	107
7-4	CRM Envelopes	107
7-5	Courtesy Reply Mail Dimensions	108
7-6	Postage Reminder	108
7-7	FIM A Location	109
7-8	Return Address Lines	110

7-9	Complete Delivery Address .....	110
7-10	Company Logo with Barcode .....	111
7-11	Meter Reply Mail Dimensions .....	112
7-12	Meter Reply Mail .....	113
7-13	Permit Reply Mail Dimensions .....	114
7-14	Permit Reply Mail .....	115



# Introduction

## Purpose

This publication can be used by anyone who wants to reduce mailing costs while benefiting from faster and more accurate mail processing. It can help you design your letter-size mailpieces for improved service and for postage savings. It can be used by printers, graphic artists, forms designers, envelope manufacturers, and computer programmers to verify technical specifications.

## Checking the Source

This publication is based on the *Domestic Mail Manual* (DMM), the official source of domestic mailing standards for the United States Postal Service. If there is any ambiguity or discrepancy, the DMM is the final authority.

The DMM is available in two formats: printed copy and electronic. Ordering information for the printed version is in [Appendix E](#) of this book.

The electronic version of the DMM is updated monthly and is available on the Postal Explorer Web site at [pe.usps.com](http://pe.usps.com). If you are not familiar with the organization and numbering system in the DMM, click on [DMM Introduction](#) on the DMM home page on [Postal Explorer](#). The DMM Introduction is available as Publication 268 from your business mail entry unit or larger Post Offices.

In addition to the DMM, the *International Mail Manual* (IMM), retail and business calculators, zone charts, postage statements, and other Postal Service resource publications are also located on the [Postal Explorer](#) Web site.



# 1 Automation Benefits

## The Value of Automation

The costs of processing mail are steadily increasing, so the use of automation is the logical choice for improving productivity and reducing expenses.

Preparing your mailpieces according to Postal Service standards allows your mailpieces to be processed more efficiently.

In addition to weight and shape, the Postal Service categorizes mailpieces by the way they are prepared. These categories are based on how efficiently your mailpieces can be processed on Postal Service equipment. The Postal Service distinguishes all mailpieces into one of three categories:

- “Automation” means if your letter-size mailpiece is machinable and displays the correct Coding Accuracy Support System (CASS) certified barcode, you can qualify for lower, “automation” prices.
- “Machinable” means if you prepare your mailpiece so that it has an accurate address and can be processed on Postal Service equipment, your mailpiece is eligible for “machinable” or “presort” prices.
- “Nonmachinable” means your mailpiece does not meet the machinable standards and, you may have to pay higher postage.

If you have a computer, printer, or other means of machine printing, you can produce letter-size mail for automated processing.

Additional information on postage discounts for automation-compatible mail can be found in the [Getting More Information](#) section of this publication and on the [Postal Explorer](#) Web site.

## Financial Savings

The main reason for making your letters automation compatible is to lower your costs. Automated processing of mail can reduce postal expenses more than any other effort. The more mail we can process by automation methods, the more money we can save—savings we can share with you.

More automation means better savings—something that we all want. If you prepare your mail within these guidelines, the Postal Service will give you the best service at the lowest possible price.

## Postal Processing

### Methods

The Postal Service processes mail through three types of operations: machinable, nonmachinable, and automation.

### Machinable Mail

A mailpiece is machinable if it can be sorted on Postal Service processing equipment. Sorting machinable pieces is more efficient than sorting nonmachinable pieces. Machinable mailpieces must meet specific standards, including size, shape, and weight.

### Nonmachinable Mail

A mailpiece is nonmachinable if it cannot be sorted by Postal Service equipment. Higher postage costs may apply to mailpieces that do not meet machinable standards. Additionally, nonmachinable letters require extra steps when you sort your mail.

### Automation Mail

Your cards and letters can receive significant postage discounts if they are prepared according to automation standards. Your mailpiece meets automation standards and qualifies for automation rates if it meets the specific addressing, barcoding, and design standards established for your class of mail, requested service, and your level of sortation. For more information about automation standards, refer to the individual [Quick Service Guides](#) (see [Getting More Information](#)), which provide a summary of the standards for automation cards and letters. For ease of use, the [Quick Service Guides](#) (QSG) on [Postal Explorer](#) are linked to the [Domestic Mail Manual](#) (DMM).

## Automated Letter Processing Equipment

The Postal Service uses a variety of automated equipment. The most efficient and accurate mail processing results from using automated, high-speed, computerized mail sorting and processing equipment. The Postal Service uses two basic types of automated equipment to process letter-size mail: advanced facer canceller system with optical character reader and delivery barcode sorters.

### Advanced Facer Canceller System with Optical Character Reader

The advanced facer canceller system with optical character reader (AFCS/OCR) is the initial machine to process single-piece First-Class Mail letters. The AFCS/OCR orients the mail (faces the mail) for automated processing, cancels the postage stamps, and scans the front of each piece to determine the ZIP+4 code and the delivery point information.

The AFCS/OCR separates the mail for further automated processing into three categories: Business Reply Mail and Courtesy Reply Mail; local mail; and, outgoing mail. Business Reply Mail and Courtesy Reply Mail are identified

using facing identification mark (FIM) patterns printed near the upper right corner of the mail. Mail is identified as local (to the Postal facility) or as outgoing (from the Postal facility) based on the delivery point information derived from the scan of the front of the mail.

To derive delivery point information, the AFCS/OCR must be able to locate the delivery address and to see all the address elements clearly. That is why a complete address and "good" print quality is extremely important. It is also important for window envelopes that shifting of the insert on which the address and barcode are printed be minimized so that the complete address and barcode are always visible in the envelope window.

### Barcode Sorters

Delivery barcode sorters (DBCS) and Carrier Sequence Barcode Sorters (CSBCS) read POSTNET or Intelligent Mail barcodes on letter mail and sorts the mail accordingly. There are three main variations of DBCS machines: a standard DBCS; a DBCS with an output subsystem added (DBCS/OSS); and, a DBCS with both an input subsystem (OCR) and an output subsystem added (DIOSS). The DBCS/OSS is used to print barcodes on mail for which the ZIP+4 was either derived on a machine that does not have barcode printers, the AFCS/OCR, or derived too late to be printed when the mail piece was scanned. The DIOSS is used to scan and determine ZIP+4 for non-barcode mail that does not need to be cancelled, and it can also perform the same function as a DBCS/OSS. Both the DBCS/OSS and the DIOSS can perform the same function as the standard DBCS.

Because automated mail processing is based on sorting mail by barcodes, the DBCS has become the workhorse of the Postal automation system. A typical letter will be sorted at least four times on a DBCS. For most letters, the last two sorts on a DBCS will be part of a two-pass process that sorts the letters into delivery sequence order for the letter carrier. The smaller CSBCS also sorts letter mail into delivery sequence.

## Postage Discounts

If you plan to benefit from automation discounts for letter-size mail, use this publication and Notice 67, *Automation Template*, to help you design letter-size pieces that meet the related requirements in the [DMM](#), including all the mailing standards for automation-compatible discounts. Notice 67 is available through your business mail entry office and larger Post Offices.

The Postal Service offers a variety of postage discounts for correctly prepared automation-compatible mailings. You can qualify for automation prices with barcoded mailpieces prepared and submitted according to postal standards.

## Barcoding Specifications

If you are not able to barcode your mailpieces, they should meet all optical character reader (OCR) readability standards. Meeting these standards will enable a mailing agent (such as a presort bureau or letter shop) or the Postal

Service to barcode the mail using an OCR and to ensure that the read rate will be high. For more on these standards, see [Chapter 3](#).

Mailings of letter-size pieces, that receive an automation discount, require all of the pieces to be POSTNET or Intelligent Mail delivery point barcoded. Nonbarcoded pieces would be part of a machinable mailing. For more information, see [708.4.0](#) or Quick Service Guide [201a](#).

## Assistance

The Postal Service mailpiece design analysts (MDAs), and others in business mail acceptance, can help you meet the guidelines in this publication and determine the automation compatibility and readability of your mailpieces. Also, many companies employ specialists to provide this service to their companies.

MDAs also take a more proactive approach: they will help you create the mailpiece from the beginning of the design process, because MDAs have a thorough understanding of all postal automated processing equipment and mailpiece design standards.

Account representatives can also help you with these guidelines and answer your questions about postage discounts for automation-compatible mail.

To locate the MDA for your area, click on “[Postal Locator](#)” in the left frame of the Postal Explorer Web site at [pe.usps.com](http://pe.usps.com). Bringing an MDA into the process early will help ensure compatible mailings.

## Tools

### Purpose

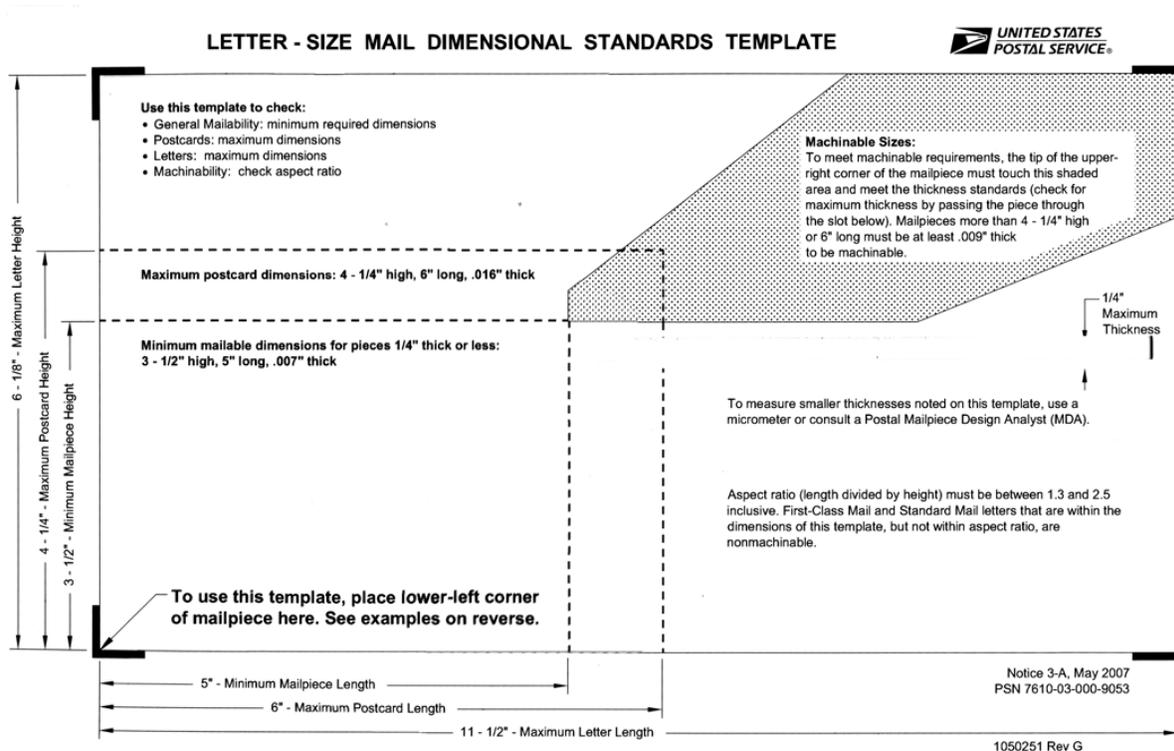
The templates and gauges described in the following sections are used to measure mailpieces for determining automation compatibility and readability. You can get these tools from your mailpiece design analyst, account manager, or larger Post Office.

### Notice 3-A, Letter-Size Mail Dimensional Standards Template

This template (see [Exhibit 1-1](#)) is used to determine whether a mailpiece meets the size, shape, aspect ratio, and thickness requirements for automated processing. (Pieces that do not meet the standards in [Chapter 2](#) of this publication are not suitable for automated processing.)

#### Exhibit 1-1

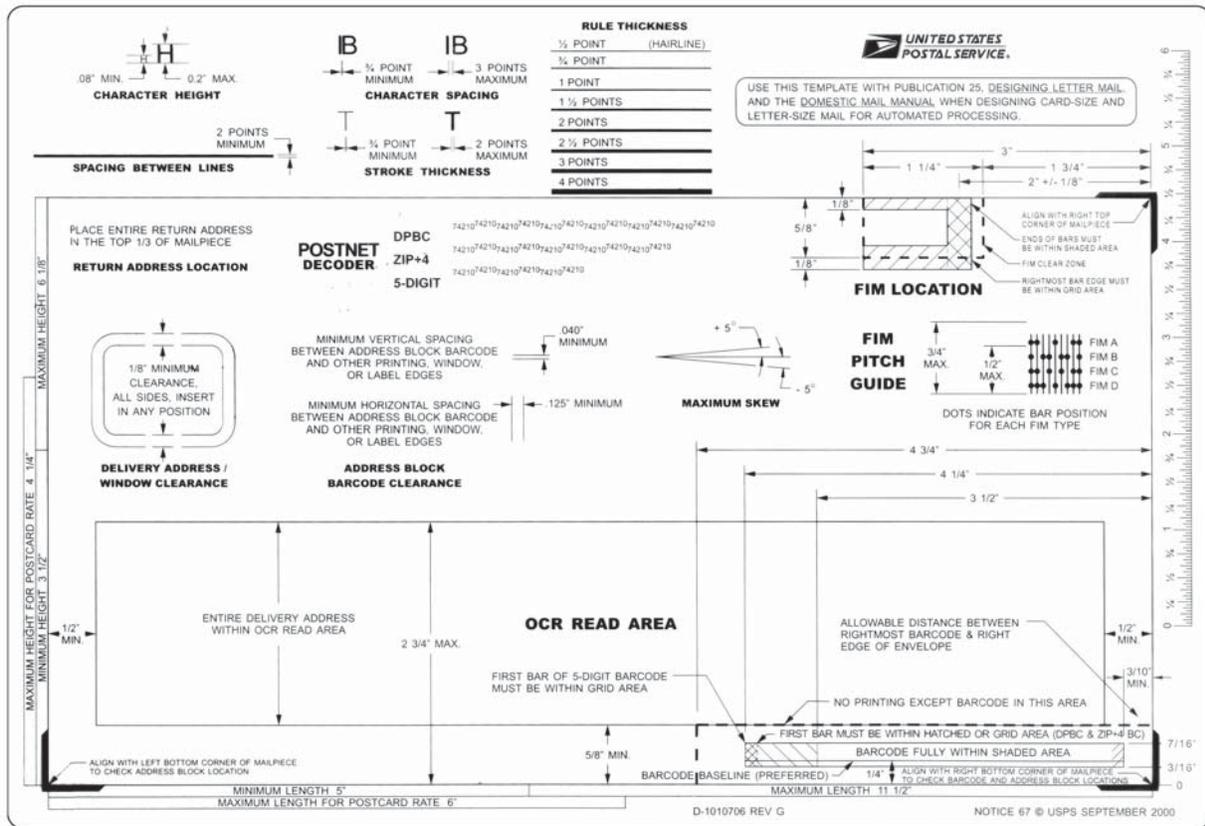
#### Notice 3-A, Letter-Size Mail Dimensional Standards Template



**Notice 67, Automation Template**

This is a multi-purpose template (see Exhibit 1-2) for determining the automation capability of letter-size mailpieces. This clear plastic template simplifies the task of determining whether your mail is automation-compatible. OCR-readable, and printed with the correct facing identification mark (FIM) pattern.

*Exhibit 1-2*  
**Notice 67, Automation Template**



## Barode Eyepiece With Reticle

The POSTNET eyepiece (see [Exhibit 1-3](#)) is used to determine whether a barcode meets POSTNET specifications.

The Intelligent Mail barcode eyepiece is used with Intelligent Mail barcoded mailpieces (see [Exhibit 1-4](#)).

The eyepiece is placed on a bar or barcode so it can be examined. An eyepiece reticle can be used to manually evaluate barcodes for compliance with the applicable technical specifications. The cost of the eyepiece varies according to any added features.

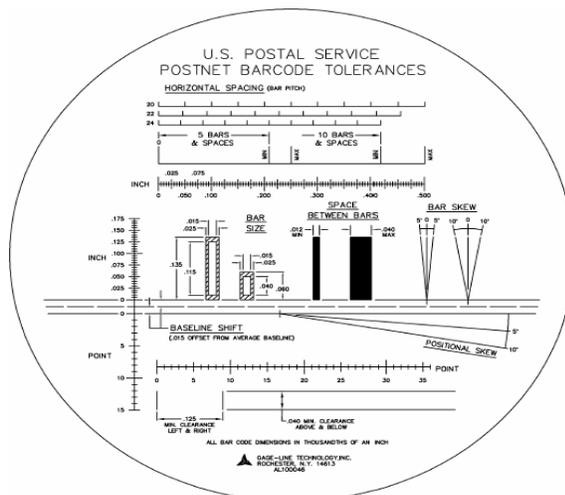
Order it from:

GAGE-LINE TECHNOLOGY INC  
121 LAGRANGE AVE  
ROCHESTER NY 14613-1577  
Phone (585) 458-2000, Fax (585) 458-0524.  
<http://www.gage-line.com/mailpiece.html>

*Exhibit 1-3*

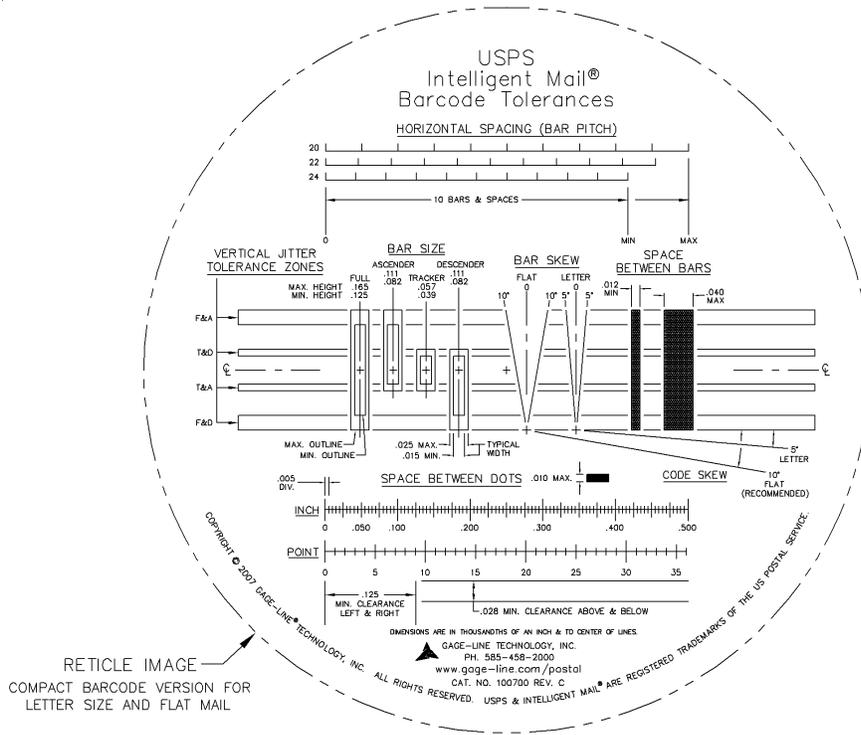
### **POSTNET Eyepiece with Reticle**

## POSTNET Example:



**Exhibit 1-4**  
**Intelligent Mail Barcode Eyepiece with Reticle**

**Intelligent Mail Barcode Example:**



## Barcoding Software and Equipment

The Postal Service provides a variety of encoding software and fonts to print the Intelligent Mail barcode at no charge to the mailing community. Information on the Intelligent Mail barcode and software can be found at <http://ribbs.usps.gov/OneCodeSolution>.

Equipment and software that print the POSTNET barcode and Intelligent Mail barcode as part of the delivery address are also available from many vendors. The prices vary according to the features included.

The systems, printers, and software offered by these vendors that are certified by the Postal Service have the ability to produce accurate barcodes that satisfy the specifications in [Chapter 4](#). You can obtain a list of vendors offering hardware and software for barcoding from the Postal Explorer Web site at [pe.usps.com](http://pe.usps.com) by clicking on “CASS” or “PAVE” in the left frame.

When purchasing any barcoding software or equipment, make sure that the product is certified by the Postal Service.

The Coding Accuracy Support System (CASS) improves the accuracy of delivery point codes, ZIP+4 codes, 5-digit ZIP Codes, and carrier route codes on mailpieces. CASS provides a common platform to measure the quality of address matching software and to diagnose and correct software problems.

The Presort Accuracy Validation and Evaluation (PAVE) program is a process to evaluate presort software and determine its accuracy in sorting address files under DMM standards. PAVE is available only to software and hardware manufacturers (i.e., companies that develop presort software or manufacture presorting equipment). PAVE certification does not guarantee acceptance of customer mail prepared with PAVE-validated hardware/software.

Additional information regarding the proper barcode for your mailing can be obtained through an MDA or by contacting the National Customer Support Center (NCSC) at 1-800-238-3150.



# 2 Automation Design Standards

## Overview

Making your mailpieces automation-compatible is important. Automated equipment can process mail more efficiently, allowing the Postal Service to help maintain lower rates for those pieces.

Your automation-compatible mailpiece must:

- Meet the size and weight standards in this chapter.
- Be made of good quality white or light-colored paper.
- Contain no sharp or bulky items.
- Be sealed securely.
- Be readable by automation equipment.

## Letters

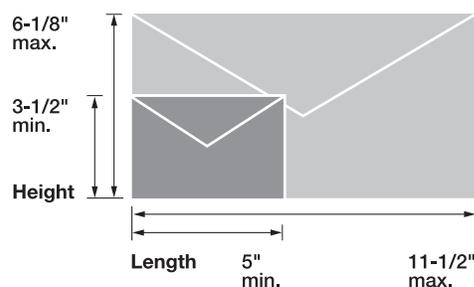
### Minimum and Maximum Dimensions

When letter-size mail is processed on automated equipment, it moves at high rates of speed through belts and rollers, past an optical scanner, and to the appropriate bin or stacker after it's sorted.

Although mail processing equipment can sort a variety of letter sizes, mailpieces that qualify for letter rates must be within the minimum and maximum dimensions shown in [Exhibit 2-1](#):

*Exhibit 2-1*  
**Letter Mail Dimensions**

### Letters



	minimum	maximum
length	5 inches	11-1/2 inches
height	3-1/2 inches	6-1/8 inches
thickness	0.007 inch	1/4 inch

The following standards also apply to letter-size mail:

- For letter-size mail, length is the dimension that parallels the delivery address. The top and bottom of the mailpiece also parallels the delivery address.
- Letter-size mail must be at least 0.009 inch thick if it is more than 4-1/4 inches high or more than 6 inches long.
- For best results, letter-size mail more than 10-1/2 inches long should have the address within 9-3/4 inches of the right edge of the mailpiece, with at least a 1/2-inch clear vertical space (margin) on each side (see [Exhibit 3-1](#)).
- Rectangular, with four square corners and parallel opposite sides. Letter-size, card-type pieces made of cardstock, may have finished corners that do not exceed a radius of 0.125 inch (1/8 inch).

### Nonmailable Pieces

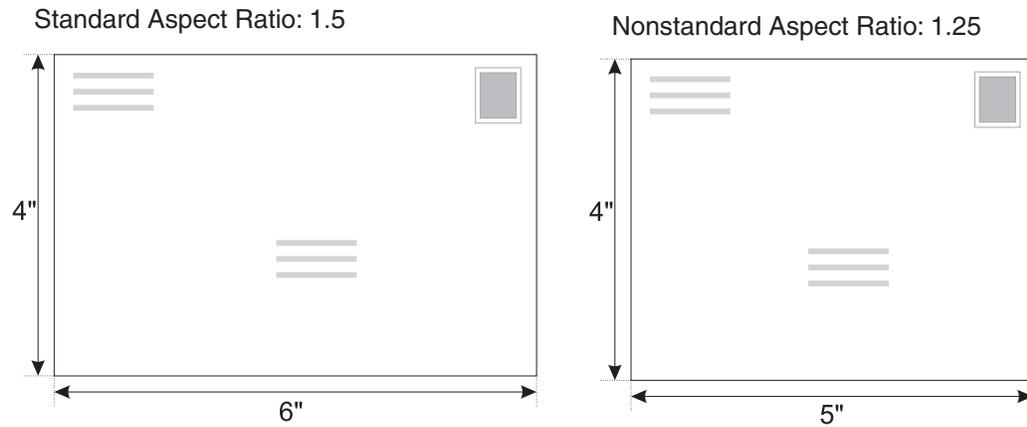
Letters and cards not meeting the minimum size standards are nonmailable.

### Nonmachinable Characteristics

A letter-size piece is nonmachinable if it has one or more of the following characteristics;

- An aspect ratio (length divided by height) of less than 1.3 or more than 2.5 (see [Exhibit 2-2](#)).
- Is over 3.3 ounces, unless prepared as First-Class Mail or Standard Mail automation letters, or Standard Mail Enhanced Carrier Route, which is 3.5 ounces maximum (see [Exhibit 2-3](#)).
- Is polybagged, polywrapped, or enclosed in any plastic material.
- Has clasps, strings, buttons, or similar closure devices.
- Contains items such as pens, pencils, or loose keys or coins that cause the thickness of the mailpiece to be uneven according to DMM [601.2.3](#).
- Is too rigid (not bending easily when subjected to a transport belt tension of 40 pounds around an 11-inch diameter turn).
- For pieces more than 4-1/4 inches high or 6 inches long, and the thickness is less than 0.009 inch.
- Has a delivery address that is parallel to the shorter dimension of the mailpiece.
- Self-mailers with folded edges perpendicular to the address, unless the piece is folded and secured according to DMM [201.3.14.1](#).
- Booklet-type pieces with the bound edge (spine) along the shorter dimension of the piece or at the top, regardless of the use of tabs, seals, or other fasteners, unless prepared according to DMM [201.3](#).

*Exhibit 2-2*  
**Aspect Ratio**



**Weight**

First-Class Mail, Periodicals, and Standard Mail automation letters weighing more than 3 ounces must have a barcode in the address block and must be prepared in a sealed envelope (see [Exhibit 2-3](#)). It may not contain stiff enclosures nor be prepared as a self-mailer or booklet-type mailpiece.

*Exhibit 2-3*  
**Maximum Weight Limits**

Mail Class	Weight Limit
First-Class Mail and Periodicals nonmachinable letters	3.5 ounces
Standard Mail nonmachinable letters	3.3 ounces
First-Class Mail and Standard Mail machinable letters	3.3 ounces
Periodicals machinable letters	3.5 ounces
First-Class Mail, Periodicals, and Standard Mail automation letters	3.5 ounces

## Mailpiece Materials and Construction

### Paper Weight

The following recommendations for paper and card stock refer to the minimum basis weight of the materials. Basis weight is defined as the weight (in pounds) of a ream (500 sheets) cut to a standard size for that grade.

Recycled paper and card stock are compatible with postal automation if the materials satisfy the recommendations and the guidelines in this book.

### Envelopes

Envelopes must be made of paper with a minimum basis weight of at least 16 pounds. The specific grade of 16-pound paper required for envelopes is defined as the weight of 500 sheets measuring 17 inches by 22 inches. For Business Reply Mail envelopes, the minimum basis weight is 20 pounds (see [Chapter 6](#) and [DMM 201.3.1](#)).

### Folded Self-Mailers

The required minimum basis weight of paper for folded self-mailers varies with the construction of the mailpieces as follows:

- For self-mailers formed from a single sheet folded at the bottom with the open top edge sealed with one tab or glue spot, the minimum basis weight is 28 pounds (weight of 500 17-by-22-inch sheets) or 70 pounds (weight of 500 25-by-38-inch sheets).
- For self-mailers formed from two or more sheets that are sealed with one tab or glue spot, the minimum basis weight is 24 pounds (weight of 500 17-by-22-inch sheets) or 60 pounds (500 25-by-38-inch sheets).
- For any self-mailer that is sealed with two tabs or two glue spots, the open edge should be at the top. The minimum basis weight is 20 pounds (weight of 500 17-by-22-inch sheets).

[Exhibit 2-4](#), taken from [Quick Service Guide 201b](#), shows the proper placement of tabs or glue spots on folded self-mailers. Tabs, wafer seals, tape, or glue may be used to seal folded self-mailers. Tabs and other seals should be positioned so that they do not cover the return address, postage, or rate markings.

Tabs and other seals placed in the barcode clear zone on nonbarcoded pieces should be made of uncoated white or light-colored paper. Folded self-mailers should be constructed with the fold at the bottom and the tab(s) on the upper sides or on the top.

## Booklets

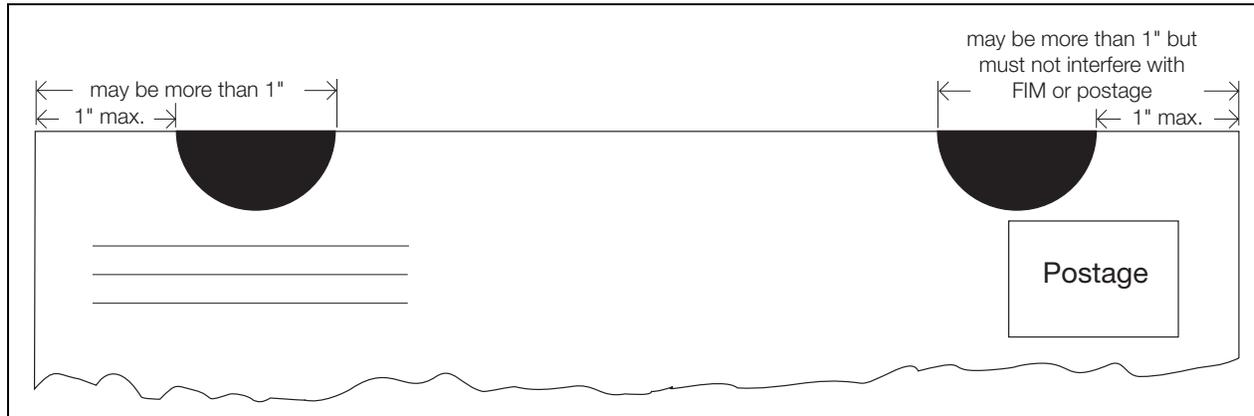
The required minimum basis weight of paper for covers on booklet-type mailings is 20 pounds (weight of 500 17-by-22-inch sheets). See DMM [201.3.14.2](#). Booklets must be constructed to meet these requirements:

- The bound edge or spine must be at the bottom edge of each booklet, parallel to the lines of the delivery address.
- The top (unbound edge) must be secured with at least two tabs. One tab must be placed within 1 inch of the left edge, and the other tab must be placed within 1 inch of the right edge. Instead of tabs, wafer seals or tape may be used.
- As an alternative, one tab or wafer seal must be placed within 1 inch from the top left side (trailing edge) of the piece; the second tab or seal, within 1 inch from the top right side (leading edge) of the piece (see DMM [201.3.14.2](#)).

[Exhibit 2-4](#) shows the proper placement of tabs on booklets.

Exhibit 2-4

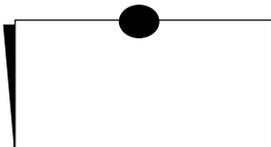
Placement of Tabs and Wafer Seals



Specifications for Automation-Compatible Letter-Size Mailpieces

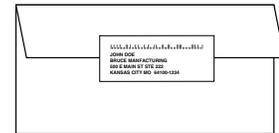
**Double Postcard**

Tabs 1 (middle)  
 Folded Edge Top or Bottom  
 Sheets Single  
 Basis Weight 75 lb.



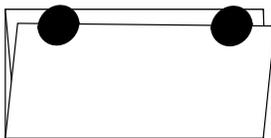
**Folded Self-Mailer (Invitation Fold)**

Tab Address Label  
 Folds Top and Bottom  
 Sheets Multiple  
 Basis Weight 20 lb.



**Folded Self-Mailer**

Tabs 2 (start ≤ 1 inch from edges)  
 Folded Edge Top or Bottom  
 Sheets Single  
 Basis Weight 20 lb.



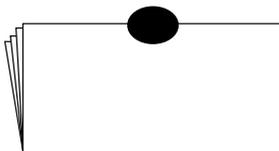
**Folded Self-Mailer (Continuous Glue Strip)**

Open Edge Top  
 Folded Edge Bottom  
 Sheets Single  
 Basis Weight 20 lb.



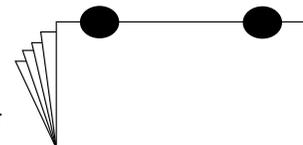
**Folded Self-Mailer**

Tabs 1 (middle)  
 Folded Edge Bottom  
 Sheets Multiple  
 Basis Weight 24 lb.



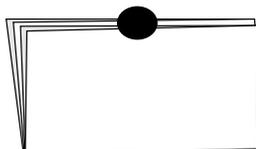
**Booklet**

Tabs 2 (start ≤ 1 inch from edges)  
 Spine Bottom  
 Sheets Multiple w/ Cover  
 Basis Weight 20 lb. (Cover)



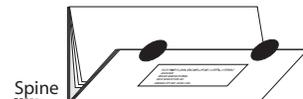
**Folded Self-Mailer**

Tabs 1 (middle)  
 Folded Edge Bottom  
 Sheets Single  
 Basis Weight 28 lb.



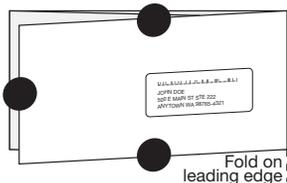
**Folded Booklet**

Tabs 2 (start ≤ 1 inch from edges)  
 Spine Left  
 Folded Edge Bottom  
 Sheets Multiple w/ Cover  
 Basis Weight 20 lb. (Cover)



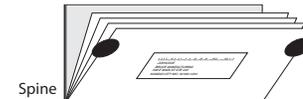
**Folded Self-Mailer**

Tabs 3 (left and open edges)  
 Folded Edge Right  
 Sheets Single  
 Basis Weight 75 lb.



**Folded Booklet**

Tabs 2 (start ≤ 1 inch from top edge)  
 Spine Bottom  
 Folded Edge Bottom  
 Sheets Multiple w/ Cover  
 Basis Weight 20 lb. (Cover)



An 8-1/2 x 11 inch sheet of 20, 24, or 28 pound paper folded once to 8-1/2 x 5-1/2 inches does not meet the minimum thickness of 0.009 inch for an automation-compatible letter.

**Booklet**

Tabs 2 (start ≤ 1 inch from top and bottom edges)  
 Spine Right (open edge left)  
 Folded Edge Right  
 Sheets Multiple w/ Cover  
 Basis Weight 20 lb. (Cover)

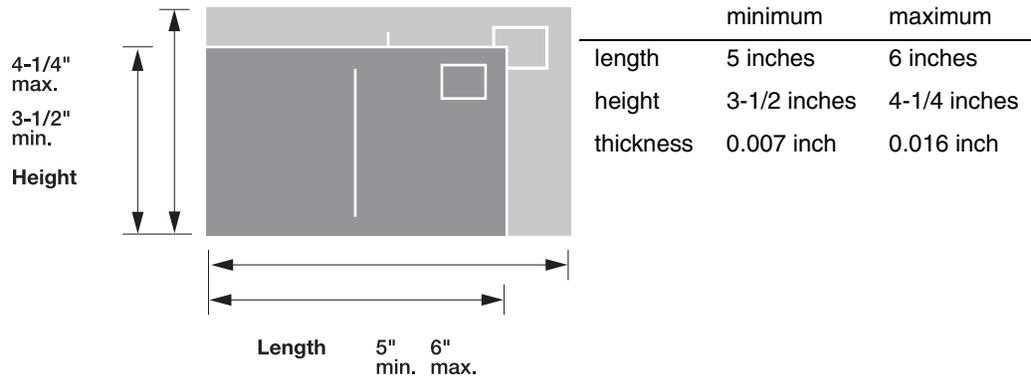


## Cards

*Exhibit 2-5*

### **Postcard Mail Dimensions**

#### **Postcards**



Thickness, stiffness, and tear strength are the most important compatibility characteristics for cards. The minimum thickness is 0.007 inch. The minimum basis weight for card stock is 75 pounds or greater, with none less than 71.25 pounds (measured weight for 500 25- by 38-inch sheets).

The grain of cards should be oriented parallel to the long dimension of the card. Long-grain cards are less likely to jam postal automated equipment than are cards with the grain parallel to the short dimension of the card.

First-Class Mail postcards that measure more than 4-1/4 inches high, 6 inches long, or 0.016 inch thick are charged letter prices. There are no Standard Mail card prices but cards can be mailed as Standard Mail letters.

When preparing postcards with horizontal or vertical perforations, it is recommended that the perf-to-bridge ratio be 1:1. A typical perforation is from 0.1 inch to 0.2 inch. Vertical perforations in the center area of the card are not recommended (DMM 201.1.2.6).

#### **Postcards Claimed at First-Class Mail Card Prices**

In order to be eligible for the First-Class Mail card prices, cards must be of uniform thickness and made of unfolded and uncreased paper or card stock of approximately the quality and weight of a Postal Service stamped card.

Cards (that is, each stamped card or postcard or each half of a double stamped card or postcard) claimed at card price must be:

- Rectangular, with four square corners and parallel opposite sides. Letter-size, card-type pieces made of cardstock may have finished corners that do not exceed a radius of 0.125 inch (1/8 inch).
- No less than 3-1/2 inches high, 5 inches long, and 0.007 inch thick.
- No more than 4-1/4 inches high, 6 inches long, and 0.016 inch thick.

- Cards prepared with a message area on the address side must meet specifications in DMM [201.1.2.6](#).

Cards exceeding the maximum dimensions for the card price can be sent as First-Class Mail or Standard Mail letters.

### Double Cards

Reply or double cards must be secured with at least one tab, wafer seal, tape strip, or glue spot placed at the center of the open edge. The open edge must be at the top or bottom of the mailpiece. Any sealing on the left and right sides of the card, no matter the sealing process used, is not permitted.

For more information on formats of the reply portion, see [Chapter 5](#).

## Mailpiece Flexibility

In addition to size, shape, and material used to create your letter mailpieces, flexibility and rigidity are also important. The contents of your mail must be reasonably flexible to ensure proper transport through our automated system.

At the same time, if your mail is too flimsy, it might catch in the metal joints of the processing equipment. Extremely flimsy and thin mailpieces also tend to stick together or adhere to other pieces easily, causing missorts and possible misdelivery of the mail.

Because pens, pencils, keys, bottle caps, and other rigid items can damage mail and mail processing equipment, they should never be included in letter mail, and they are prohibited in letter-size mail submitted at an automation rate.

Reasonably flexible items such as credit cards and small coins firmly affixed to the contents of a mailpiece are usually acceptable if the mailpiece and its contents can bend easily around an 11-inch-diameter drum.

### Magnets

The following guidelines apply to automation letter-size pieces with thin flexible magnets:

- Magnets may not exceed 1/32 inch in thickness.
- Magnetic surface may not exceed 26 square inches (length times height).
- Magnetic surface may face either the address or the nonaddress side.
- Enclosed magnets must be affixed to the contents, wrapped within the contents to prevent excess shifting, or fill the mailpiece with no more than 1/2 inch clearance between the left and right edges of the magnet and the mailpiece edges.
- Magnets permanently attached to, or prepared as, an integral part of unfolded cardstock pieces should be located on the leading or trailing edge of the mailpiece.

Customers may seek approval for automation prices, for mailpieces with designs that differ from the above guidelines, by contacting their Manager, Business Mail Entry.

## Incompatible Materials and Sealing Methods

### Coverings

Certain materials are incompatible with postal automation because they cannot be transported at high speeds through mail processing equipment or they do not allow quality printing of a barcode on the mailpiece for optimal scanning. These materials include polywrap, shrinkwrap, spun-bonded olefin, and other plastic-like coverings. Certain types of coated papers should also be avoided if the coating is so glossy that it can prevent a postal-applied barcode from drying within 1 second. Consult a mailpiece design analyst about nonpaper coverings before you produce your mailpieces.

### Dark Fibers and Background Patterns

Paper containing dark fibers or background patterns is not recommended because it can cause interference during processing. The dark patterns can be mistaken for part of the address or barcode information.

Dark fibers or background patterns that produce a print contrast ratio of more than 25% for an image taken using the blue to red spectrum of light when viewed in grayscale, are prohibited in these locations:

- The area of the address block, barcode, or barcode clear zone, return address area, or postage area, where the barcode appears on a card-size or a letter-size piece mailed at automation or Enhanced Carrier Route prices.

### Paper Types

Envelope paper and paper material on other letter-size mailpieces—such as folded self-mailers—must have sufficient opacity (enough density) to prevent any printing on the inside of the mailpieces from showing through in the address block or in the barcode clear zone.

Avoid using textured paper—paper with other than a smooth surface—if the texture adversely affects print quality (that is, causes broken characters or smudged spaces). Because fluorescent paper can confuse the postage detector on postal advanced facer canceler systems (AFCS), it's not suitable paper for automation mailings.

### Closures

Because closures can jam equipment and damage mail during processing, don't use clasps, staples, string, buttons, or similar protrusions for closing letter-size automation pieces.

## Window Envelopes and Inserts

### Address/Window Clearance

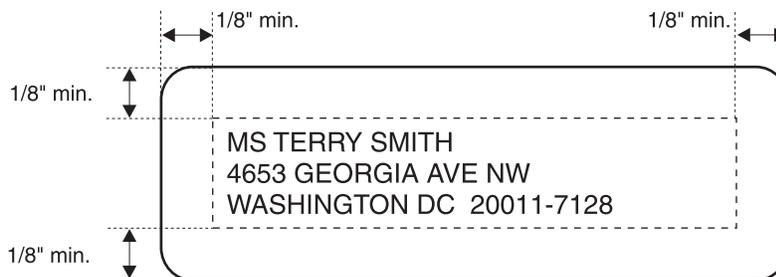
To ensure successful automated processing, design your window envelopes and their inserts so that the entire address and postal barcode (when included) appear in the window area during the full movement of the insert.

At least 1/8 inch of clearance must be maintained between the address and the edges of the window when the insert is moved to its full limits inside the envelope (see [Exhibit 2-6](#) and [Exhibit 2-7](#))

Mail processing equipment needs this clear space to distinguish the address from the edge of the window or shadows cast near the address by the edge of the window. Nonaddress information must not show in the window clearance area.

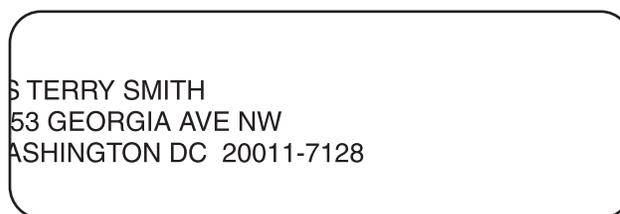
*Exhibit 2-6*

#### **Address/Window Clearance**



*Exhibit 2-7*

#### **Excessive Address Insert Shift**



### Vertical and Horizontal Address Insert Shift Test

To test the horizontal and vertical insert shift of the address within a window, do the following:

Check that a clear space of at least 1/8 inch is maintained around the address area without tapping the mailpiece (see [Exhibit 2-6](#)).

- Tap the mailpiece on a flat, horizontal surface on its bottom edge to jog the insert as far down into the envelope as it can go.
- Tap the mailpiece separately on its left and right edges to jog the insert as far to the left and right as it can go (see [Exhibit 2-7](#)).

- As each side is tapped, check that a clear space of at least 1/8 inch is maintained between the left and right edges of the address and the top and bottom window edges.

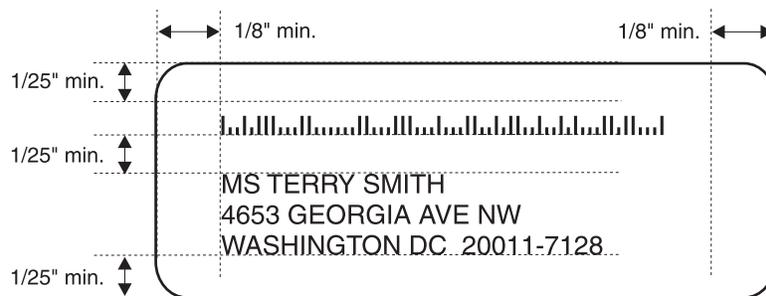
### Barcode/Window Clearance

As with addresses, POSTNET barcodes and Intelligent Mail barcodes printed on inserts—including barcodes printed as the top or bottom line of the delivery address block—must maintain the following minimum clearances (see [Exhibit 2-6](#), [Exhibit 2-8](#), and [Exhibit 2-9](#)):

- At least 1/8 inch from the left and right edges of the barcode and the edges of the window when the insert is moved in those directions.
- At least 1/25 inch from the top and bottom edges of the window opening when the insert is moved in those directions. This 1/25-inch minimum clearance is also needed between the top and bottom of the barcode and any other printing (0.028" clearance between the top and bottom for Intelligent Mail barcodes).

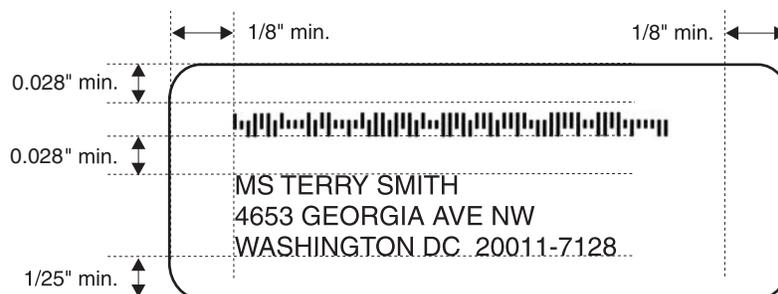
*Exhibit 2-8*

#### **Barcode/Window Clearance—POSTNET Barcode**



*Exhibit 2-9*

#### **Barcode/Window Clearance—Intelligent Mail Barcode**



Refer to [Exhibit 4-5](#) for additional address block barcode placement options

### Vertical Barcode Insert Shift Test

To test the vertical insert shift of a POSTNET or Intelligent Mail barcode and window, do the following:

If the POSTNET barcode is the top line of the address block, check that a clear space of at least 1/25 inch (0.040) is maintained between the top of the barcode and the top edge of the window without tapping the mailpiece (see [Exhibit 2-8](#)).

The Intelligent Mail barcode must maintain a clear space of at least 0.028 between the top of the barcode and the top edge of the window without tapping the mailpiece (see [Exhibit 2-9](#)).

- Tap the mailpiece on a flat horizontal surface on its bottom edge to jog the insert as far down into the envelope as it can go. Check that a clear space of at least 1/25 inch (0.040) is still maintained between the last line of the address and the bottom edge of window.
- If the barcode is the bottom line of the address block, check that a clear space of at least 1/25 inch (0.040) is still maintained between the bottom of the barcode and the bottom edge of the window after tapping, (0.028 inch for the Intelligent Mail barcode).

### Horizontal Barcode Insert Shift Test

To test the horizontal insert shift of a POSTNET or Intelligent Mail barcode and window, do the following:

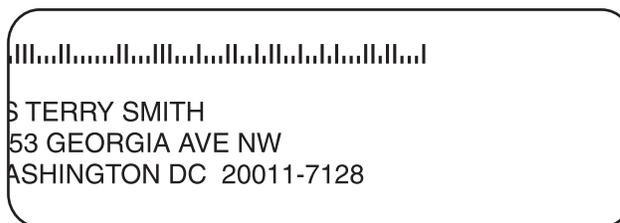
- Tap the mailpiece separately on its left and right edges to jog the insert as far to the left and right as it can go.

As each side is tapped, check that a clear space of at least 1/8 inch (0.125) is maintained between the left and right edges of the barcode and left and right window edges (see [Exhibit 2-10](#)).

*Exhibit 2-10*

#### ***Excessive Barcode Insert Horizontal Shift***

---



### Insert Material

Like envelope paper, insert material must have sufficient opacity to prevent any printing on the inside of the mailpiece from showing through in the barcode clear zone (see [Chapter 3](#)).

## Window Coverings

Open or covered windows may be used for addresses and address block barcodes. Windows must always be covered when used in automation mailings of pieces that weigh more than 3 ounces.

Material for covered windows must be clear or transparent (low-gloss polyclear materials are best) and securely attached on all edges. Cellophane, glassine, and polystyrene are acceptable materials.

All window coverings must be stretched tight and be free of wrinkles, streaks, fogging, colors, and other conditions that can obscure the address or barcode during processing.

## Background Reflectance

A background reflectance of at least 25% of an image taken using the blue to red spectrum of light when viewed in grayscale, must be produced in the following locations when measured with a USPS or USPS-licensed envelope reflectance meter:

- The barcode clear zone of a card-size or a letter-size piece barcoded in the lower right corner.
- The area surrounding the barcode or the area with a barcode in the address block (within 1/8 inch of the leftmost and rightmost bars and 1/25 inch above and below the barcode) of a card-size or letter-size piece, bearing a POSTNET or Intelligent Mail barcode.

## Print Reflectance Difference

A print reflectance difference (PRD) of at least 25% of an image taken using the blue to red spectrum of light when viewed in grayscale, is required between the background material of the mailpiece and the barcode, address elements, return address, or postage area, when measured with a USPS or USPS-licensed envelope reflectance meter. (PRD equals the reflectance of the background minus the reflectance of the ink.)

## Opacity

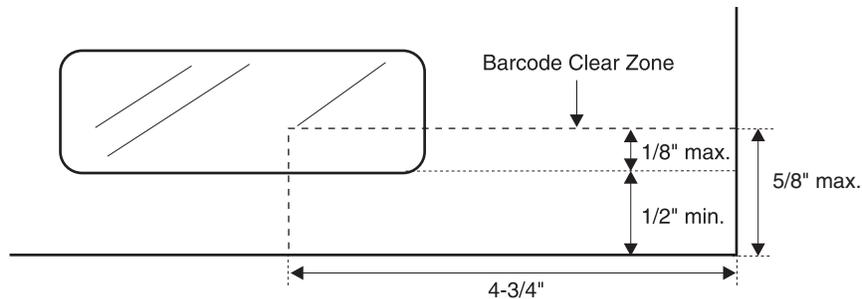
The material on which the barcode, address elements, return address, or postage area, appears must have enough opacity to prevent printing from "showing through" to the extent that it interferes with postal equipment that reads the barcode. The print contrast ratio (PCR) of print (other than the barcode) that shows through the barcode area and other areas described above must not exceed 15% for an image taken using the blue to red spectrum of light when viewed in grayscale.

## Window Clear Space

Address windows should be no lower than 1/2 inch from the bottom edge of the envelope and may extend 1/8 inch into the barcode clear zone (see [Exhibit 2-11](#)).

*Exhibit 2-11*

### **Window Clear Space**



## Restrictions

In mailings of First-Class Mail, any envelope whose window intrudes into the barcode clear zone is not eligible for *FASTforward* processing to meet the move update standard. Check with your mailpiece design analyst or business mail entry unit for more guidelines.

## Address Labels and Stickers

### General Standard

Address labels and certain types of stickers placed on the outside of letter mail pieces must be applied using methods and materials that keep the labels or stickers from being damaged or removed during high-speed processing.

Address labels should not contain extraneous printing or designs that interfere with the ability of barcode scanners to read the barcode and address information.

Address labels must be placed in the OCR read area, as appropriate. For information on these areas, see [Chapter 3](#).

Stickers must not be placed in the barcode clear zone.

### Permanent Labels

Permanent labels and stickers (not designed to be removed and reused) should be applied with a permanent adhesive or glue. Dextrin-based (recyclable) adhesives are recommended.

Pressure-sensitive peel-off labels and stickers intended to be permanent on letter mail must have a minimum peel-adhesion value of 8 ounces per inch. (This value is determined by the force required to remove, at a 90-degree angle, the label or sticker from a stainless steel surface.)

Manufacturers and suppliers of pressure-sensitive labels and stickers can provide you with information about the peel-adhesion values of their products.

### Removable Labels

Labels and stickers to be removed from a backing or liner on letter mail and reused (such as “sandwich labels”) must meet the following guidelines:

- When applied to a stainless steel surface, the adhesive on the backing or liner, which is permanently attached to the mailpiece, must have a minimum peel-adhesion value of 8 ounces per inch.
- When applied to the face of the backing or liner, the adhesive on the removable label must have a minimum peel-adhesion value of 2 ounces per inch.
- When reapplied to a stainless steel surface, the adhesive on the removable label must have a minimum peel-adhesion value of 8 ounces per inch.

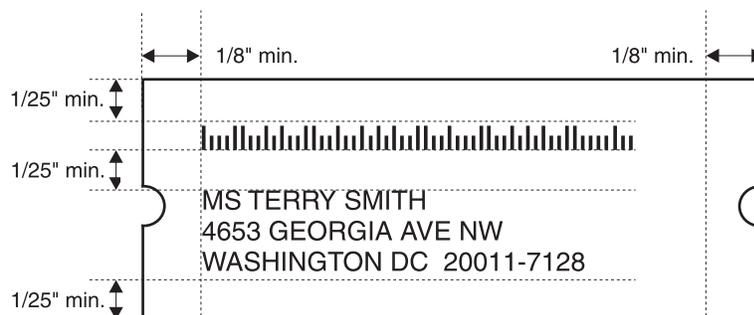
### Barcode Clearance

The following minimum clearances for the POSTNET barcode and the Intelligent Mail barcode, when applied to address labels, are the same as the clearances required for barcoded inserts in window envelopes (see [Exhibit 2-10](#)).

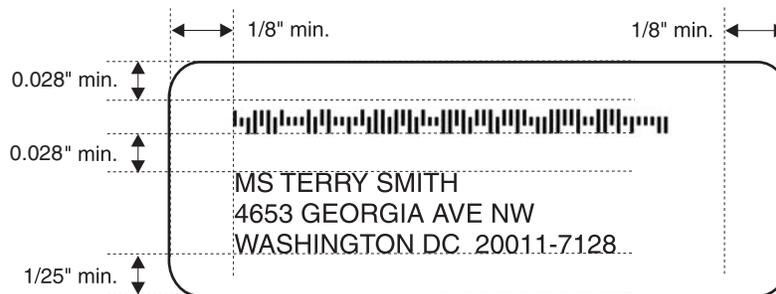
- At least 1/8 inch (0.125) between the left and right of the barcode and the left and right edges of the label or other printing.
- For the POSTNET barcode you must maintain at least 1/25 inch (0.040) between the top and bottom of the barcode and the top and bottom edges of the label or other printing.
- For the Intelligent Mail barcode you must maintain at least 0.028 inch between the top and bottom of the barcode and the top and bottom edges of the label or other printing.

*Exhibit 2-12*

#### **Address Label—POSTNET barcode**



*Exhibit 2-13*  
**Address Label—Intelligent Mail barcode**



### Testing

If you are unable to determine if a mailpiece complies with standards such as flexibility, or if the piece has a unique design element, send three to five sample pieces for review to the Pricing and Classification Service Center (PCSC) 90 Church St., Suite 3100, New York, NY 10007-2951.

A specialist at the PCSC will be assigned to determine eligibility or to arrange for testing if necessary.

If the characteristics of the mailpiece are unique, and testing is warranted, mailers will be advised where to send additional samples and how many pieces to include. Testing by engineering must be arranged by the PCSC. Do not send samples directly to the testing facility without prior approval and instructions. The tests will assist in determining if the mailpiece is automation compatible or if it qualifies for the machinable prices. A letter to the mailer advising them of the test results, and decision will be issued by the PCSC. A copy of the letter also will be mailed to the manager, Business Mail Entry.

# 3 Automation Addressing

## Overview

In [Chapter 2](#), you learned that a mailpiece's design greatly affects the ease with which that piece can be processed and delivered. Two other elements vital to efficient processing and delivery are covered in detail in this chapter and [Chapter 4](#): accurate addressing and barcoding.

Often, the most neglected part of a mailing is the quality of address information. However, mailers are becoming more aware of address quality issues. If an address is not correct, the piece may not be delivered or may create a negative response to the mailer's message.

## General Standards

For successful processing and delivery point barcoding, the addresses on letter mail should be machine-printed, with a uniform left margin, and formatted in such a way that delivery bar code sorters (DBCS) will be able to recognize the information and find a match in its address files.

A complete address is required so that a DBCS can delivery point barcode the piece to the most precise point of delivery. In this way, you greatly improve the deliverability of your mailpiece. A DBCS and the ZIP+4 database are better able to identify the correct delivery address the first time that the mailpiece is processed.

For faster, more accurate processing, include in the delivery address the street designators (for example, BLVD or DR); directionals (for example, NE or SW); the apartment, suite, or room number; and the ZIP+4 code.

DBCSs can read a combination of uppercase and lowercase characters in addresses. Even though DBCS enhancements now allow effective reading of punctuation in addresses, it still is suggested that punctuation be omitted when possible.

Whether or not punctuation is included in the address, the ZIP+4 code format is five digits, a hyphen, and four digits (for example, 98765-4321). The code eliminates guesswork about the intended destination.

For automation rates, the Postal Service requires mailers to prepare their mailings with addresses that have been verified and corrected using CASS-certified address matching software or processes. As of November 23, 2008, Presorted First-Class Mail or Standard Mail, must update their mailing list through an approved Move Update method at least 95 days prior to the date of mailing. Your local mailpiece design analyst can provide you with more information.

For details on proper addressing, see Publication 28, *Postal Addressing Standards*.

## Mailpiece Clear Zones on Nonbarcoded Mailpieces

### Purpose

Several places on the address side of a mailpiece are reserved for addressing and related information only. These areas are the OCR read area, the barcode clear zone, and the return address area.

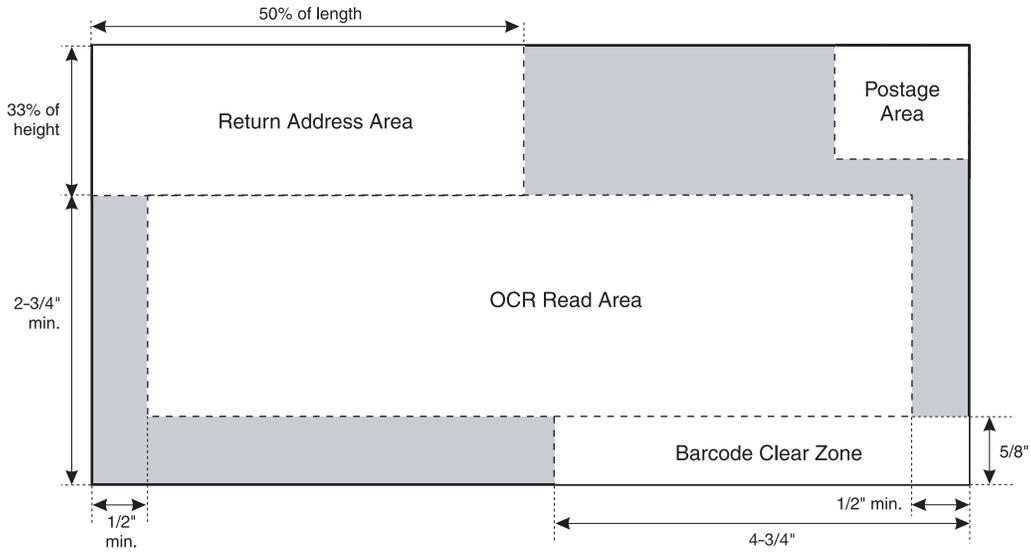
### Address Block Location

[Exhibit 3-1](#) shows the area on letter mail where address information should be located to be read by optical character readers (OCRs). The automation specifications are as follows:

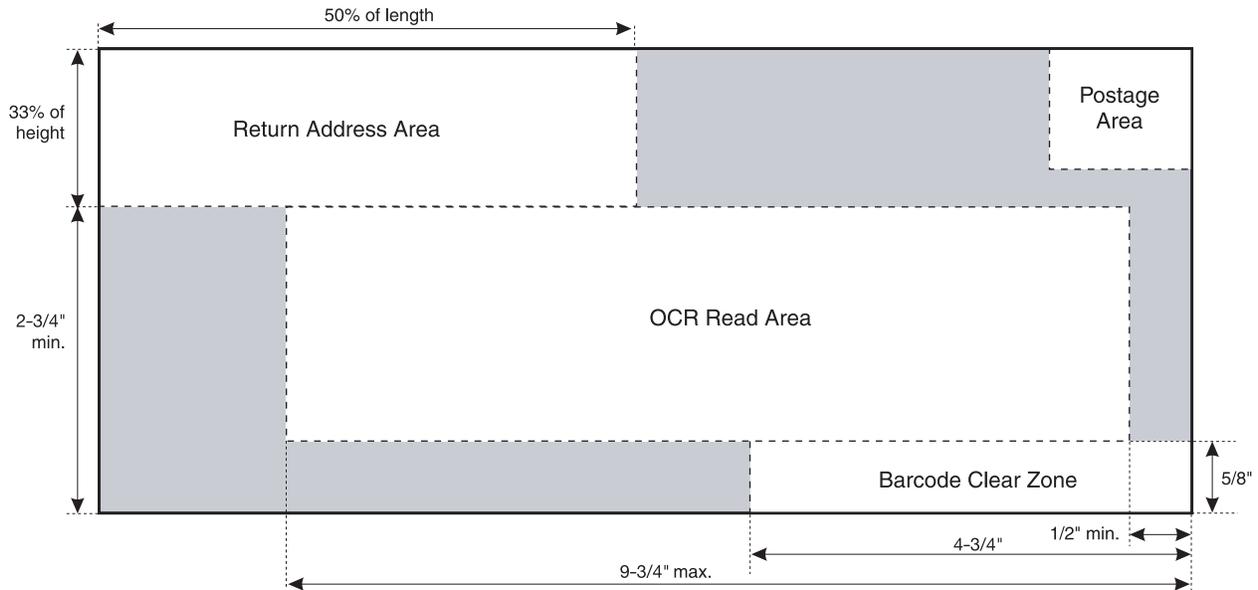
- The OCR read area requires only 1/2-inch margins on the left and right sides.
- The entire address (except the optional lines above the recipient line) should appear within an imaginary rectangle that extends from 5/8 inch to 2-3/4 inches from the bottom edge of the mailpiece, with 1/2-inch margins on the left and right sides. This is the requirement for any letter-size mailpiece.
- For pieces longer than 10-1/2 inches, the address should begin no more than 9-3/4 inches from the right edge.

**Exhibit 3-1**  
**Mailpiece Clear Zones and Free Space**

Mailpiece clear zones (unshaded), for pieces *up to* 10-1/2 inches long



Mailpiece clear zones (unshaded), for pieces *more than* 10-1/2 inches long



As [Exhibit 3-1](#) shows, the area available for nonaddress printing increases as the address information is lowered in the OCR read area. Positioning the address block near the bottom of the OCR read area gives you the most free space for logos, advertising, and other nonaddress printing. If you barcode, even more space is available.

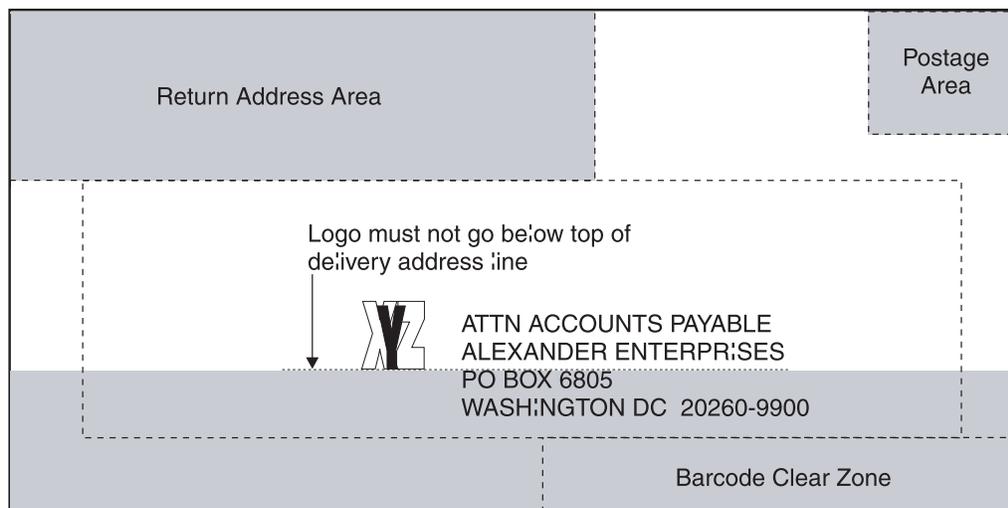
### Nonaddress Printing

Extraneous (nonaddress) printing in the OCR read area can confuse scanners and prevent them from interpreting the address information correctly. This can cause them to reject the mailpiece. This can also happen with information printed in the lower left shaded areas.

Nonaddress printing such as company logos, advertising, and die cuts should not be placed within the OCR read area. If it is, the lowest point must be *above* the delivery address line (see [Exhibit 3-2](#)). In other words, within the OCR read area, you should keep the space on either side of and below the delivery address line clear of all printing.

*Exhibit 3-2*

#### **Nonaddress Printing Space (Unshaded Area)**



### Return Address

You should always keep the OCR read area clear of return address information.

In addition to being positioned at least 2-3/4 inches above the bottom edge of the mailpiece, the return address should occupy an area in the far upper left corner of the mailpiece no longer than 50 percent of the length of the mailpiece as shown in [Exhibit 3-1](#). The return address should be printed in a type size smaller than the type size used in the delivery address.

### Barcode Clear Zone

After reading the address, the DBCS/OSS prints the appropriate delivery point barcode in the lower right corner of the mailpiece. To ensure that the barcode is readable by barcode sorters, the barcode clear zone shown in [Exhibit 3-1](#)—5/8 inch high by 4-3/4 inches long—must be clear of all printing, markings, and colored borders. Certain types of coated paper (described in Chapter 2) should be avoided.

## Address Printing Guidelines

### Type Style

Some type faces have serifs, which are short lines that decorate the ends of letter strokes. Because type faces that have no serifs (called “sans serif” faces) are more easily read by OCRs, these styles are recommended for printing the delivery address.

### Display Type

Type faces (like Helvetica) with specific characteristics (like Helvetica normal 12 point) are called fonts. As a rule, do not use fonts defined as bold, extended, or condensed (see [Exhibit 3-3](#)). Also, do not use italic, highly stylized, or script-like fonts. An Arial font is preferred.

*Exhibit 3-3*

#### **Unacceptable Type Styles**

---

**BOLD**  
**EXTENDED**  
**CONDENSED**

*Italic*  
*Stylized*  
*Script*

---

### Preferred vs. Flat-Top Characters

Also, avoid type styles that can be misread by OCRs. These include styles with “flat-top” threes (which can be misread as fives) and “flat-top” sixes or nines (which can be misread as eights) (see [Exhibit 3-4](#)).

*Exhibit 3-4*

#### **Preferred vs. Flat-Top Characters**

---



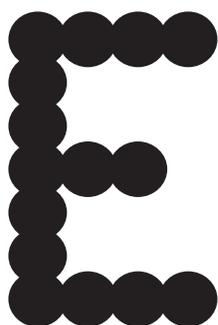
### Dot Matrix Characters

Dot matrix characters can be read by OCRs if the dots that form each character touch one another or are not separated by more than 0.005 inch (see [Exhibit 3-5](#)).

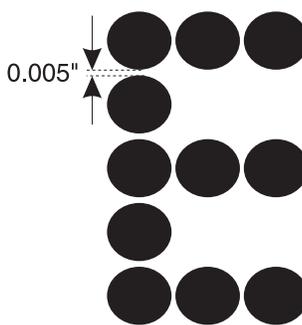
*Exhibit 3-5*

#### **Dot Matrix Characters**

---



Preferred Spacing



Maximum Spacing

## Type Size

OCRs can recognize type sizes between 8 and 18 points (see [Exhibit 3-6](#)). A point is a printing unit equal to about 1/72 inch. The recommended type size is 10 to 12 points for maximum OCR recognition.

If you use type as small as 8 points for an address, you should print the address in all uppercase characters to satisfy the OCR's minimum height and width requirements. In some type styles, 8-point uppercase characters do not meet the minimum 0.080-inch height requirements of OCRs.

If you use 18-point type, you should check that the characters are not taller than the maximum size shown on Notice 67, *Automation Template* (see [Exhibit 1-2](#)). Some styles of 18-point type are larger than others.

### *Exhibit 3-6* **Type Sizes**

---

8 Points (Minimum)

10 Points (Preferred)

12 Points (Preferred)

**18 Points (Maximum)**

## Character Stroke Width

The stroke is the line or lines that form each character (see [Exhibit 3-7](#)). For OCR processing, it is important that character stroke width be uniform throughout each character. Character height must also be within a minimum and maximum thickness range (between 3/4 and 2 points). Common sans serif type styles satisfy this requirement.

*Exhibit 3-7*  
**Character Stroke Width**

---



### Character Spacing

To identify each character in the address, the OCR must see a clear vertical space between the characters. Spacing between 3/4 and 3 points is acceptable.

However, 1-point character spacing is recommended. Kerning—the overlapping or nesting of characters for special effects and appearances—may not be used for printing address information (see [Exhibit 3-8](#)).

*Exhibit 3-8*  
**Character Spacing**

---



## Word Spacing

To separate each word in the address, the OCR requires a horizontal clear space that is at least equal to the width of one full-size capital M (see [Exhibit 3-9](#)). Spacing between words should not exceed five of these character spaces. This includes spacing between the two-letter state abbreviation and the ZIP Code information.

*Exhibit 3-9*  
**Word Spacing**



## Line Spacing

To separate each line in the address, the OCR requires a vertical clear space that is at least 2 points (see [Exhibit 3-10](#)). The maximum space between lines is the height of two full-size characters.

*Exhibit 3-10*  
**Line Spacing**



### Address Block Skew

If the address block is slanted too much, the OCR might not be able to see a clear vertical space between each character. For this reason, the address should not be slanted (or skewed) more than 5 degrees relative to the bottom edge of the mailpiece (see [Exhibit 3-11](#)). This standard is especially important for the proper application of address labels.

*Exhibit 3-11*

#### **Address Block Skew**

---



### Interfering Print

You should avoid using preprinted forms, labels, or inserts containing lines (such as dotted rules for address placement), outline boxes (such as borders for address placement), or prompting words (such as “TO:”) in the address area. These nonaddress elements can interfere with OCR recognition of the delivery address.

### Print Quality

Print quality is one of the most important factors for successful OCR processing. Address characters should be clean, sharp, dark, and uniformly printed. Smudges, fill-ins, voids (inking gaps within characters), and splatter (extraneous ink outside character boundaries) can adversely affect OCR processing. The printer, typewriter, or ink jet printer should be checked and cleaned often to ensure crisp, clear printing.

## Reflectance and Print Contrast

### Reflectance

The ability of paper to reflect light is also an important factor for OCR recognition. The surface containing the address—whether an envelope, card, label, or insert—should be light enough in color to reflect a sufficient amount of light to the OCR’s scanner. Although a white background is preferred, pastels and many other light colors are acceptable.

You can check background reflectance with a USPS envelope reflectance meter or its equivalent. A reading of at least 25% for an image taken using the blue to red spectrum of light when viewed in grayscale must be produced.

Paper stocks used for envelopes and cards—as well as inks used for addresses and any other printing on the outside of letter-size mail—should not be fluorescent or phosphorescent. The glow from such paper stocks and inks can cause malfunctions during mail processing.

For window envelopes and labels, the OCR works best if the reflectance of the insert or label is about the same as that of the envelope. Some envelope inserts (checks, for example) are printed with a background pattern that can confuse the OCR. Designs and printing in the background might appear attractive to the human eye, but they can be mistaken for part of the address information by the OCR.

For the greatest contrast and best performance on OCRs and DBCSs, the address should be printed in black ink on a white background. Several color combinations are also acceptable if the ink is dark enough and the background is light enough.

Resolve any issues about print, design, and color with your mailpiece design analyst before you produce your mailpiece. An MDA can work with you to design an effective mailpiece and ensure quality processing.

### **Measurement of Reflectance and Point Contrast Ratio**

Appendix A contains detailed definitions and formulas for determining background and ink reflectance. [Appendix B](#) contains calibration standards and measurement information for instruments capable of making optical reflectance and contrast measurements.

### **Halftone Screens**

If the material on which the delivery address is to appear is printed in a halftone screen, the dot structure should not be less than 200 dots (or 100 lines) per inch, or contain more than a 20% screen (dot size).



# 4 Barcodes

## Overview

In [Chapter 3](#), you learned that proper address information is important and that an incorrect address may mean that the piece will not be delivered or will create a negative response to your message.

In this chapter, you will learn about barcoding. Barcoding is also an important aspect of mailpiece design.

Because there are no OCR readability requirements for barcodes, you have more latitude in selecting colors, type styles, and the location for address printing if you barcode your mail.

To mail at automation prices, all letter-size mailpieces must bear delivery point barcodes. Nonbarcoded pieces enter the same mailstream as a nonautomation presorted mailing.

## POSTNET Barcodes

### Description and Benefits

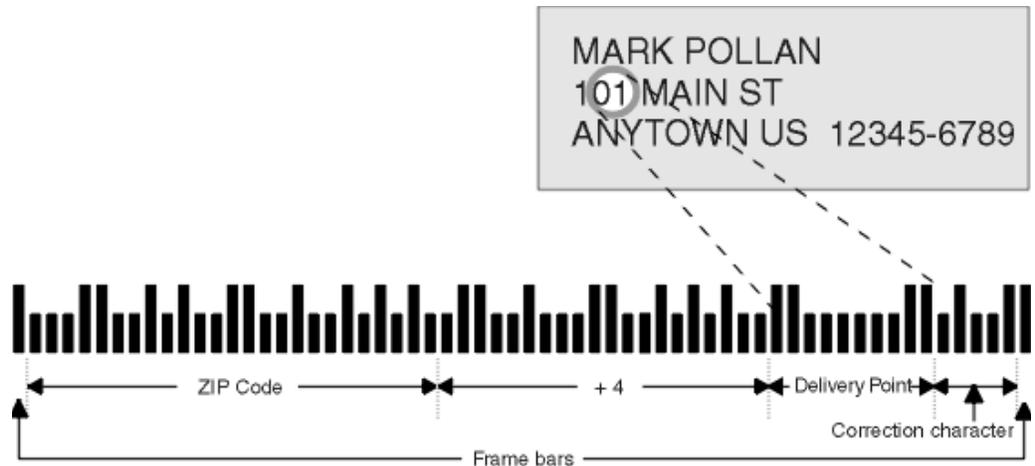
The POSTNET (POSTal Numeric Encoding Technique) barcode was developed by the Postal Service to encode ZIP Code information on letter mail for rapid and reliable sorting by barcode sorters (BCSs). The POSTNET barcode can represent a five-digit ZIP Code (32 bars), a nine-digit ZIP+4 code (52 bars), or an eleven-digit delivery point code (62 bars).

## Delivery Point Barcode

The delivery point barcode (DPBC) was developed by the Postal Service to identify each of the 148 million delivery points in the United States. This barcode system significantly reduces the time it takes carriers to sort letter mail before delivery.

The DPBC is formed by adding 10 bars to an existing ZIP+4 barcode (see [Exhibit 4-1](#)). The 10 bars represent two additional digits (normally the last two digits of the street address, Post Office box, rural route number, or highway contract route number). DMM 708.4.2.4 contains address coding rules for the DPBC, including rules for handling address anomalies.

*Exhibit 4-1*  
**Delivery Point Barcode**



## POSTNET Barcode Format

### Description

The POSTNET barcode is always printed in a format that begins and ends with a frame bar (full or tall bar). To ensure POSTNET accuracy during mail processing, a correction character (five bars) must be included immediately before the rightmost frame bar of all POSTNET barcodes (see [Exhibit 4-3](#)).

The correction character is always the digit that, when added to the sum of the other digits in the barcode, results in a total that is a multiple of 10. For example, the sum of the ZIP+4 barcode 12345-6789 is 45. The next higher multiple of 10 is 50, so the correction character is 5 (50 minus 45).

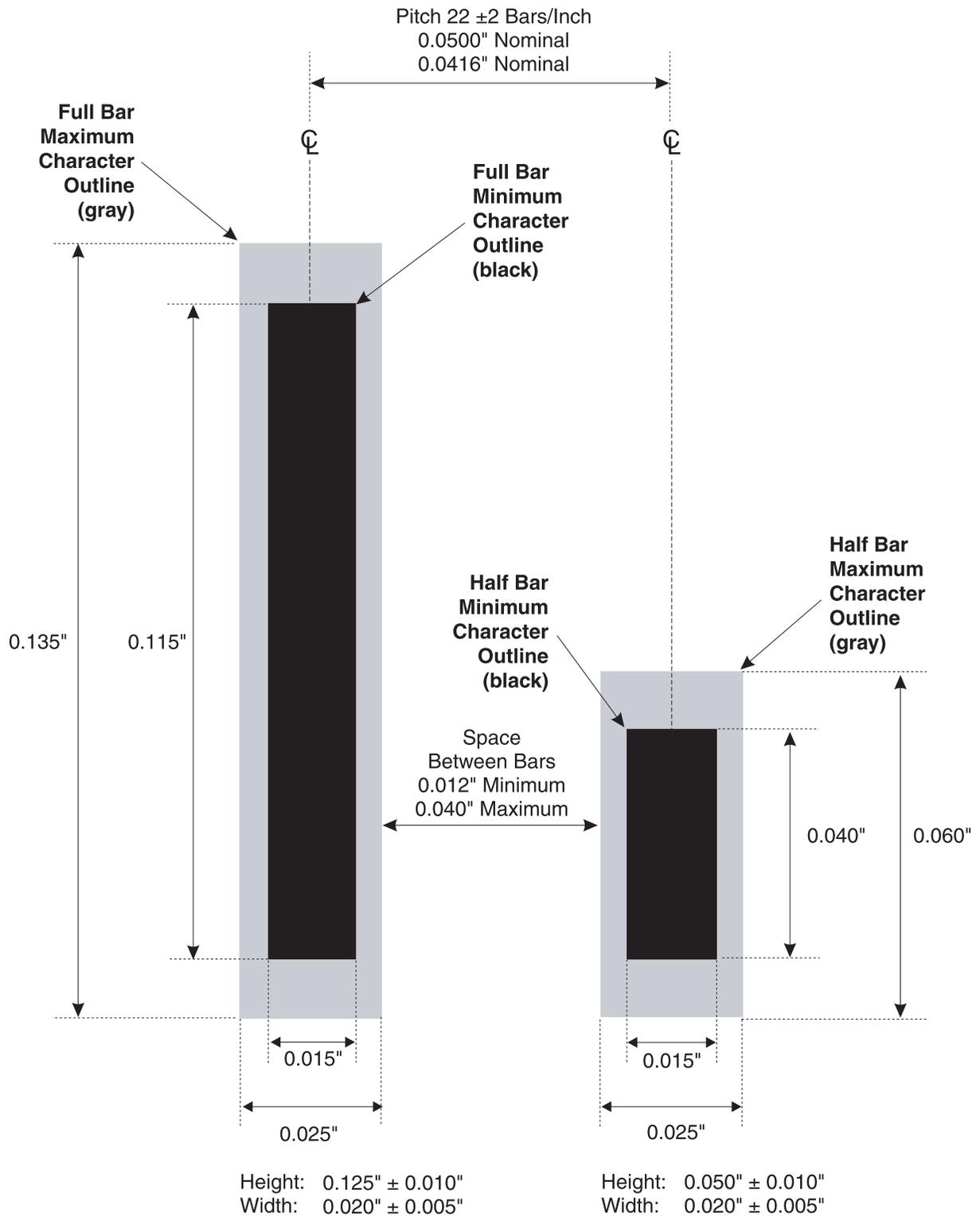
### Nine-Digit ZIP+4 Code (52 Bars)

The distance from the leading edge of the first (leftmost) bar to the leading edge of the fifty-second (rightmost) bar should be at least 2.125 inches. The distance from the leading edge of the first bar to the trailing edge of the fifty-second bar should not exceed 2.575 inches. ZIP+4 barcodes are used only with reply mail letter-size pieces.

### Eleven-Digit Delivery Point Barcode (62 Bars)

The distance from the leading edge of the first (leftmost) bar to the leading edge of the sixty-second (rightmost) bar should be at least 2.540 inches. The distance from the leading edge of the first bar to the trailing edge of the sixty-second bar should not exceed 3.075 inches (see [Exhibit 4-2](#) for general specifications).

Exhibit 4-2  
**POSTNET Barcode Specifications**

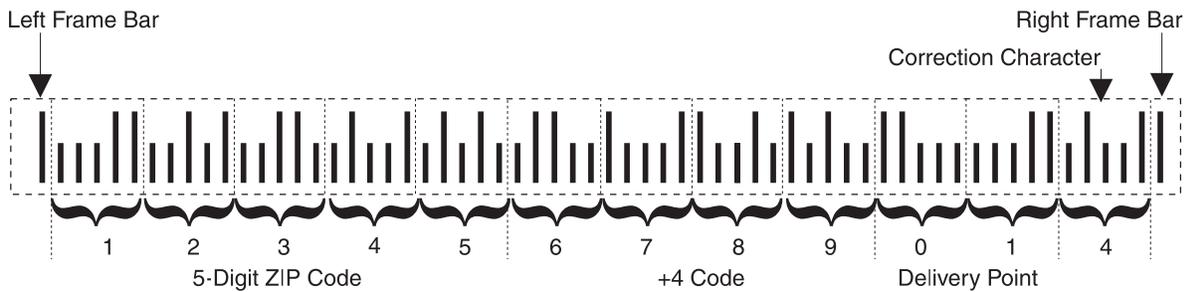


## Decoding POSTNET Barcodes

The first and last full bars in a barcode—the frame bars—do not count. Each digit (numeric value) of the ZIP Code or ZIP+4 is represented by five bars.

The last five bars in the barcode make up the correction character. All barcodes, when added together, must equal a multiple of 10. [Exhibit 4-3](#) shows a barcode decoded using the POSTNET code.

*Exhibit 4-3*  
**Delivery Point POSTNET Format**



## Code Elements

The basic elements of the POSTNET barcode are binary digits, represented as full bars and half bars (or tall bars and short bars). A full bar represents “1” (one), and a half bar represents “0” (zero) (see [Exhibit 4-4](#)).

The geometry of the bars and their proper location on letter mail are covered in the following sections and exhibits.

*Exhibit 4-4*  
**Code Elements**

<b>Numeric Value</b>	<b>Binary Code Value</b>	<b>Barcode Value</b>
	7 4 2 1 0	74210
1	00011	
2	00101	
3	00110	
4	01001	
5	01010	
6	01100	
7	10001	
8	10010	
9	10100	
0	11000	

### Code Characters

Each code character is made up of five bars, which together represent a single numeric digit. Specific combinations of two full bars and three half bars represent the digits 0 through 9. Only the combinations shown in [Exhibit 4-4](#) are valid code characters—they represent all possible combinations of two full bars and three half bars.

These combinations are central to the error-recovery of POSTNET because the system interprets as an error the combination of five bars containing other than two full and three half bars.

### Bar Position Weights

Except for zero, the numeric value of each valid combination of five bars can be determined by adding the “weights” of the two positions occupied by the full bars (“1s”). From left to right, the bar positions are weighted 7, 4, 2, 1, and 0 (see [Exhibit 4-4](#)).

For example, the combination 01010 contains a full bar in the second position (weight 4) and in the fourth position (weight 1). Adding 4 and 1 yields 5 — the assigned value of this combination. The only exception is the combination 11000, which has a total weight of 11 but is assigned a value of zero.

## Bar Spacing (Pitch)

### Horizontal Spacing

The nominal horizontal spacing (pitch), defined as a bar and a space, must be limited to 22 bars ( $\pm 2$  bars) per inch when measured over any 1/2-inch portion of the barcode. The horizontal spacing at 24 bars per inch is 0.0416 inch and, at 20 bars per inch, is 0.050 inch. Between individual bars, there should be a clear space of at least 0.012 inch, but not more than 0.040 inch.

The dimensions described below should be maintained for eleven-digit POSTNET barcodes so that our BCSs can accommodate the tolerances encountered with different printing technologies.

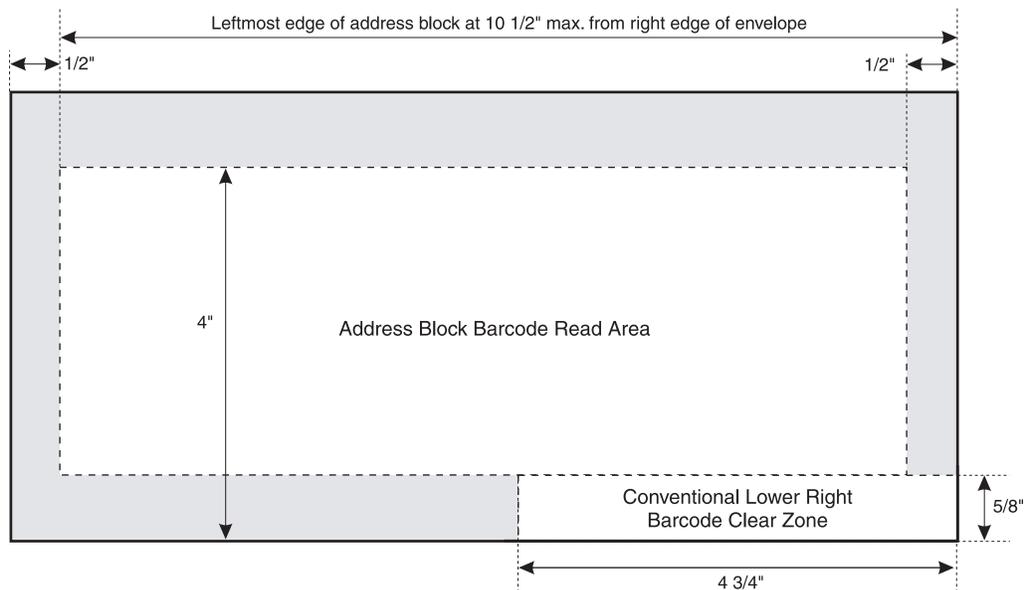
## Barcode Locations

### Placement

If you apply the POSTNET barcode to your outgoing letter mail, you may print the barcode in the lower right corner or as part of the address block (see [Exhibit 4-5](#)).

OCR-applied barcodes are always printed in the lower right corner of the mailpiece.

*Exhibit 4-5*  
**Barcode Placement Areas**



### Address Block Barcoding

With this method, the barcode is not subject to the strict positioning requirements of the barcode clear zone. The address block barcoding option is the most desirable method. To print the POSTNET barcode as part of the address block, locate the barcode in one of the positions in [Exhibit 4-6](#).

### Barcode Clearances

An address block barcode requires specific clearances around the edges of the window or address label. This clearance allows the barcode sorter to successfully locate the barcode. As shown in the diagram below, a clear space of 1/25" is required above and below the barcode and 1/8" is required to the left and the right of the barcode.

Below are examples of acceptable barcode placement in address blocks.

*Exhibit 4-6*  
**Address Block Barcode Placement Options**

Example A  
Above Address  
(Preferred)  
Example C



Example B  
Below Address  
(Acceptable)  
Example D



Example C  
Below Optional Endorsement Line  
and/or Keyline Information  
(Preferred)



Example D  
Above Optional Endorsement Line  
and/or Keyline Information  
(Acceptable)

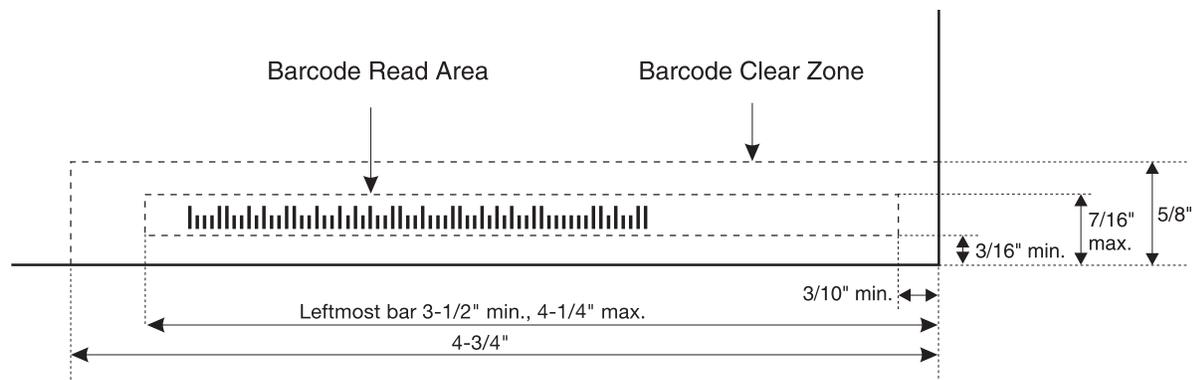


You may not apply the POSTNET barcode anywhere between the recipient line and the city, state, and ZIP Code line of the address (that is, do not place the barcode between any lines of the delivery address). [Chapter 2](#) provides specifications for the clearance needed between address block barcodes and window edges, inserts, address labels, and other nonaddress printing.

### Conventional Lower Right Corner

Delivery point barcodes printed in the lower right corner of letter mail must be placed in the barcode clear zone as shown in [Exhibit 4-7](#). The first (leftmost) bar of the barcode should appear between 3-1/2 inches and 4-1/4 inches from the right edge of the mailpiece.

*Exhibit 4-7*  
**Lower Right Corner Barcode**



## Barcode Layout

### Bar Tilt

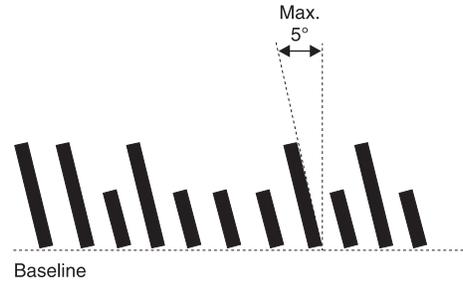
Two types of tilt can occur when printing POSTNET barcodes on a mailpiece (see [Exhibit 4-8](#)):

- Bar rotation, in which the individual bars are tilted (not perpendicular) with respect to the baseline of the barcode.
- Pattern skew (or slant), in which the entire barcode is tilted with respect to the bottom edge of the mailpiece.

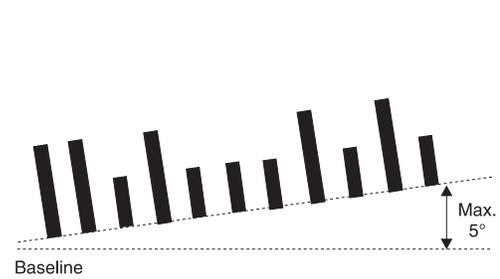
Both types of tilt can occur simultaneously. Because BCSs read barcode bars individually, these sorters cannot determine which type of tilt is present. Consequently, total bar tilt should be measured with respect to a perpendicular from the bottom edge of the mailpiece. The combined effects of pattern skew and bar rotation on letters must be limited to a maximum tilt of 5 degrees.

*Exhibit 4-8*  
**Height-Modulated Barcode**

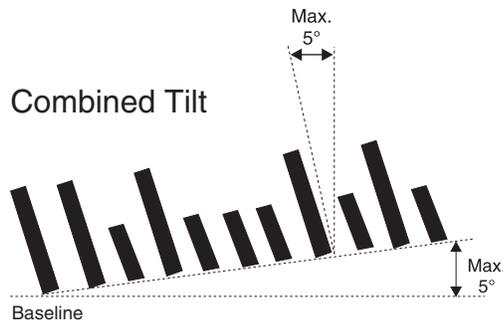
**Bar Rotation**



**Pattern Skew**



**Combined Tilt**



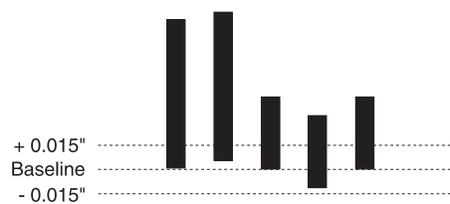
10° Unacceptable  
Bar Tilt

**Baseline Shift**

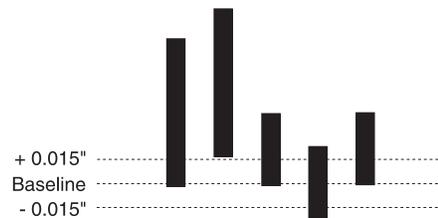
The vertical position of adjacent bars must not vary more than 0.015 inch from bar to bar when measured from the baseline (bottom) of the barcode (see [Exhibit 4-9](#)).

*Exhibit 4-9*  
**Barcode Baseline Shift**

**Acceptable Baseline Shift**



**Unacceptable Baseline Shift**



## Barcode Printing

### Background Reflectance

The area of the mailpiece where the barcode is to be placed (address block or lower right corner) should be uniform in color and produce a minimum reflectance of at least 25% of an image taken, using the blue to red spectrum of light viewed in grayscale when measured with a USPS envelope reflectance meter or its equivalent.

Although a white background is preferred, pastels and other light colors are acceptable. The mailpiece should not be fluorescent or phosphorescent because the glow can cause malfunctions during mail processing.

### Print Reflectance Difference

The BCS responds to the difference between light reflected from the printed barcode and the background. This difference is defined as print reflectance difference (PRD). A PRD of at least 25% for an image taken using the blue to red spectrum of light when viewed in grayscale is required for reading POSTNET barcodes. It is also recommended that the same PRD apply to the background and the destination address, ancillary service endorsement, return address, and indicia. PRD can be measured with a USPS envelope reflectance meter or its equivalent (see [Appendix A](#)).

The BCS responds best when the barcode is printed in black ink on a white background. Other color combinations are acceptable if the minimum PRD of 25% exists for the printed barcode. Refer questionable color combinations to your mailpiece design analyst for review and suggestions.

### Overinking

Overinking, which causes any bar to exceed its maximum dimensions, can prevent the BCS from successfully interpreting the barcode (see [Exhibit 4-10](#)). Consequently, make sure that ink coverage does not cause any bar to exceed the height or width limitations.

*Exhibit 4-10*

#### ***Overinking (Extraneous Ink)***

---

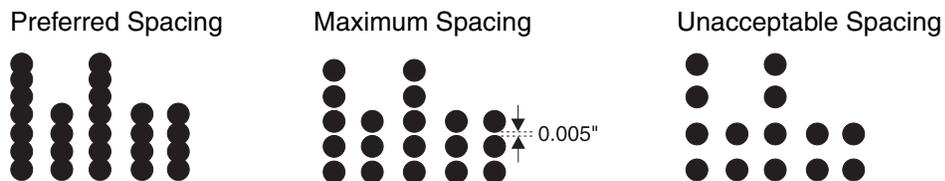


## Voids

A void, which reduces any bar to less than its minimum dimensions, can prevent the BCS from successfully interpreting the barcode. In [Exhibit 4-11](#), a malfunctioning dot matrix printer created the voids. Ideally, dot matrix printing should yield dots that touch or overlap. If the dots are not touching, the space between the dots should not exceed 0.005 inch.

*Exhibit 4-11*

### **Voids**



## Extraneous Matter

Background patterns, envelope insert “show-through,” and any other printing within the clear areas surrounding the barcode (lower right corner and address block areas shown in [Exhibit 4-5](#)) should be limited to a maximum Print Contrast Ratio (PCR) of 15 percent in the red and the green portions of the optical spectrum. A PCR exceeding 15 percent can interfere with barcode recognition.

## Barcode Software and Hardware Certification

To help mailers evaluate the quality of their barcode-producing equipment, the Postal Service offers optional testing and certification to manufacturers of barcoding software and hardware. Certifying the barcoding equipment ensures that it can produce dimensionally correct barcodes that meet postal specifications.

Certification does not ensure that the barcodes produced from that equipment will meet the requirements for automation rates because many other variables (such as ink color and quality, paper color and contrast, and equipment operation and maintenance) affect the quality of the printed barcodes.

Manufacturers who want their products tested and mailers who want information on available certified products should contact the National Customer Support Center at 1-800-238-3150 or [www.usps.com/ncsc](http://www.usps.com/ncsc).

## Intelligent Mail Barcodes

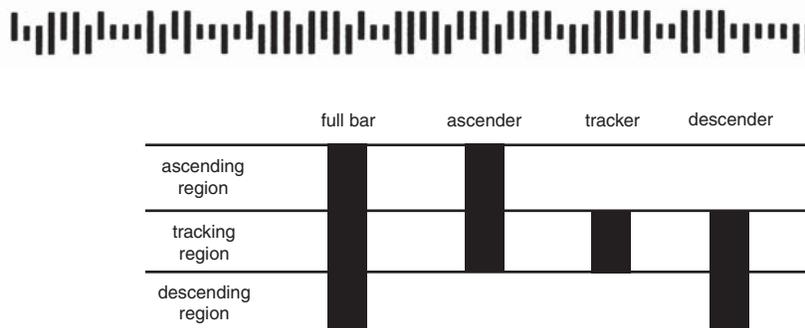
### Description and Benefits

The Intelligent Mail barcode is the new Postal Service barcode used to sort and track letters and flats. The Postal Service is promoting use of the Intelligent Mail barcode because it expands the ability to track individual mailpieces and provide customers with greater visibility into the mailstream.

The Intelligent Mail barcode combines the data of the existing POSTNET and the PLANET Code barcodes, as well as other data, into a single barcode. The Intelligent Mail barcode is always printed in a 65 bar format even when no ZIP Code is included. The Intelligent Mail barcode is a type of height-modulated barcode, that uses four distinct vertical bar types (full, tracker, ascender and descender) as show here:

*Exhibit 4-12*

#### **Height-Modulated Barcode**



The Intelligent Mail barcode is the result of Postal Service efforts to develop more robust codes capable of encoding more information, while minimizing the space used on the mailpiece. The Intelligent Mail barcode:

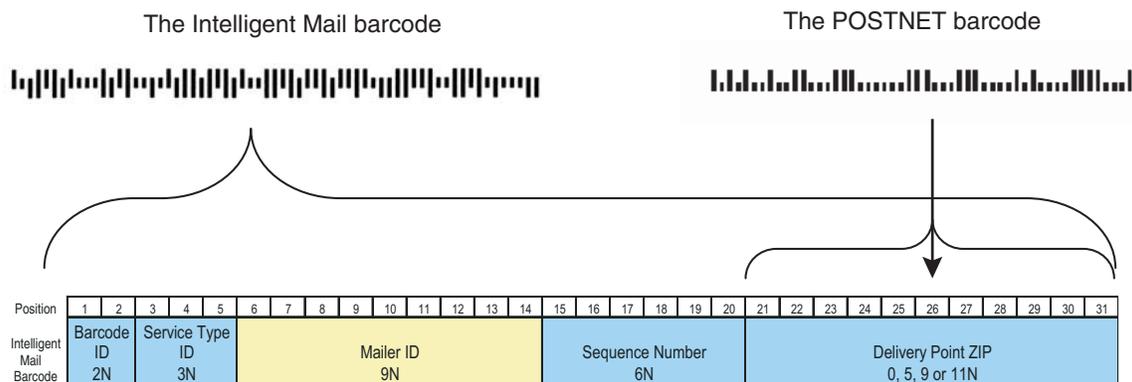
- Has a greater overall data capacity than existing barcodes.
- Provides mailers with more digits for their use, allowing for unique identifications of up to a billion mailpieces per mailing.
- Provides more accurate and detailed information about mailings which can enable better decision making.
- Increases mailpiece “real estate” by eliminating the need for multiple barcodes.
- Allows for participation in multiple USPS service programs with a single barcode.

## Elements

The illustration below shows how the POSTNET information is incorporated into the Intelligent Mail format.

Exhibit 4-13

### Intelligent Mail Barcodes



**Barcode ID:** The barcode identifier is a 2-digit field that is reserved to specify the presort makeup. If you currently do not use an Optional Endorsement Line, you will simply populate this field with “00”.

**Service Type Identifier:** Used to request special services such as tracking or address correction. If you are not requesting special services on the mail piece, you should use the appropriate code depending upon the class of mail to which the Intelligent Mail barcode is applied:

**Mailer ID:** This is an ID that the USPS will assign to you to use in your Intelligent Mail barcodes. The USPS will issue you a 9-digit or a 6-digit Mailer ID based on your mail volume. Your local mailpiece design analyst or business mail entry unit can assist you with obtaining one. Subscribers of OneCode Confirm should call 800-238-3150; Confirmation and Extra Services customers should call 877-264-9693; and OneCode ACS subscribers should call 800-331-5746.

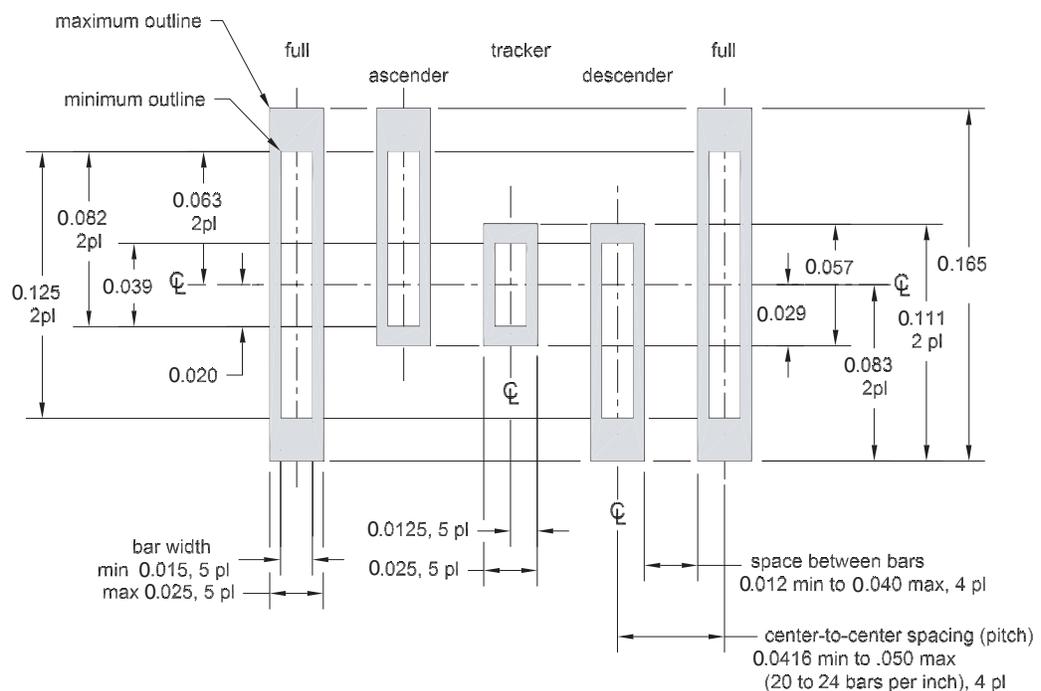
**Sequence or Serial Number:** You can use this field to uniquely identify your individual mail pieces. If you are assigned a 9-digit Mailer ID, you will have 6-digits to identify and number your mailpieces. If you are assigned a 6-digit Mailer ID, you will have 9 digits to identify and number your mail pieces.

**ZIP Code field:** Populate this field with delivery point ZIP Code of the mailpiece. The ZIP Code field must never contain leading or trailing zeros that are not part of the valid ZIP Code.

## Specifications

*Exhibit 4-14*

### **Intelligent Mail Barcode Specifications**



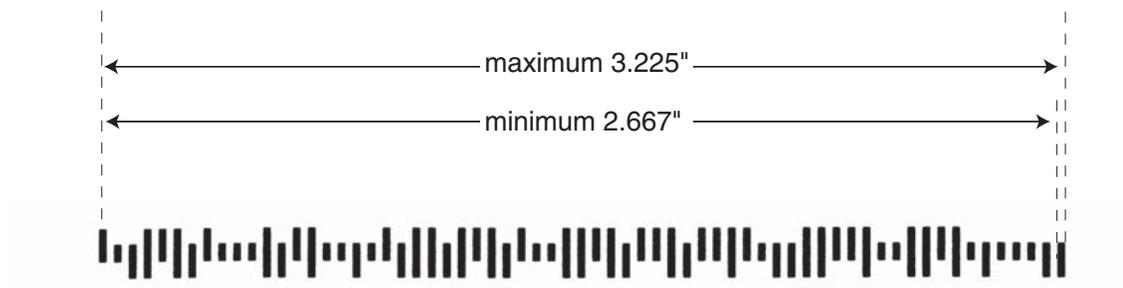
Vertical dimensions shall be based on the centerline of the barcode, forming an overall barcode height of 0.125 inch to 0.165 inch. Any vertical jitter shall be contained within the vertical dimensions from the centerline.

Horizontal dimensions shall be based on the centerline of the individual bars, forming an overall barcode pitch of 22 ( $\pm 2$  bars) per inch. Individual bars shall be printed with a width of 0.020 ( $\pm 0.005$ ) inch. The pitch and widths shall result in spacing between bars of 0.012 to 0.040 inch.

The distance from the lead (left) edge of the 1st (left most) bar to the lead (left) edge of the 65th (right most) bar shall never be less than 2.667 inches. The distance from the lead (left) edge of the 1st bar (left most) to the trail (right) edge of the 65th (right most) bar shall never be greater than 3.225 inches.

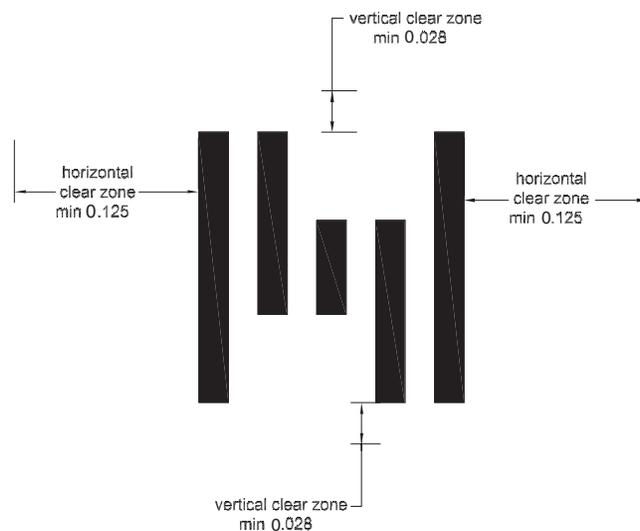
*Exhibit 4-15*

**Horizontal Lengths**



*Exhibit 4-16*

**Clear Zone**



Clear Zone - A clear zone shall be placed around the barcode to ensure that readers can locate and read the barcode. A minimum clear zone shall be 0.028 inch above and below the barcode and 0.125 inch on each end of the barcode. Clear zones are shown in [Exhibit 4-16](#).

## Bar Spacing (Pitch)

### Horizontal Spacing

The nominal horizontal spacing (pitch), defined as a bar and a space, must be limited to 22 bars ( $\pm 2$  bars) per inch when measured over any 1/2-inch portion of the barcode. The horizontal spacing at 24 bars per inch is 0.0416 inch and, at 20 bars per inch, is 0.050 inch. Between individual bars, there should be a clear space of at least 0.012 inch, but not more than 0.040 inch.

The dimensions described below should be maintained for Intelligent Mail barcodes so that our BCSs can accommodate the tolerances encountered with different printing technologies.

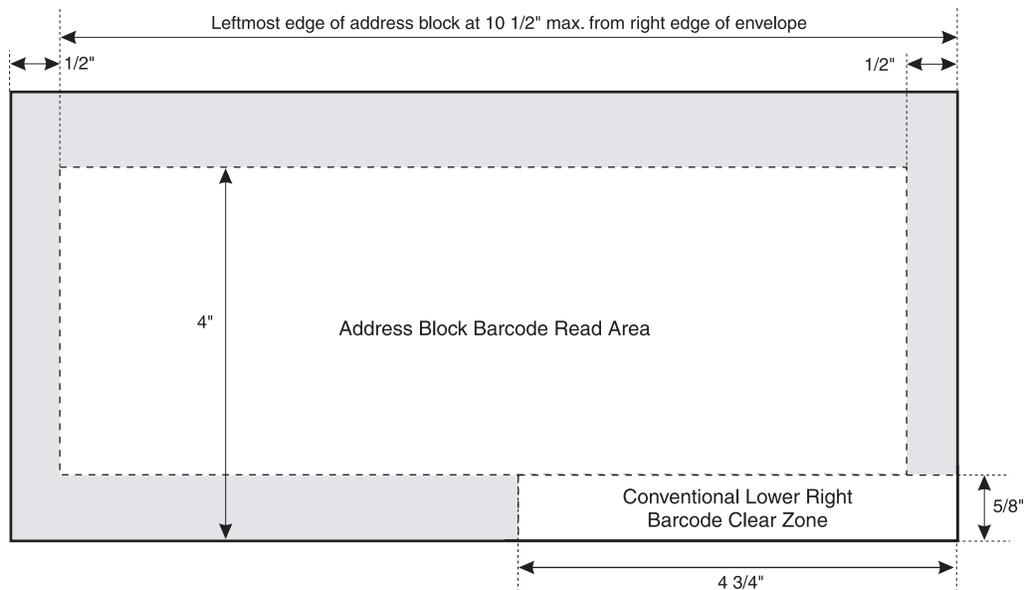
## Barcode Locations

### Placement

If you apply the Intelligent Mail barcode to your outgoing letter mail, you may print the barcode in the lower right corner or as part of the address block (see [Exhibit 4-17](#)).

*Exhibit 4-17*

#### **Barcode Placement Areas**



## Address Block Barcoding

With this method, the barcode is not subject to the strict positioning requirements of the barcode clear zone. The address block barcoding option is the most desirable method.

### Barcode Clearances

An address block barcode requires specific clearances around the edges of the window or address label. This clearance allows the barcode sorter to successfully locate the barcode. As shown in the diagram below, a clear space of 0.028" is required above and below the barcode and 1/8" is required to the left and the right of the barcode.

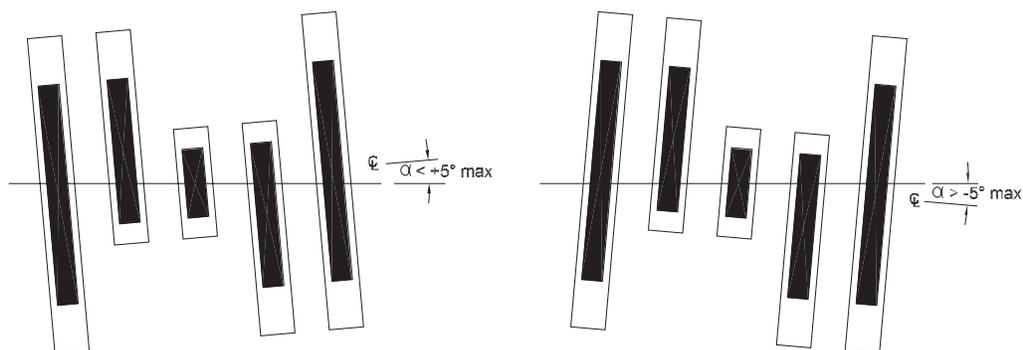
You may not apply the Intelligent Mail barcode anywhere between the recipient line and the city, state, and ZIP Code line of the address (that is, do not place the barcode between any lines of the delivery address). [Chapter 2](#) provides specifications for the clearance needed between address block barcodes and window edges, inserts, address labels, and other nonaddress printing.

### Conventional Lower Right Corner

Delivery point barcodes printed in the lower right corner of letter mail must be placed in the barcode clear zone. The first (leftmost) bar of the barcode should appear between 3-1/2 inches and 4-1/4 inches from the right of the mailpiece.

### Barcode Tilt

*Exhibit 4-18*  
**Barcode Skew**



Barcode Tilt - When printing height-modulated barcodes, two types of tilt can occur:

1. Barcode skew, in which the entire barcode is skewed with respect to the bottom edge of the mailpiece.
2. Bar rotation, in which the individual bars are rotated with respect to the centerline of the barcode.

Barcode skew for letter-size mailpieces shall be limited to  $\pm 5^\circ$ , as shown in [Exhibit 4-18](#).



*Exhibit 4-21*

***Intelligent Mail Barcode Placement***

---

With Intelligent Mail barcode, one line combines all services and other data.



For the latest information on the Intelligent Mail barcode, including the full dimension specification, visit the Rapid Information Bulletin Board System (RIBBS) Website at [www.ribbs.usps.gov/OneCodeSolution/](http://www.ribbs.usps.gov/OneCodeSolution/).

## Barcode Printing

### Background Reflectance

The area of the mailpiece where the barcode is to be placed (address block or lower right corner) should be uniform in color and produce a minimum reflectance of at least 25% of an image taken, using the blue to red spectrum of light viewed in grayscale when measured with a USPS envelope reflectance meter or its equivalent.

Although a white background is preferred, pastels and other light colors are acceptable. The mailpiece should not be fluorescent or phosphorescent because the glow can cause malfunctions during mail processing.

### Print Reflectance Difference

The BCS responds to the difference between light reflected from the printed barcode and the background. This difference is defined as print reflectance difference (PRD). A PRD of at least 25% for an image taken using the blue to red spectrum of light when viewed in grayscale is required for reading Intelligent Mail barcodes. It is also recommended that the same PRD apply to the background and the destination address, ancillary service endorsement, return address, and indicia. PRD can be measured with a USPS envelope reflectance meter or its equivalent (see [Appendix A](#)).

The BCS responds best when the barcode is printed in black ink on a white background. Other color combinations are acceptable if the minimum PRD of 25% exists for the printed barcode. Refer questionable color combinations to your mailpiece design analyst for review and suggestions.

### Overinking

Overinking, which causes any bar to exceed its maximum dimensions, can prevent the BCS from successfully interpreting the barcode (see [Exhibit 4-22](#)). Consequently, make sure that ink coverage does not cause any bar to exceed the height or width limitations.

*Exhibit 4-22*

#### ***Overinking (Extraneous Ink)***

---

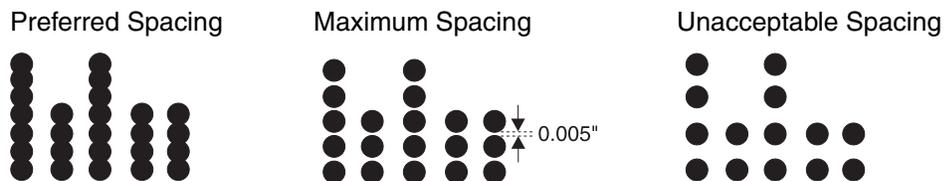


## Voids

A void, which reduces any bar to less than its minimum dimensions, can prevent the BCS from successfully interpreting the barcode. In [Exhibit 4-23](#), a malfunctioning dot matrix printer created the voids. Ideally, dot matrix printing should yield dots that touch or overlap. If the dots are not touching, the space between the dots should not exceed 0.005 inch.

*Exhibit 4-23*

### **Voids**



## Extraneous Matter

Background patterns, envelope insert “show-through,” and any other printing within the clear areas surrounding the barcode (lower right corner and address block areas shown in [Exhibit 4-5](#)) should be limited to a maximum Print Contrast Ratio (PCR) of 15 percent in the red and the green portions of the optical spectrum. A PCR exceeding 15 percent can interfere with barcode recognition.

## Barcode Software and Hardware Certification

To help mailers evaluate the quality of their barcode-producing equipment, the Postal Service offers optional testing and certification to manufacturers of barcoding software and hardware. Certifying the barcoding equipment ensures that it can produce dimensionally correct barcodes that meet postal specifications.

Certification does not ensure that the barcodes produced from that equipment will meet the requirements for automation rates because many other variables (such as ink color and quality, paper color and contrast, and equipment operation and maintenance) affect the quality of the printed barcodes.

Manufacturers who want their products tested and mailers who want information on available certified products should contact the National Customer Support Center at 1-800-238-3150 or [www.usps.com/ncsc](http://www.usps.com/ncsc).



# 5 Reply Mail

## Basic Information

If your business receives most of its orders and payments by mail, your business depends financially on its incoming mail. Orders and payments are usually a response to a mailing to customers. These responses are called reply mail.

Naturally, you want to get as many responses as you can, as quickly as possible. And the Postal Service wants to help you do just that. By using special reply mail formats and features, you can increase responses and receive them sooner.

### Benefiting From Reply Mail

Reply mail offers two major advantages: faster response and more accurate delivery.

The easier you make it for your customer to respond, the quicker the return will come. A preaddressed (and perhaps postage-paid) envelope containing the customer's order or check is easy to mail. Customers have positive attitudes about creditors, marketers, and fund-raisers who show foresight and consideration by providing reply mail cards, envelopes, or labels.

With reply mail your address is preprinted. This is especially important when you want payments and inquiries directed to an address that is different from your usual mailing address. Because there is no chance that your customer can misaddress the mail to you, you eliminate potential misdeliveries.

By using POSTNET or Intelligent Mail barcodes on the envelopes and cards ([Chapter 6](#) explains how) you make sure that your reply mail benefits fully from USPS automated sorting equipment.

## Choosing Reply Mail Type

### Basic Types

There are four basic types of reply mail: Business Reply Mail (BRM); Courtesy Reply Mail (CRM); meter reply mail (MRM); and permit reply mail (PRM). Although each may seem similar, there are significant differences.

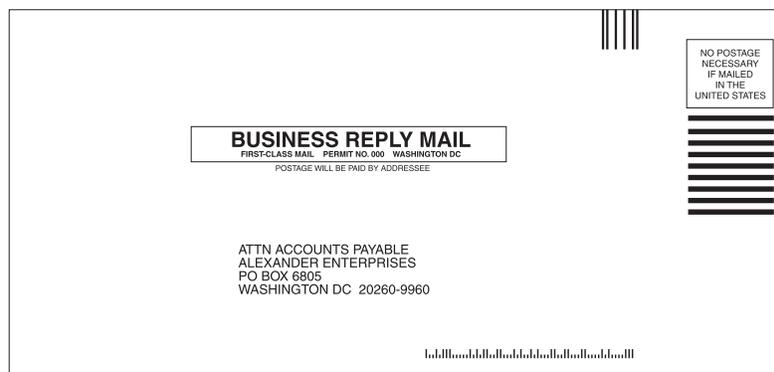
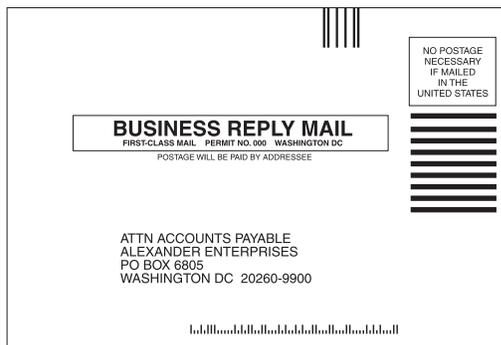
### Business Reply Mail

Business Reply Mail (BRM) requires that postage be paid by you (the sender) if your customer (the respondent) mails the reply back to you. BRM is appropriate when your customer needs a little extra inducement to reply—in other words, the response or its timing is not assured. This type of reply mail is frequently used by direct marketers seeking orders, researchers pursuing questionnaire responses, or magazine publishers soliciting subscriptions (see [Exhibit 5-1](#)).

The extra inducement is provided because your customer does not need to affix the return postage, does not have to supply a postcard or envelope, and does not need to put an address on the mailpiece. [Exhibit 5-1](#) shows a standard BRM piece in postcard and envelope formats.

*Exhibit 5-1*

#### **BRM Postcard and Envelope**



## Courtesy Reply Mail

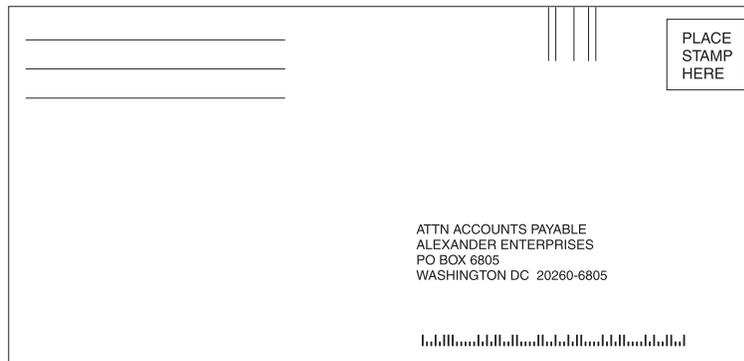
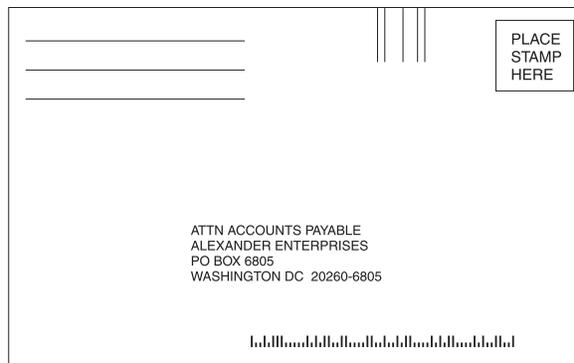
Courtesy Reply Mail (CRM) requires your customer (the respondent) to affix the postage before mailing the reply back to you (the sender). CRM is appropriate when the response is more or less assured, such as for billings (see [Exhibit 5-2](#)).

Although the customer usually pays the return postage (unless you prepay it by a meter, as in meter reply mail (MRM); see page 52), the preaddressed postcard or envelope adds convenience and ensures addressing accuracy. [Exhibit 5-2](#) shows a standard CRM piece in postcard and envelope formats.

*Exhibit 5-2*

### **CRM Postcard and Envelope**

---



## Meter Reply Mail

Meter reply mail (MRM) is similar to BRM but allows the mailer to use meter stamps (without a date) to prepay reply postage.

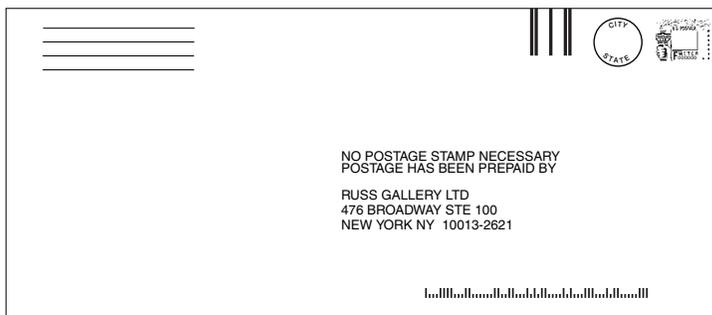
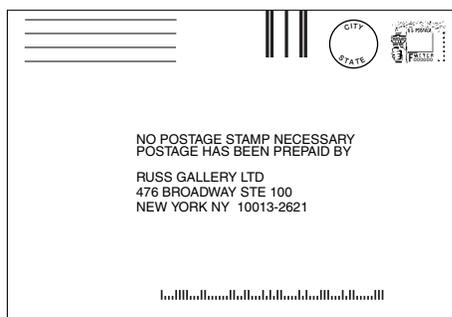
Meter stamps may be used to prepay reply postage on Express Mail or Priority Mail (when the rate is the same for all zones); all First-Class Mail cards, letters, and flats up to a maximum of 13 ounces; single-piece Media Mail and Library Mail.

The mailer usually expects 100% returned pieces since the postage value would be lost otherwise.

*Exhibit 5-3*

### ***MRM Postcard and Envelope***

---



## Permit Reply Mail

Permit reply mail (PRM) enables a permit imprint permit holder to receive First-Class Mail and Priority Mail back from customers by prepaying postage for reply pieces at the time of mailing. Mailers must distribute PRM pieces as part of a First-Class Mail mailing using permit imprint, and not through any other means.

PRM is similar to meter reply mail in that the mailer is expecting 100% of the pieces returned since the postage has already been paid.

No extra services such as Registered Mail, Certified Mail, or insurance are permitted with PRM.

Intelligent Mail barcodes will be required on all PRM pieces effective May 2010.

*Exhibit 5-4*

### ***PRM Postcard and Envelope***

---



## Meeting General Requirements

This publication shows you how to design envelopes or cards for letter-size reply mail. *Domestic Mail Manual* (DMM) 507.9 provides you with information on BRM services and mailing procedures.

All BRM customers must have unique ZIP+4 codes specific to BRM. Qualified Business Reply Mail (QBRM) customers must have unique ZIP+4 codes for each category of BRM piece (such as postcard, 1-ounce letter, or 2-ounce letter).

Intelligent Mail barcodes will be required on all QBRM pieces effective May 2010.

## Selecting Facing Identification Marks

### Description

The facing identification mark (FIM) is a pattern of vertical bars printed in the upper right portion of a mailpiece, to the left of the postage area. A FIM pattern is essentially a nine-bit code consisting of bars and no-bar placeholders. The presence of a bar can be considered a binary “1” (one); the absence of a bar, a binary “0” (zero).

The FIM patterns currently used translate into these binary codes:

- FIM A: 110010011.
- FIM B: 101101101.
- FIM C: 110101011.
- FIM D: 111010111.

### Purpose

The FIM uses a code that tells automated processing equipment some of what it needs to know to do its job. The FIM allows automatic facing (orientation) of the mail for cancellation (postmarking). The FIM also identifies reply mail that bears a preprinted barcode. Barcoded mail is then routed directly to a high-speed barcode sorter, bypassing slower manual sorting or optical character reader (OCR) processing.

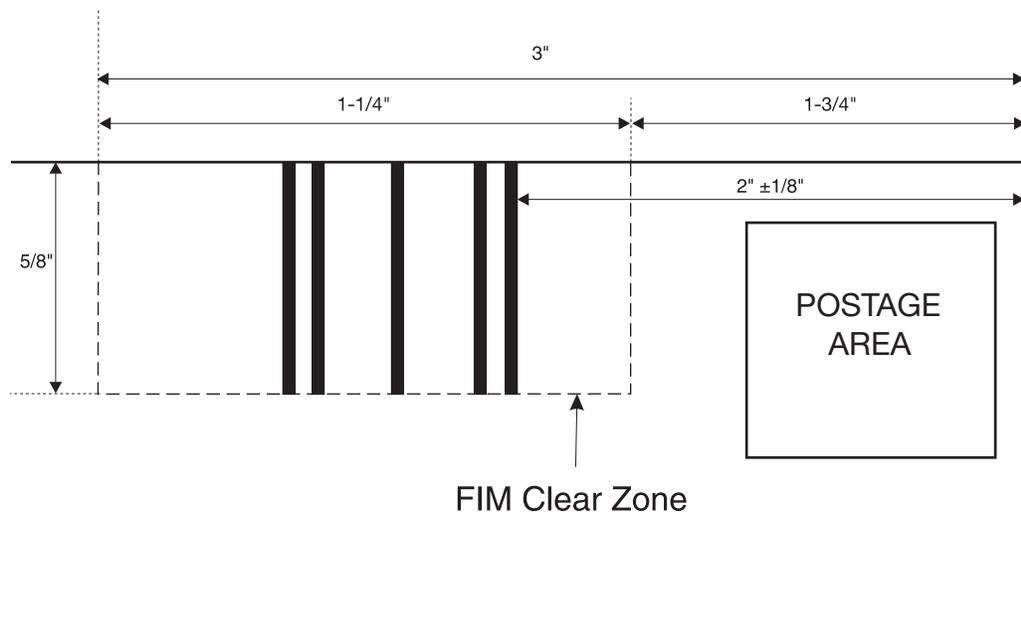


## FIM Standards

Make sure the FIM meets the following standards:

- The FIM clear zone must contain no printing other than the FIM pattern. [Exhibit 5-6](#) shows the configuration of the clear zone and the correct location of the FIM.
- The rightmost bar of the FIM must be 2 inches  $\pm 1/8$  inch from the right edge of each mailpiece.
- The FIM bars must be  $5/8$  inch high  $\pm 1/8$  inch and  $1/32$  inch wide  $\pm 0.008$  inch.
- The tops of the FIM bars must be no lower than  $1/8$  inch from the top edge of each mailpiece. They may extend over the top edge to the flap.
- The bottoms of the FIM bars should touch the bottom edge of the FIM clear zone but must not be more than  $1/8$  inch above or below that edge.

*Exhibit 5-6*  
**FIM Location**



The print reflectance difference (PRD) between the FIM's ink and the background material must be measured with Postal Service or Postal Service-licensed equipment. There must be at least a 30 percent PRD in the red and green portions of the optical spectrum. Black ink on a white background usually satisfies this requirement and is recommended.

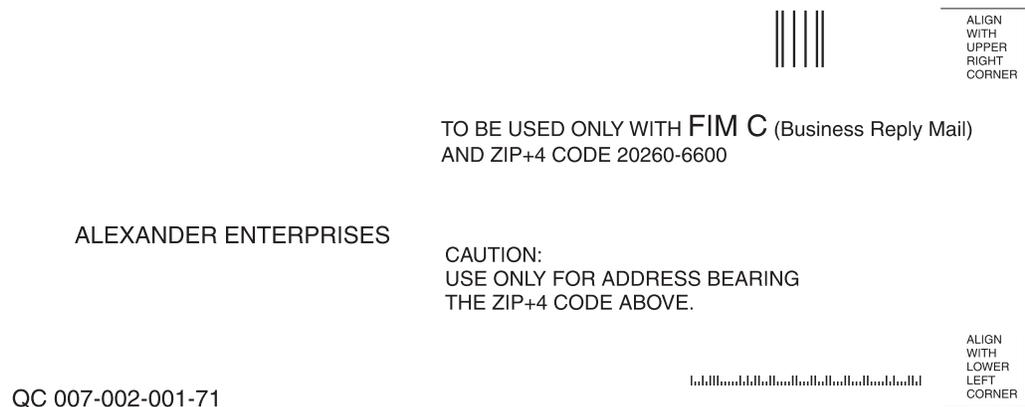
In addition to the preceding requirements, FIM bars must be printed within the dimensions shown in [Exhibit 5-6](#). The bars must be within 5 degrees of perpendicular to the top edge of the mailpiece.

## FIM Positives and Barcodes

It is not necessary to design a FIM or a barcode yourself for your reply mail. The Postal Service provides, at no charge, camera-ready positives of the FIM that you need to use and a camera-ready print of the barcode representing the correct ZIP+4 code, or delivery point barcode as appropriate for your reply mail address. Do not reduce or enlarge these positives and prints (see [Exhibit 5-7](#) and [Exhibit 5-8](#)).

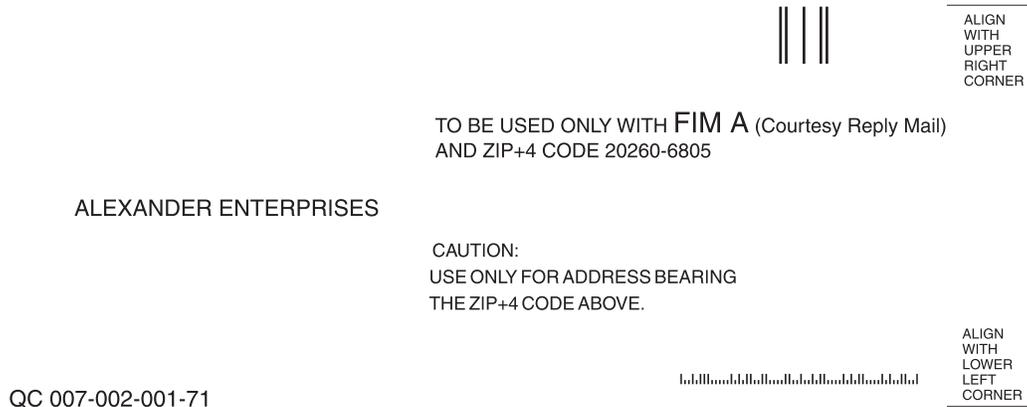
*Exhibit 5-7*

### **BRM CAMERA-READY FIM and Barcode**



*Exhibit 5-8*  
**CRM CAMERA-READY FIM and Barcode**

---



## Obtaining FIMs, Barcodes, and ZIP Codes

You can get FIM positives from your postmaster, account representative, or mailpiece design analyst. FIMs also are available on Postal Explorer at [pe.usps.com](http://pe.usps.com) by clicking on mailpiece design on the left blue frame.

Additionally, you can find the templates for your reply mail envelopes on Postal Explorer as well as options for obtaining FIMs and barcodes, obtaining permit numbers, and payment options. After clicking on mailpiece design in the left frame, choose Business Reply Mail or Courtesy Reply Mail to show your options.

### Website

In most areas, you can apply for your reply permit online, pay your annual fee, apply for a ZIP+4 Code, and create and download print-ready mailpieces by clicking on <http://www.usps.com/replymail/business.htm> and then click on “Get Started.”

## Avoiding Sorting Errors

Although preparing reply mail properly can benefit you and the Postal Service, errors can negate those benefits. For example, printing the wrong barcode on a reply piece can direct your mail to the wrong Post Office. A wrong barcode delays delivery of your mail and adds extra processing steps for the Postal Service.

Even though barcodes representing different delivery points can look nearly identical, the correct barcode is essential. The barcode used for regular mail delivery is different from the barcode used for BRM.

It’s also easy to confuse different FIM patterns. So before you format and print reply mail, be sure that the barcode and FIM are correct for that use.

It is also important that you position the barcode and FIM properly on reply pieces if automated processing is to succeed. If part of the barcode lies outside

the read area, the barcode might not be scanned accurately. In such cases, your mail is rejected by the processing equipment and must be sorted by hand or by slower machines. Use Notice 67, *Automation Template*, for correct positioning.

Mailpiece design analysts (MDAs) are assigned to business mail entry units (BMEUs) throughout the country to help you design your reply mail. To make sure that your piece achieves the best quality, provide samples of your reply pieces to an MDA early in the design process, allowing time for changes before printing.

### **Obtaining BRM Permits**

This publication guides you in designing reply mail. For information on other standards and application procedures (such as obtaining permits and submitting samples), contact your local Post Office (see DMM 507.9.5).

### **Using Other Reply Services**

This publication acquaints you with other services, including QBRM and International Business Reply Service (IBRS). No matter which type of reply mail you use, you benefit from faster and easier returns of orders, inquiries, and payments.



# 6 Business Reply Mail

## Receiving Customer Responses

Business Reply Mail (BRM) enables you to receive First-Class Mail back from customers while paying postage only on the pieces that your customers return. You may distribute cards, envelopes, self-mailers, and other types of mailpieces as BRM.

## Following Design Formats

Exhibit 6-1 shows the six basic design elements required on a BRM piece. These elements are described and illustrated on the following pages.

To make sure that your mailpiece achieves the best quality, provide samples of your BRM pieces to a mailpiece design analyst early in the design process, allowing time for changes before printing.

Exhibit 6-1  
**BRM Design Format**



- ① Element 1—"No Postage Necessary" Endorsement
- ② Element 2—Horizontal Bars
- ③ Element 3—FIM
- ④ Element 4—Business Reply Legend, Permit Number, Postage Endorsement
- ⑤ Element 5—Complete Delivery Address
- ⑥ Element 6—Barcode Clear Zone

### Element 1: “No Postage Necessary” Endorsement

You must print the endorsement “NO POSTAGE NECESSARY IF MAILED IN THE UNITED STATES” in the upper right corner of your BRM pieces (see [Exhibit 6-2](#)). The left edge of the endorsement must not extend more than 1-3/4 inches from the right edge of the piece.

Exhibit 6-2

#### “No Postage Necessary” Endorsement



## Element 2: Horizontal Bars

To help identify your mailpiece as BRM, you must print a series of horizontal bars below the “NO POSTAGE NECESSARY IF MAILED IN THE UNITED STATES” endorsement. These bars must be uniform in length, thickness, and spacing. Each bar must be at least 1 inch long and 1/16 inch to 3/16 inch thick, and evenly spaced (see [Exhibit 6-3](#)).

There must be at least a 1/2-inch clearance between the right edge of the ZIP Code in the delivery address and the left edge of the horizontal bars. On letter-size nonbarcoded BRM, the bars must not extend below the delivery address line (the line above the line containing the ZIP Code). On barcoded BRM, the bars must not extend lower than 5/8 inch from the bottom edge of the piece (see [Exhibit 6-3](#)).

Exhibit 6-3

### Horizontal Bars





#### Element 4: Business Reply Legend, Permit Number, and Postage Payment Endorsement

You must print the business reply legend and associated lines on your BRM pieces. For the business reply legend box (see [Exhibit 6-5](#)), follow these requirements:

- You must place in capital letters “BUSINESS REPLY MAIL” above the complete delivery address. The letters must be at least 3/16 inch high. This line is the business reply legend.
- Below the business reply legend, you must place in capital letters “FIRST-CLASS MAIL,” “PERMIT NO.” followed by your permit number, and the issuing Post Office name (city and state). This line is the permit number line.
- You may enclose the business reply legend and permit number line in a rectangular box.
- Under this box, you must place in capital letters “POSTAGE WILL BE PAID BY ADDRESSEE.” This line is the postage endorsement line.
- Official mail used by U.S. government agencies have additional standards for BRM (see DMM 703.7.11).

*Exhibit 6-5*

#### ***Business Reply Legend, Permit Number, Postage Endorsement***



### Element 5: Complete Delivery Address

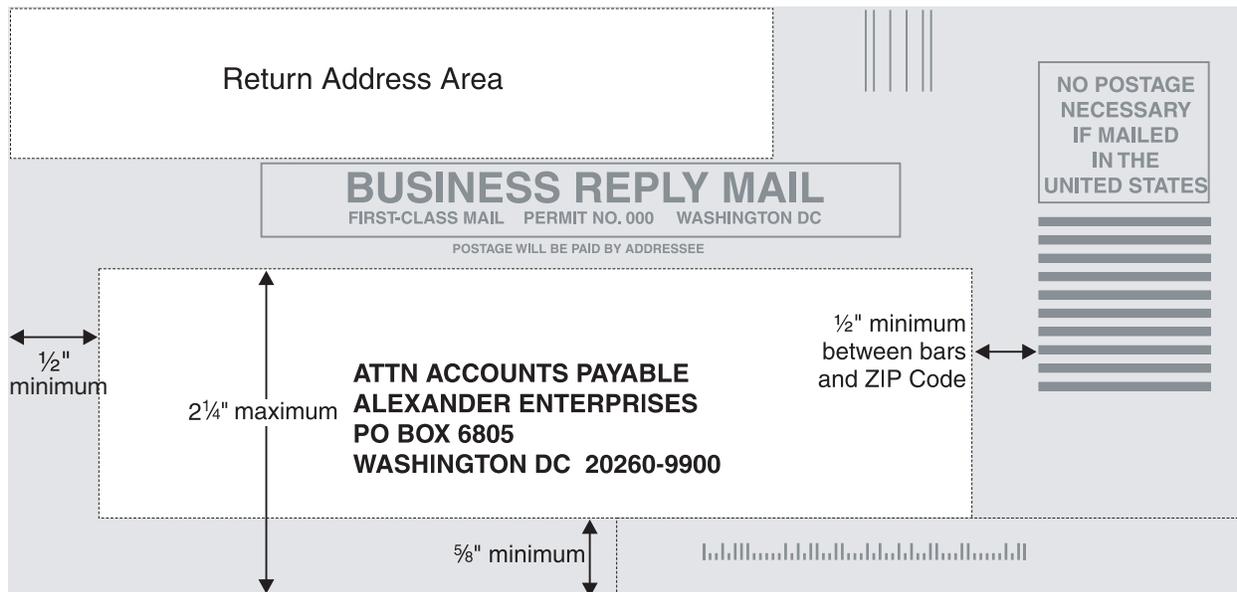
You must use a complete delivery address on your BRM pieces. This address includes the name of the BRM permit holder, delivery address, city, state, and ZIP Code (see [Exhibit 6-6](#)). For letter-size pieces, all delivery address lines must appear within the OCR read area (see [Exhibit 3-1](#) and [Exhibit 6-6](#)).

The Postal Service assigns a unique ZIP+4 code specific to BRM. A unique four-digit add-on to denote BRM may not be used with a unique (firm) five-digit ZIP Code not specifically assigned to BRM.

The address on BRM must be that of the permit holder or of a representative of the permit holder authorized to use the BRM permit number. Contact your local Post Office for specific procedures about this process.

*Exhibit 6-6*

#### **Complete Delivery Address Placement**



### Element 6: Barcode Clear Zone

You must maintain a clear zone for barcodes on your BRM pieces. This clear zone must measure 5/8 inch from the bottom edge and 4-3/4 inches from the right edge of the piece (see [Exhibit 6-7](#)).

The barcode must be within the barcode read area defined by the limits shown below (see also [Exhibit 6-6](#)).

- Horizontally, the leftmost bar must be between 3-1/2 inches and 4-1/4 inches from the right edge of the piece.
- Vertically, the barcode must be within the area between 3/16 inch and 7/16 inch from the bottom edge of the piece; the bottom of the bars must be 1/4 inch  $\pm$  1/16 inch from the bottom edge of the piece.

For barcode placement options with address labels and window envelopes, see [Exhibit 4-6](#), examples A and B.

Delivery point barcoding is not permitted on BRM pieces.

*Exhibit 6-7*  
**Barcode Clear Zone**

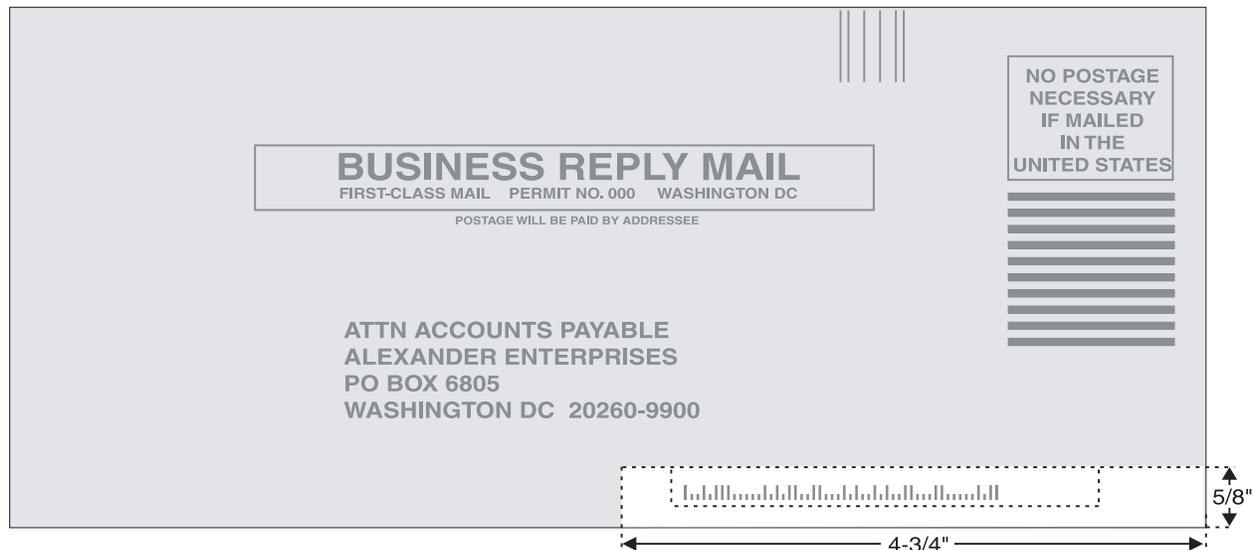
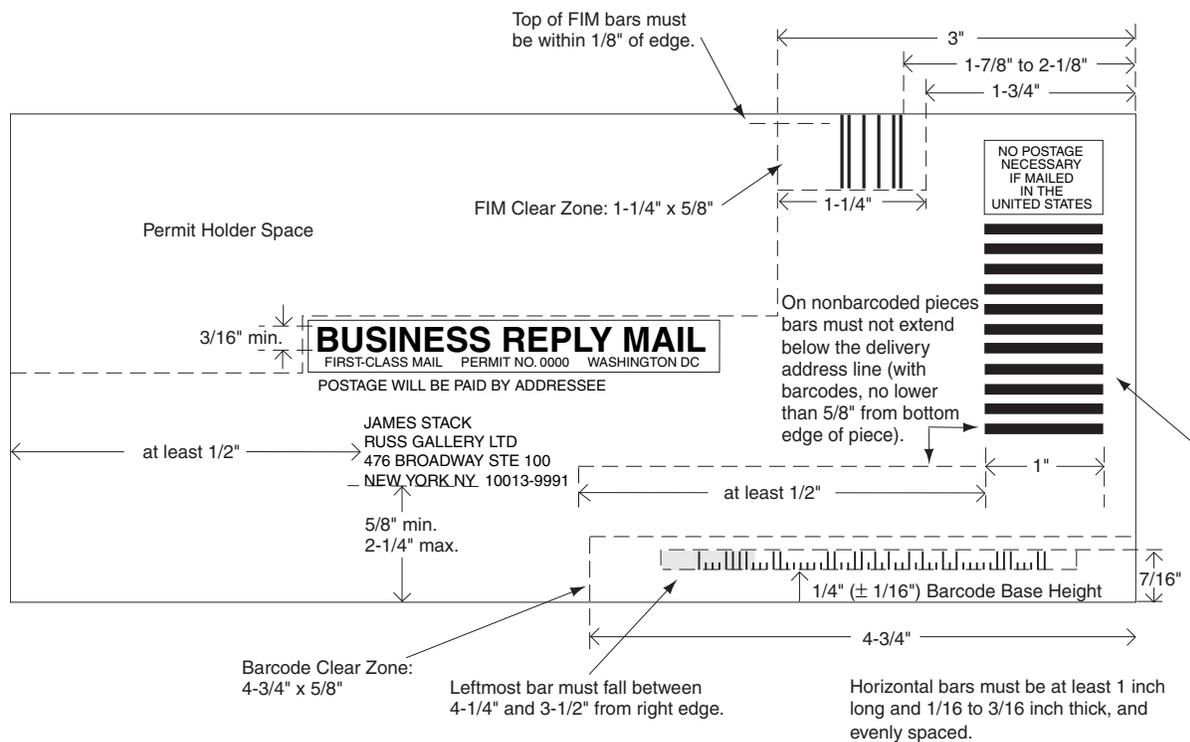


Exhibit 6-8 summarizes the specifications for BRM elements and dimensions.

Exhibit 6-8

Reply Mail Specifications



## Meeting Size Standards

### Physical Characteristics

For automated processing, your BRM pieces must be rectangular, have straight edges, and be within the dimensions shown in [Exhibit 6-9](#).

*Exhibit 6-9*

#### **Standard BRM Dimensions**

BRM Dimension	—Card—		—Letter—	
	Minimum	Maximum <sup>1</sup>	Minimum	Maximum
Height	3-1/2"	4-1/4"	3-1/2"	6-1/8"
Length <sup>2</sup>	5"	6"	5"	11-1/2"
Thickness	0.007"	0.016"	0.007" <sup>3</sup>	1/4"

1. These are the maximum dimensions for card-rate eligibility.
2. The dimension that parallels the lines of the delivery address is the length. The top and bottom of the mailpiece also parallel the delivery address lines.
3. The minimum thickness is 0.009 inch if the length is more than 6 inches or the height is more than 4-1/4 inches.

### Nonmailable Pieces

All pieces not meeting the minimum size standards in [Exhibit 6-9](#) are nonmailable.

### Nonmachinable Surcharge

Letter-rate BRM is nonmachinable and subject to the nonmachinable surcharge if it has any of the criteria under *Nonmachinable Characteristics* outlined in DMM 101.1.2. In addition, any such pieces are not eligible for the QBRM discount.

Your mailpiece is nonmachinable if it has one or more of the following characteristics:

- Has an aspect ratio (length divided by height) of less than 1.3 or more than 2.5.
- Is polybagged, polywrapped, or enclosed in any plastic material.
- Has clasps, strings, buttons, or similar closure devices.
- Contains items such as pens, pencils, or loose keys or coins that cause the thickness of the mailpiece to be uneven (see DMM 601.2.3, *Odd-Shaped Items in Paper Envelopes*).
- Is too rigid (does not bend easily when subjected to a transport belt tension of 40 pounds around an 11-inch diameter turn).
- For pieces more than 4-1/4 inches high or 6 inches long, the thickness is less than 0.009 inch.

- Has a delivery address parallel to the shorter dimension of the mailpiece.
- Is a self-mailer with a final folded edge perpendicular to the address if the piece is not folded and secured according to [201.3.14.1](#).
- Booklet-type pieces with the bound edge (spine) along the shorter dimension of the piece or at the top, unless prepared according to [201.3.14.2](#).

## Meeting Printing Standards

### Paper Weight

For BRM envelopes, you must use paper stock with a basis weight of at least 20 pounds (the weight of 500 17-by-22-inch sheets).

For cards, you should use card stock with a basis weight of at least 75 pounds or greater, with none less than 71.25 pounds (measured weight of 500 25-by-38-inch sheets). For BRM cards sent as QBRM, this basis weight is a minimum requirement. Cards also have a minimum thickness requirement (see [Exhibit 6-9](#)).

### Paper Grain

You should orient the paper grain in cards parallel to the long dimension of the card. Long-grain cards are damaged less often than cards with the grain parallel to the short dimension of the card.

### Dark Fibers

If your BRM pieces contain dark fibers, make sure that the print contrast ratio between the fibers and the material is 15 percent or less for an image taken using the blue to red spectrum of light when viewed in grayscale, measured with a reflectance meter produced or licensed by the Postal Service.

### Legibility

You may use any legible printing process and typeface. Handwriting, typewriting, or hand-stamping may not be used for BRM lettering. Official mail used by government agencies has additional options (see DMM 703.7.11).

### Printed Borders

You may not use printed borders on BRM letters and cards.

### Print Reflectance

You may use any color ink if there is at least a 25 percent print reflectance difference (PRD) for an image taken using the blue to red spectrum of light when viewed in grayscale, between the ink and the background material of the BRM piece, measured with a reflectance meter produced or licensed by the Postal Service.

Black ink on a white background generally satisfies this PRD requirement and is recommended.

## Background Reflectance

You should make sure that the material used for your BRM pieces produce a background reflectance of at least 25% of an image taken, using blue to red spectrum of light when viewed in grayscale, measured with a reflectance meter produced or licensed by the Postal Service.

Material must have a fluorescence of no more than 4.0 phosphor meter units. Fluorescent colors generally do not meet this requirement. Fluorescent colors should be tested and approved by the Postal Service.

## Providing Sealing

You may prepare envelopes for sealing with a variety of glues and gums that can withstand processing through Postal Service equipment. Any BRM piece is nonmailable if sealed with wax, clasps, string, staples, or buttons, or if all the edges are not straight.

## Preparing Reply Cards

When preparing BRM cards, remember the following standards:

- Cards should be constructed of card stock with a basis weight of 75 pounds, with none less than 71.25 pounds (measured weight of 500 sheets of 25-by-38-inch sheets). For QBRM, this 75-pound basis weight is a minimum requirement.
- Cards should be constructed of stock free from groundwood unless coated with a substance to help the stock resist bending.
- Cards must be between 0.007 inch and 0.016 inch thick (see [Exhibit 6-9](#)).
- Cards are mailable but are charged at regular First-Class Mail pricing for letters if they exceed any of the following dimensions:
  - More than 4-1/4 inches high.
  - More than 6 inches long.
  - More than 0.016 inch thick.

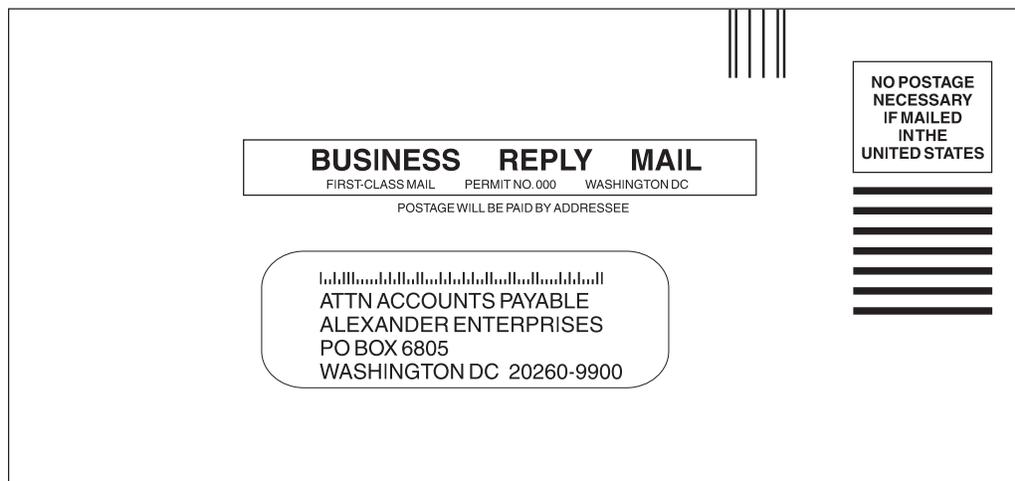
## Using Window Envelopes

### General Requirement

**Exhibit 6-10** shows a BRM envelope designed so that the delivery address and barcode are printed on an insert appearing through an open or covered window. Window envelopes must meet the specifications in this section.

*Exhibit 6-10*

### **BRM Window Envelope**



### Format

You must print directly onto the address side of the envelope the “NO POSTAGE NECESSARY” endorsement, the horizontal bars, the FIM, and the Business Reply Mail legend. Other required elements, including “FIRST-CLASS MAIL” “PERMIT NO.,” city, state, “POSTAGE WILL BE PAID BY ADDRESSEE,” and the permit holder’s name and complete delivery address may be printed on the insert that appears through the window (see Exhibit 6-11).

*Exhibit 6-11*  
**BRM Window Alternate Format**



### Address Visibility

Regardless of how much the insert containing the address and barcode shifts inside the envelope, the entire address, including the barcode, must show through the window with at least a 1/8-inch clearance on all sides (0.028 inch above and below for Intelligent Mail barcodes). This clearance must be maintained throughout the insert's full range of movement (shift) in the envelope.

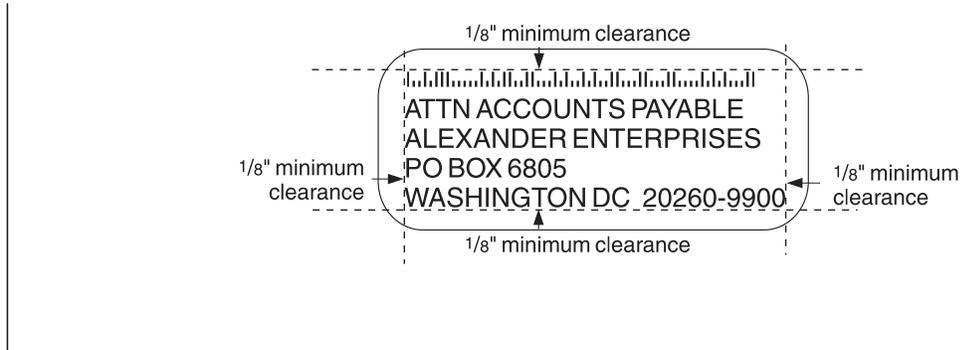
The "No Postage Necessary" imprint, the business reply legend, and the horizontal bars must be printed either directly on the envelope or on the insert appearing through the covered window. The minimum size of the information appearing in the covered window is 2 inches high and 4-1/4 inches long.

The window cover must be of a nontinted clear or transparent material (e.g., cellophane or polystyrene) that permits the barcode and its background, as viewed through the window material, to meet the reflectance standards in DMM 708.4.4. The edges of the window cover must be securely glued to the envelope.

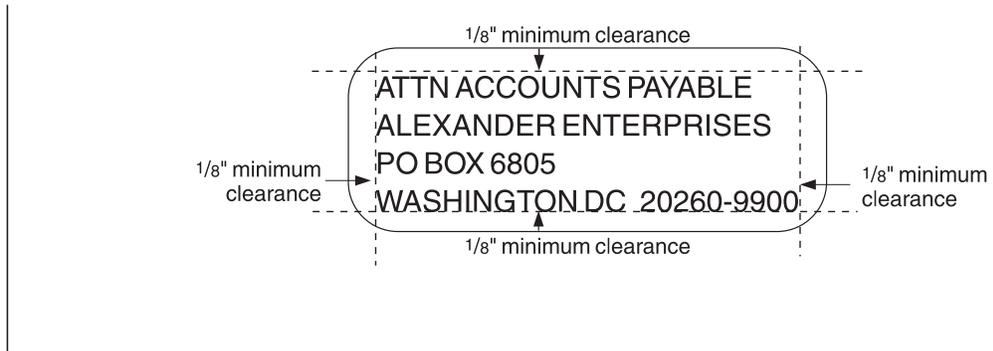
No printing other than the elements already listed under "Format" may be visible through the window. The address must be readable through any window-covering material. The address and barcode must appear within the standards shown in [Exhibit 6-11](#) and [Exhibit 6-12](#).

*Exhibit 6-12*  
**Address Clearance**

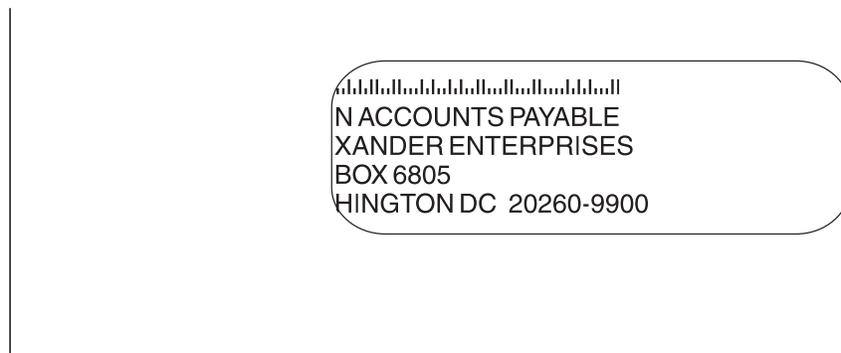
**Address clearance in window with barcode**



**Address clearance in window without barcode**



**Excessive insert shift**



### Window Placement

The bottom edge of the window must be at least 1/2 inch from the bottom edge of the envelope.

### Self-Mailers

The standards for BRM self-mailers are outlined later in this chapter. Self-mailers must contain instructions to the user for folding and sealing the piece.

### Reusable Mailpieces

A reusable mailpiece is an envelope designed for two-way mailing. The recipient removes part of the original mailpiece or refolds the piece to cover the original delivery address and to reveal the BRM format and the originator's delivery address for return.

The piece must be designed and constructed to allow the recipient to reconfigure or modify the piece to remove or cover the recipient's address, barcode, postage, and any marking or endorsement on the piece when it was originally mailed.

The instructions on the piece must ensure that the recipient can reconfigure the piece correctly for remailing. See DMM 507.9.7.6 for more information about preparing reusable mailpieces.

## Prebarcoding Your BRM

### Purpose

Prebarcoding—that is, barcoding done by you rather than the Postal Service—is a great idea for all reply mail. It is mandatory for BRM enclosed in automation mailings or distributed under the QBRM program.

Prebarcoding allows the Postal Service to help you receive reply mail as quickly as possible. When you design BRM, you should benefit from barcoding at the same time.

Barcoded BRM must meet the requirements in the following sections.

### FIM C

You must use FIM C on BRM. You can get a camera-ready positive of the FIM and your barcode at no charge from a Postal Service mailpiece design analyst. The art must not be enlarged or reduced.

### Barcode in Address Block

When the barcode is included as part of the address block, the barcode must be placed in one of these positions:

- Above the address line containing the recipient's name.
- Below the city, state, and ZIP Code line.
- Above or below the keyline information.
- Above or below the optional endorsement line.

Additional information may be found in DMM 202.5.7.

*Exhibit 6-13*

#### ***Address Block Barcode Placement***



### Delivery Point Barcode

Delivery point barcodes and Intelligent Mail barcodes with delivery point ZIP Codes are not permitted on BRM.

### Address Block Readability

A correctly formatted and readable address block is critical for BRM that is not prebarcoded and therefore must be scanned by OCRs. To make processing more efficient, follow these guidelines:

- Keep the left margin of the address block aligned.
- Use two-letter state abbreviations.
- Use capital letters without punctuation.
- Make sure that characters do not touch.
- Follow the standards in [Chapter 3](#).

## Adding Optional Elements

### Company Logo

A company logo can be used on prebarcoded BRM, by placing it no lower than 5/8 inch from the bottom edge of the piece. On nonbarcoded BRM, place it no lower than the top of the street address or the Post Office box line of the address. The logo must not be too close to the required business reply endorsements (see [Exhibit 6-14](#) and [Exhibit 6-15](#)).

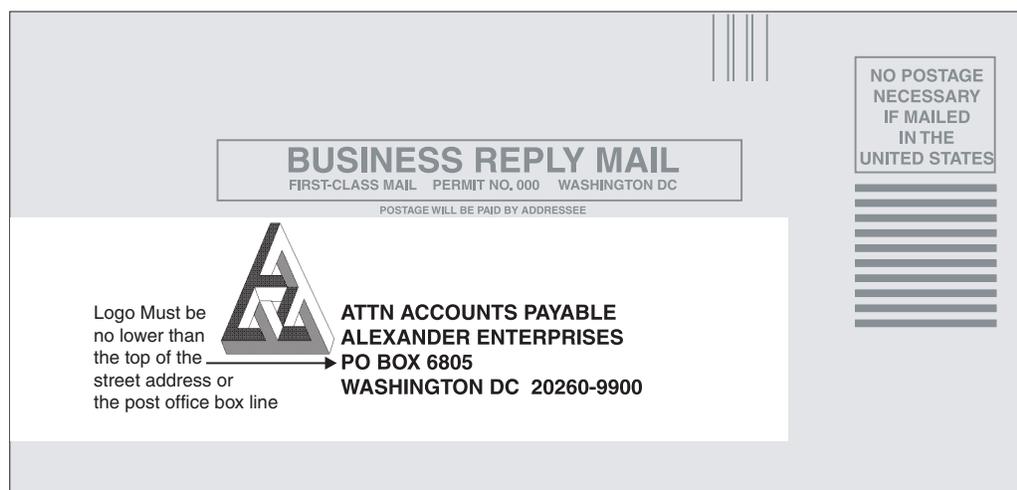
*Exhibit 6-14*

#### **Company Logo with Barcode**



*Exhibit 6-15*

#### **Company Logo without Barcode**



### Attention or Information Line

If you use an attention or information line, place it above the company name or recipient line (see [Exhibit 6-16](#)).

*Exhibit 6-16*

#### **Attention or Information Line**



### Permit Holder's Space

You may use the upper left corner of the address side of your BRM piece for the sender's return address, a company logo, an attention line, a distribution code, a form number, or other pertinent information (see [Exhibit 6-17](#)).

*Exhibit 6-17*

#### **Permit Holder's Space**



## Using BRM Varieties

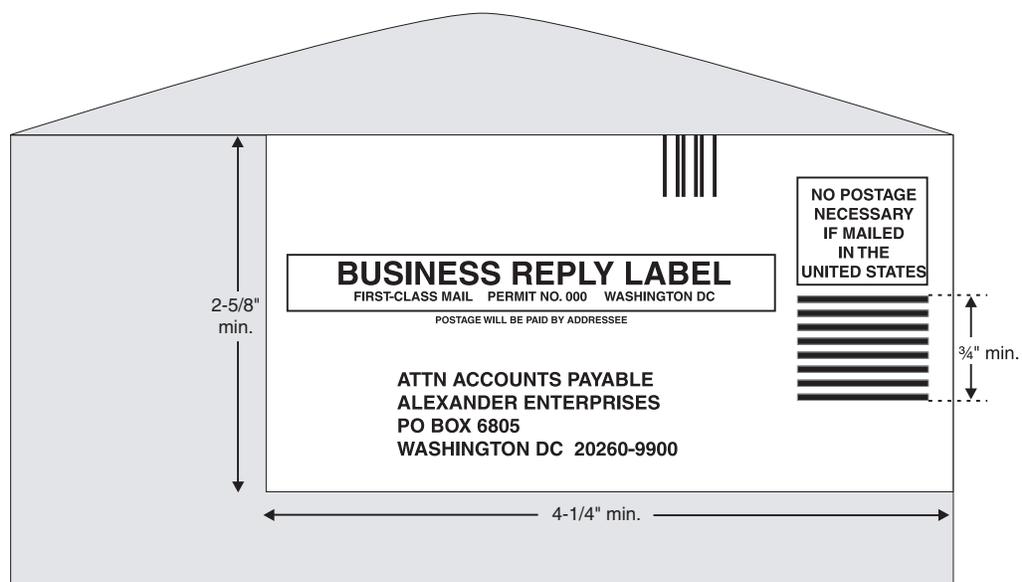
### Business Reply Labels

A business reply label is an adhesive label that meets the BRM label criteria. You (the sender) provide the label to your customers and they (the respondents) affix them to their own envelopes.

[Exhibit 6-18](#) shows a business reply label affixed to a letter-size envelope. Except as noted, all other BRM format requirements apply. Business reply labels may not be distributed under QBRM.

*Exhibit 6-18*

#### ***Business Reply Label***



Follow these business reply label requirements:

- For use on letter-size envelopes, you must print labels that are at least 2-5/8 inches high and 4-1/4 inches long. You must print the appropriate FIM (FIM B or FIM C) on these labels.
- You must make sure that the series of horizontal bars is at least 3/4 inch high.
- You must use “BUSINESS REPLY LABEL” in the business reply legend.
- You must ensure that the address is located within the OCR read area (see [Exhibit 3-1](#)).
- You must coat the backs of the labels with a permanent adhesive.
- You must provide a pictorial diagram for the respondent that shows the correct placement of the label and include the instructions in [Exhibit 6-19](#).

*Exhibit 6-19****Business Reply Label Instructions to Customers***

---

1. Place the label squarely on the upper right corner of the envelope.
  2. Do not write on the envelope.
  3. Do not use an envelope that has a window, an envelope that is less than 1 inch taller than the label, or an envelope that has any printing on it other than the return address.
  4. Do not use the label on letter-size envelopes more than 4-1/2 inches high.
  5. Do not use tape to affix the label.
- 

## Priority Mail Business Reply Mail

You may choose to have BRM pieces returned to you by using business reply service processed as Priority Mail. Priority Mail BRM is rated zone 4 if the zone cannot be determined from the cancellation or your complete delivery address on the BRM pieces.

In addition to meeting the BRM technical format requirements, your pieces must include the marking “PRIORITY” or “PRIORITY MAIL” placed prominently on the address side of each piece. This marking must not interfere with any required BRM endorsements. Priority Mail BRM is not available for QBRM.

## Paying for Replies

Choose from the following ways to pay for BRM replies:

- **Regular Per-Piece Fee**—In this option, the carrier delivers your BRM pieces and charges you First-Class Mail postage plus a BRM per-piece fee. You pay the carrier directly or through a regular postage due account. This method is recommended if you receive a small volume of BRM pieces. No annual fee required.
- **Advance Deposit Account**—You can set up a BRM advance deposit account with the Postal Service and place money on deposit. Your per-piece BRM fee is lower than the regular per-piece fee. Your mail is processed in a postage-due unit that counts the number of pieces, calculates postage charges, and debits your postage account. A BRM advance deposit account requires a separate annual accounting fee.
- **QBRM**—This option is best if you receive a large volume of BRM letter-size pieces or want to benefit from the lowest BRM per-piece fee available. For details on QBRM, see the following section.

## Qualified Business Reply Mail (QBRM)

### Description

QBRM provides an automated method for sorting, counting, and rating BRM. The processing of your mail on automated equipment presents an excellent

opportunity for increasing efficiency, improving service, and protecting postal revenues.

### Procedures

You may obtain a reduced BRM fee by participating in QBRM. Participation requires preparing BRM pieces as described in DMM 507.9.3. If you want to participate in QBRM, you must do the following:

- Submit PS Form 6805, *Qualified Business Reply Mail (QBRM) Application and Approval*, to the postmaster or the manager of business mail entry at the Post Office to which the BRM pieces are to be returned.
- Produce sample BRM pieces using ZIP+4 barcodes and FIM positives provided by the Postal Service.
- Provide a preproduction sample of each BRM piece to the mailpiece design analyst for evaluation.
- Have a valid BRM permit.
- Pay the annual BRM permit and accounting fees.
- Obtain authorization to participate in QBRM.
- Follow all requirements in DMM 507.9.3.

### Unique ZIP+4

You must have a unique four-digit add-on code specific to BRM and unique for each category of BRM pieces (such as postcard, 1-ounce letter, 2-ounce letter). Only letter-size BRM pieces that weigh 2 ounces or less are eligible for QBRM discounts.

### Removal From Program

You may be removed from the QBRM program and required to pay the higher BRM per-piece fee for any of the following reasons:

- Your pieces fail to meet the readability specifications.
- Your unique BRM ZIP+4 code is used on a mailpiece other than the one to which it is assigned.
- Your ZIP+4 code intended for regular mail delivery is used on BRM pieces.
- The annual accounting and permit fees are not paid.
- Other BRM standards in the DMM are not met.

### Additional Standards

Besides meeting the standard BRM format requirements, you must meet the following additional QBRM requirements:

- Prebarcode your QBRM pieces. You are assigned a unique ZIP+4 code and corresponding barcode that identify the customer and the category of mail.
- Use FIM C. A camera-ready positive is available at no charge from the Postal Service.
- Provide samples of your BRM pieces to a mailpiece design analyst early in the design process, to achieve the best quality and to make sure enough time is allowed for changes before printing.

## International Business Reply Service (IBRS)

### Description

International business reply service (IBRS) is similar to domestic Business Reply Mail service. IBRS allows you to distribute envelopes and cards in certain foreign countries for return to you in the United States without prepaying postage.

With IBRS, you can extend your reach throughout the world, opening new markets or improving current markets. As with domestic Business Reply Mail, you pay only for IBRS pieces mailed back to you by the respondents.

Be sure to take your IBRS samples to the Post Office for evaluation and approval. By using this service, you can save time and money. For complete information on designing and using IBRS, see *International Business Reply Service*, in the *International Mail Manual (IMM)*, part 373.

### Availability

International business reply service (IBRS) is available to every country and territorial possession in the world that is a destination point for U.S.-originating international mail.

### Dimensions

You must make sure that your IBRS pieces are within the dimensions shown in [Exhibit 6-20](#).

*Exhibit 6-20*

#### **IBRS Dimensions**

Dimension	—Card—		—Letter—	
	Minimum	Maximum	Minimum	Maximum
Height	3-1/2"	4-1/4"	3-1/2"	6-1/8"
Length	5-1/2"	6"	5-1/2"	11-1/2"
Thickness	0.007"	0.016"	0.007" <sup>1</sup>	0.200"

1. The minimum thickness is 0.009 inch if the length is more than 6 inches or the height is more than 4-1/4 inches.

### Paper Weight

IBRS cards must be printed on paper stock meeting a standard industry basis weight of 75 pounds with none less than 71.25 pounds for 500 sheets measuring 25 inches by 38 and must also have a thickness of at least 0.007 inch and not more than 0.016 inch. The paper must be free from groundwood except when coated with a substance that adds to the paper's ability to resist an applied bending force.

## Maximum Piece Weight

You must make sure that your IBRS piece weighs no more than 2 ounces.

## Window Envelopes

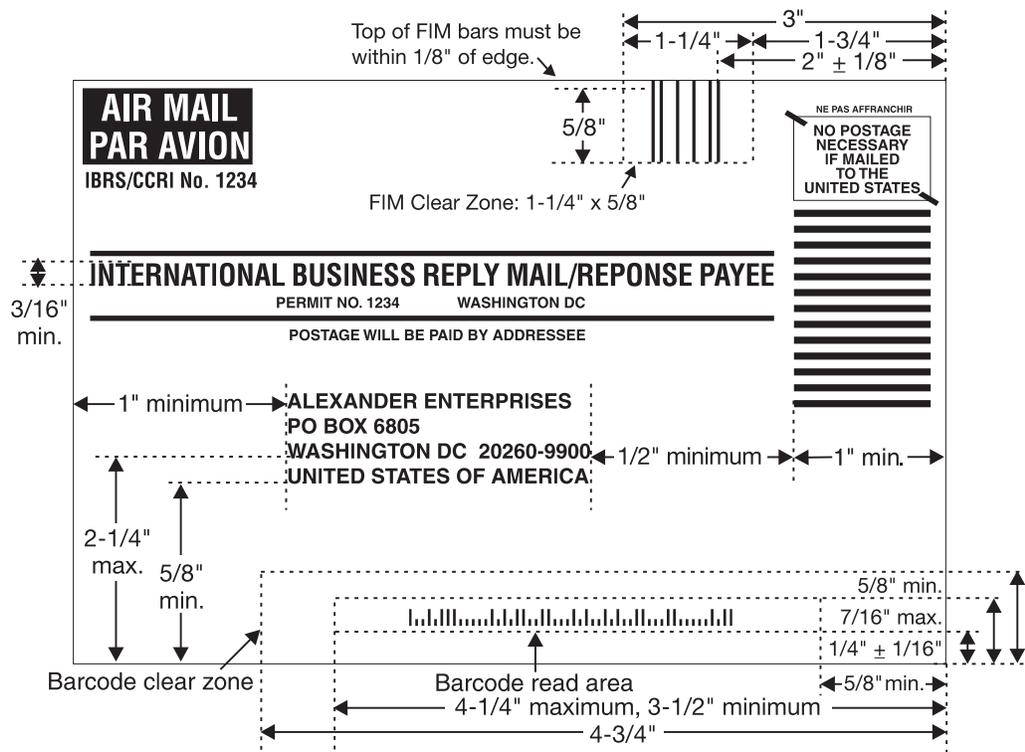
If you use window envelopes, make sure that all windows are covered with a nontinted, transparent material. You may not use open (noncovered) windows for IBRS.

## Design Format

You must meet the IBRS form requirements (listed below) and the QBRM requirements (including use of FIM C). IBRS pieces have a few unique design elements because of international agreements (see [Exhibit 6-21](#)). See IMM section 373.6 for more information on how to use IBRS.

*Exhibit 6-21*

### **IBRS Design Format**



## Postage Endorsement

You must place the postage endorsement “NE PAS AFFRANCHIR, NO POSTAGE NECESSARY IF MAILED TO THE UNITED STATES” in the upper right corner. You must print this endorsement with a partial diagonal bar (see [Exhibit 6-22](#)).

*Exhibit 6-22*

### **Postage Endorsement**



## Horizontal Bars

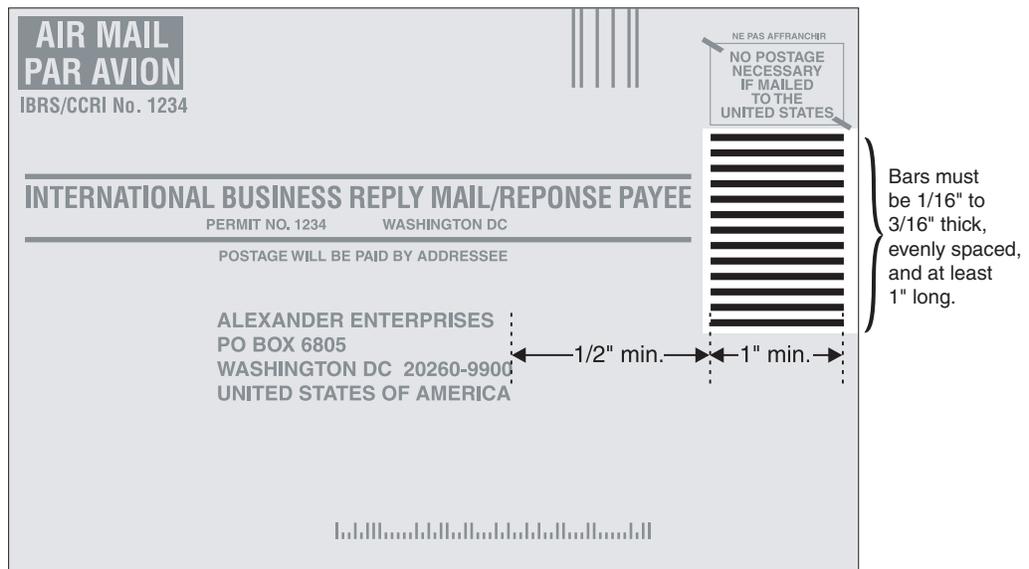
You must print a series of horizontal bars parallel to the length of the IBRS piece directly under the postage endorsement. The bars must be of uniform length, at least 1 inch long, and 1/16 inch to 3/16 inch thick, evenly spaced.

The bars must not extend below the delivery address line (the line above the city, state, and ZIP+4 line). The left edge of the bars may be no more than 1-3/4 inches from the right edge of the IBRS piece (see [Exhibit 6-23](#)).

There also must be at least 1/2 inch of clearance between the ZIP+4 and the bars.

*Exhibit 6-23*

### **Horizontal Bars**



## Legend, Number, and Endorsement

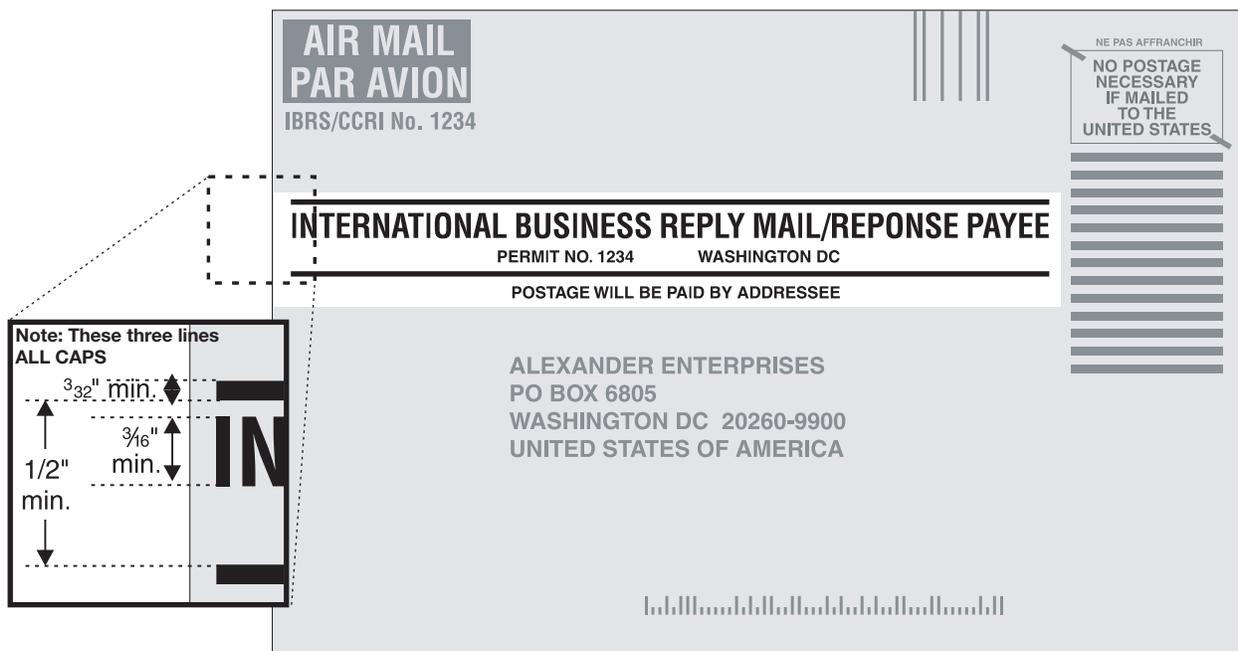
You must place, in capital letters, the business reply legend “INTERNATIONAL BUSINESS REPLY MAIL/REPOSE PAYEE” above the complete delivery address. The letters must be at least 3/16 inch high. Directly below, you must place in capital letters “PERMIT NO.” followed by your permit number and the issuing post office name (city and state).

These two lines of information must appear between two horizontal bars at least 3/32 inch thick and at least 1/2 inch apart. You must place the postage endorsement “POSTAGE WILL BE PAID BY ADDRESSEE” immediately below the lower bar (see [Exhibit 6-24](#)).

All three lines of the legend must be in capital letters.

Exhibit 6-24

### Business Reply Legend



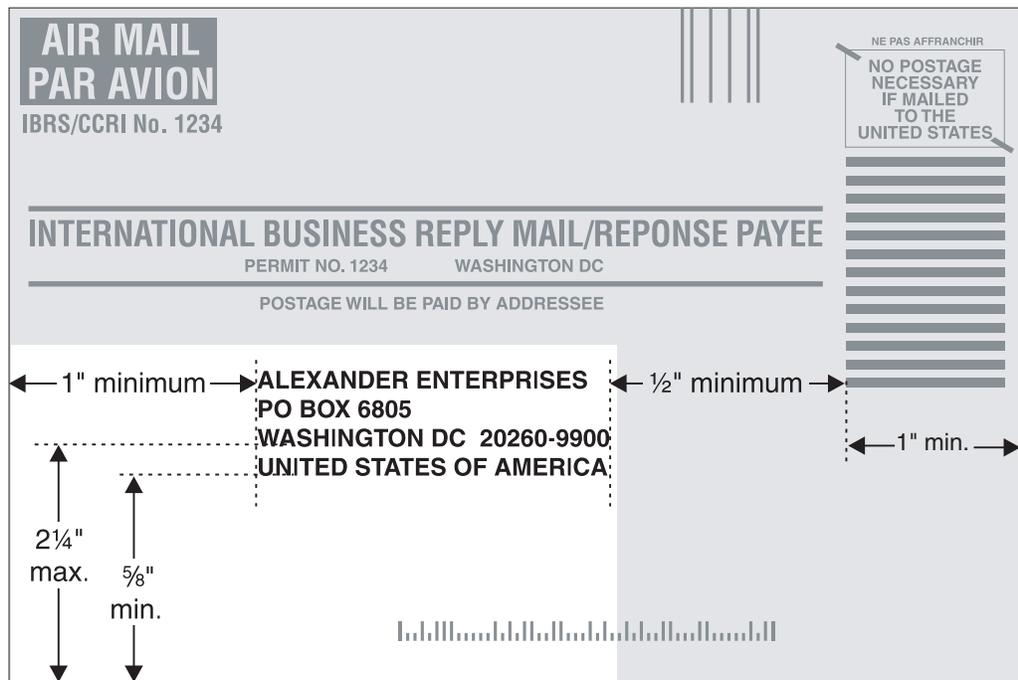
### Complete Delivery Address

You must print a complete delivery address that includes the unique ZIP+4 code and "UNITED STATES OF AMERICA" (in capital letters) as the destination country (see [Exhibit 6-25](#)). The bottom line of the address must be no less than 5/8 inch from the bottom edge of your IBRS piece. The line for city, state, and ZIP+4 must be no more than 2-1/4 inches from the bottom edge of your IBRS piece (see [Exhibit 6-25](#)).

Clear side margins, free of any extraneous matter (except for the horizontal bars specified on the right) and at least 1 inch wide, are required between the left and right edges of the IBRS piece and the delivery address.

*Exhibit 6-25*

#### **Complete Delivery Address**



## Air Mail Endorsement

You must show the endorsement “AIR MAIL/PAR AVION” (in reverse print) in the upper left corner (see [Exhibit 6-26](#)). Immediately below this endorsement, you must place “IBRS/CCRI No.” and your permit number.

*Exhibit 6-26*

### **Air Mail Endorsement**

The diagram shows a rectangular envelope with the following elements:

- Top Left:** A black box with white text: **AIR MAIL** and **PAR AVION**. Below it, in a smaller box, is **IBRS/CCRI No. 1234**.
- Top Center:** A vertical barcode consisting of four vertical lines.
- Top Right:** A box containing the text: **NE PAS AFFRANCHIR**, **NO POSTAGE NECESSARY IF MAILED TO THE UNITED STATES**. Below this box is a series of horizontal bars.
- Center:** The text **INTERNATIONAL BUSINESS REPLY MAIL/REPOSE PAYEE** is centered. Below it, in smaller text, are **PERMIT NO. 1234** and **WASHINGTON DC**. A horizontal line follows, with the text **POSTAGE WILL BE PAID BY ADDRESSEE** centered below it.
- Bottom Center:** The recipient's address is centered: **ALEXANDER ENTERPRISES**, **PO BOX 6805**, **WASHINGTON DC 20260-9900**, and **UNITED STATES OF AMERICA**.
- Bottom Center:** A long horizontal barcode.



# 7 Courtesy Reply Mail, Meter Reply Mail, and Permit Reply Mail

## Courtesy Reply Mail

### Receiving Customer Responses

Courtesy Reply Mail (CRM) consists of preaddressed postcards or envelopes provided by the mailer to customers both to expedite their responses and to provide more accurate delivery. It differs from business reply mail (BRM) in that no fees are required and the respondent is responsible for applying the correct postage before mailing back the card or envelope. CRM can come back faster because it is prepared with the correct address and barcode to take advantage of automated USPS processing. It is also good to use when you wish to direct replies (payments) to an address that is different from your usual mailing address.

CRM templates are available on the Postal Explorer Web site at [pe.usps.com](http://pe.usps.com) by selecting "Mailpiece Design" in the left frame.

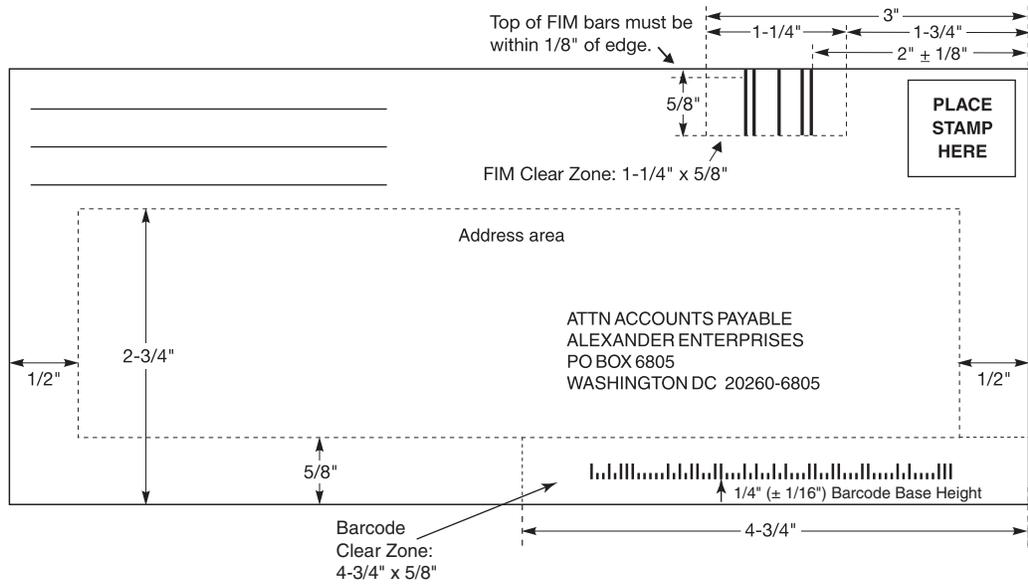
The USPS provides free of charge the facing identification mark (FIM) and the appropriate barcode to print on CRM pieces.

### Following Design Formats

#### Basic Design

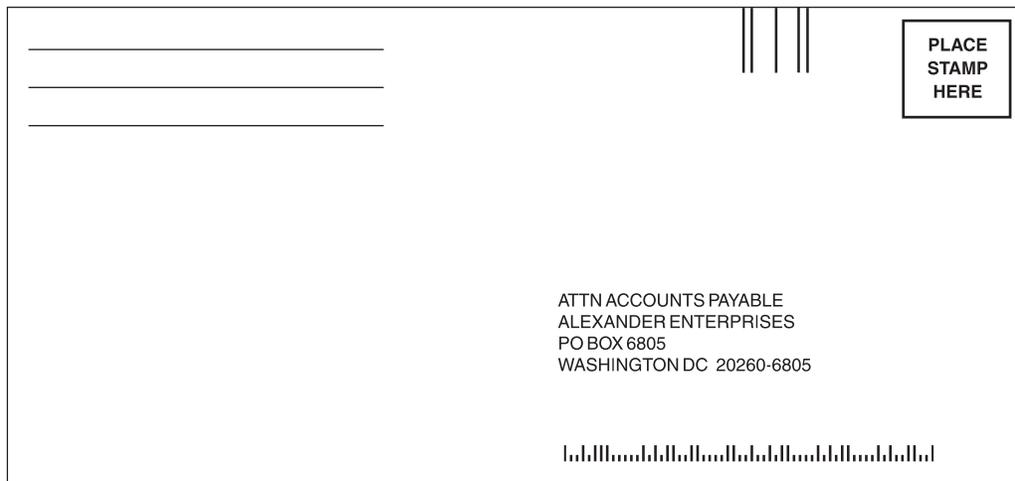
Make sure that the formats of your CRM envelopes and cards are correct before you print them. A Postal Service mailpiece design analyst (MDA) can determine whether your CRM pieces meet the standards. [Exhibit 7-1](#) shows the basic design of a CRM piece. [Exhibit 7-2](#), [Exhibit 7-3](#), and [Exhibit 7-4](#) show sample envelopes.

**Exhibit 7-1**  
**CRM Design Format**



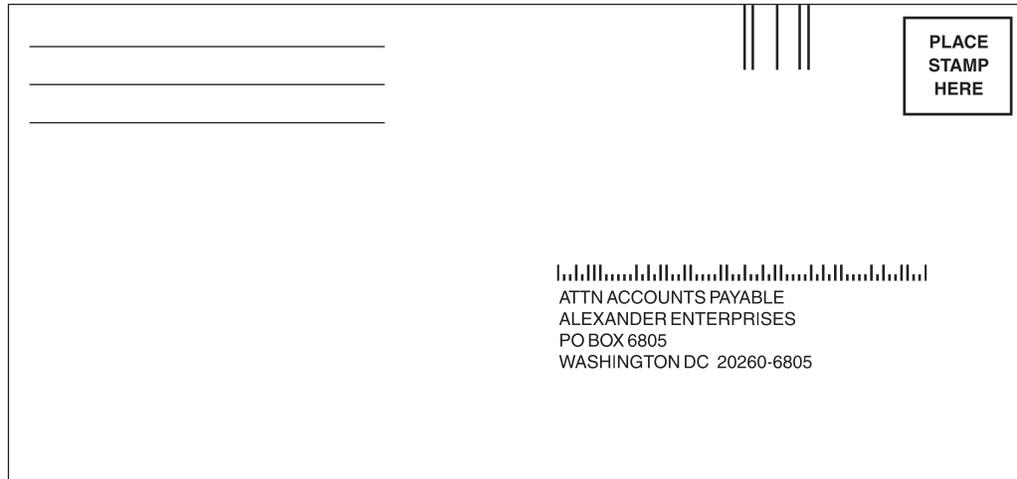
**Exhibit 7-2**  
**CRM Envelopes**

**CRM Envelope with Barcode in Barcode Clear Zone**



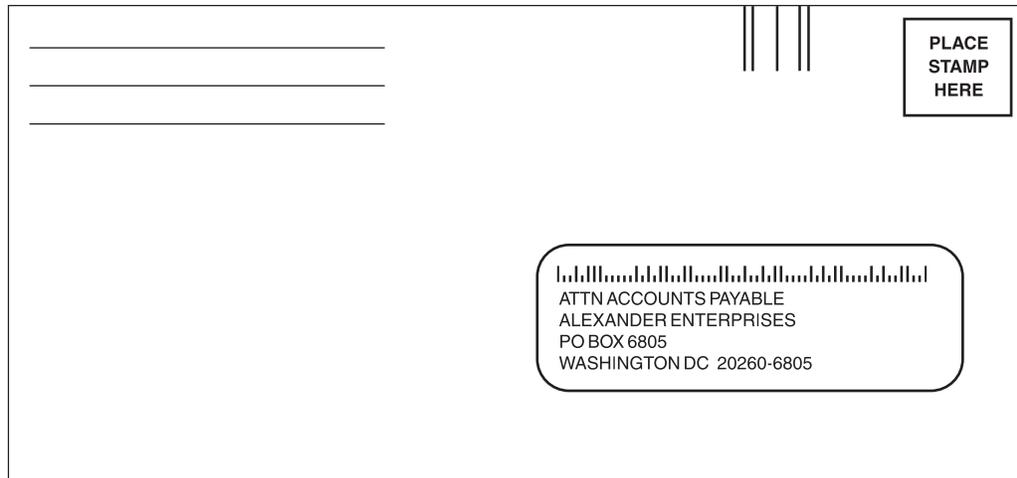
*Exhibit 7-3*  
**CRM Envelopes**

**CRM Envelope with Barcode in Address Block**



*Exhibit 7-4*  
**CRM Envelopes**

**CRM Window Envelope with Barcode in Address Block**



## Dimensions

For your CRM pieces to be automation-compatible, make sure that they are within the dimensions shown in [Exhibit 7-5](#).

*Exhibit 7-5*

### ***Courtesy Reply Mail Dimensions***

CRM Dimension	—Card—		—Letter <sup>1</sup> —	
	Minimum	Maximum	Minimum	Maximum
Height	3-1/2"	4-1/4"	3-1/2"	6-1/8"
Length	5"	6"	5"	11-1/2"
Thickness	0.007"	0.016"	0.007"	1/4"

1. The minimum thickness is 0.009 inch if the length is more than 6 inches or the height is more than 4-1/4 inches. The length of a mailpiece is the dimension that parallels the lines of the delivery address. The top and bottom also parallel the delivery address lines.

## Nonmachinable Surcharge

Letter-rate CRM is subject to the nonmachinable surcharge if it has any of the criteria under *Nonmachinable Characteristics* listed in DMM 201.2.1.

## Postage Reminder

You can include in the upper right corner of your CRM piece a reminder to affix postage (see [Exhibit 7-6](#)).

*Exhibit 7-6*

### ***Postage Reminder***

<p>_____ _____ _____</p>		<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;">           PLACE STAMP HERE         </div>
ATTN ACCOUNTS PAYABLE ALEXANDER ENTERPRISES PO BOX 6805 WASHINGTON DC 20260-6805		
		

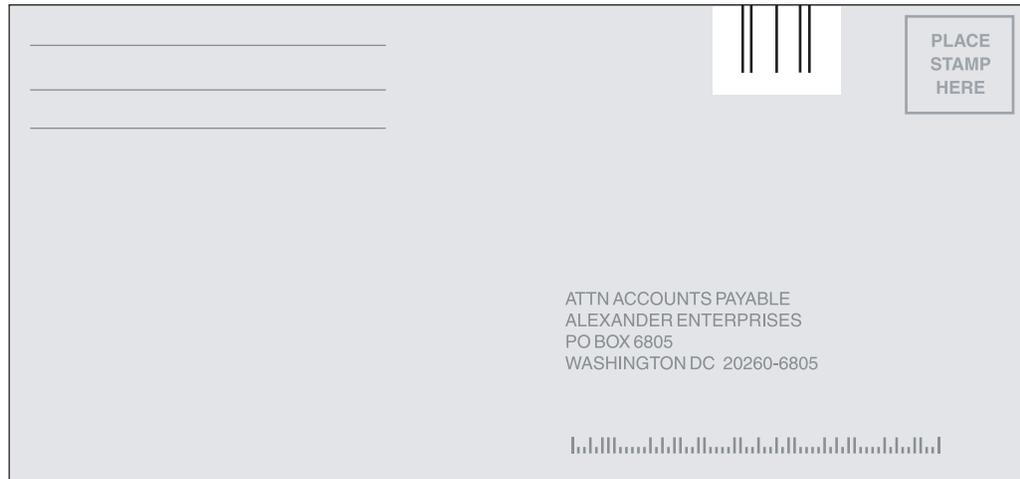
### Facing Identification Mark

You must use FIM A with prebarcoded CRM to ensure efficient automated processing (see [Exhibit 7-7](#)). For FIM specifications, see [Chapter 5](#).

*Exhibit 7-7*

#### **FIM A Location**

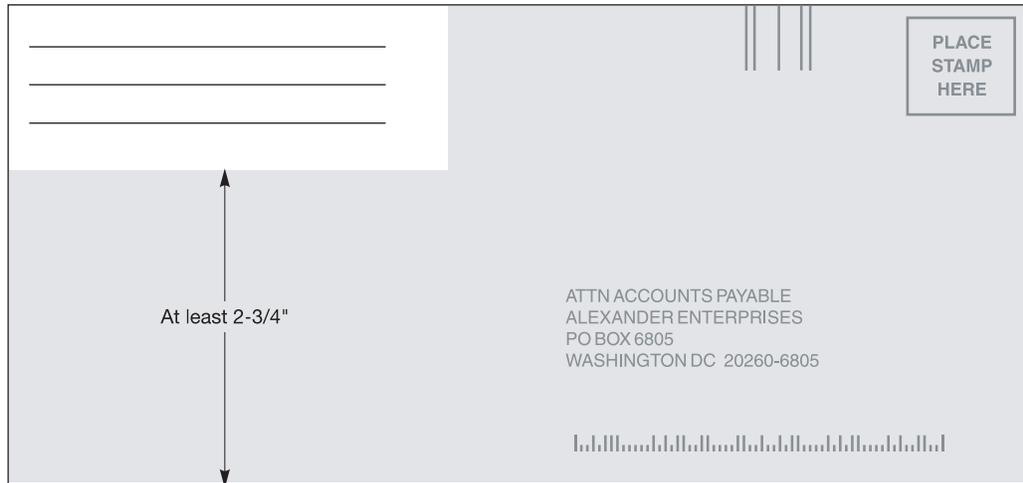
---



### Return Address Lines

You can print a series of horizontal lines in the upper left corner for the sender's return address. The return address should be placed higher than 2-3/4 inches above the bottom edge of the CRM piece. It is recommended that the return address occupy an area no more than one-third the height and one-half the length of the CRM piece (see [Exhibit 7-8](#)).

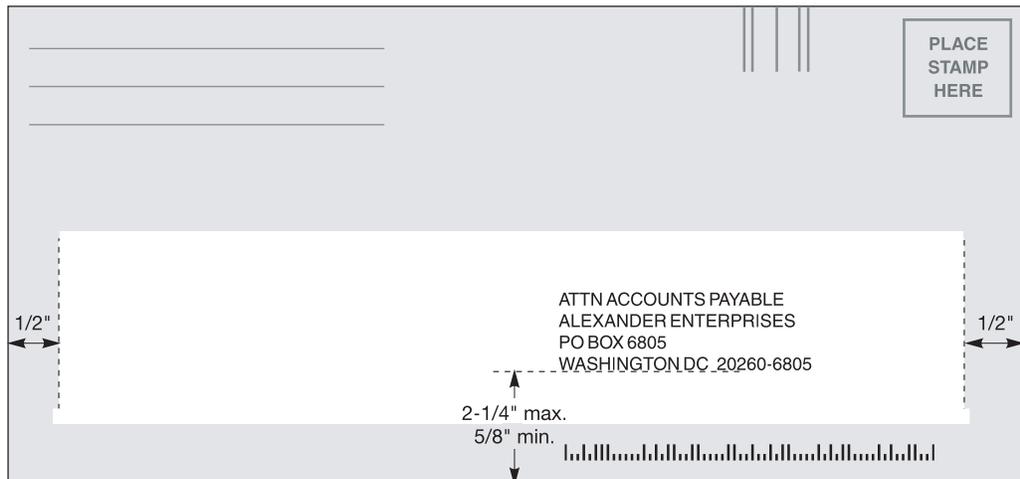
*Exhibit 7-8*  
**Return Address Lines**



**Delivery Address**

The bottom line of your delivery address should be between 5/8 inch and 2-1/4 inches from the bottom edge of the CRM piece. A clear 1/2-inch margin is recommended on the left and right edges of the piece (see [Exhibit 7-9](#)).

*Exhibit 7-9*  
**Complete Delivery Address**



## Barcodes

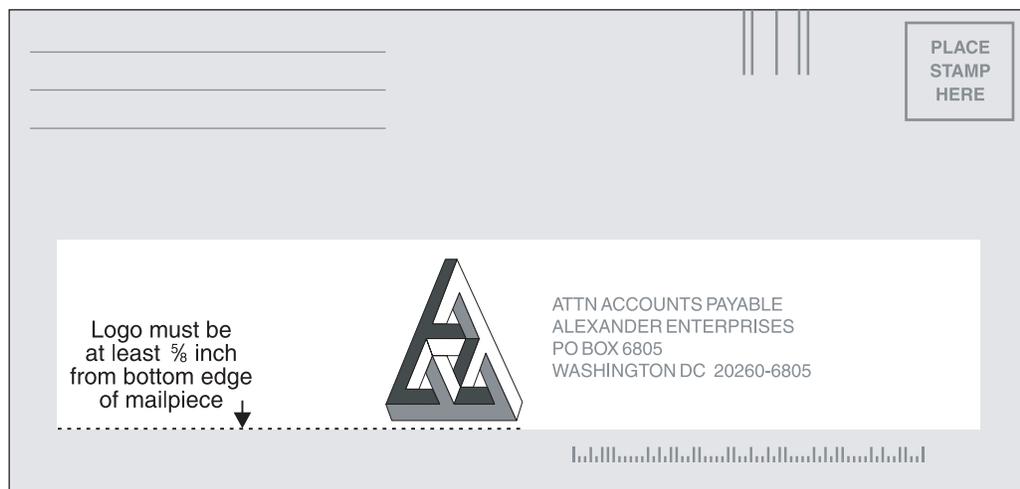
Barcodes may be placed either in the address block or in the barcode clear zone (see [Chapter 4, Barcodes](#)). The correct barcode is usually a delivery point barcode but in certain situations a ZIP+4 barcode. Barcodes must meet all the standards outlined in [Chapter 4](#). Contact your local post office for your applicable barcode.

## Company Logo

Use of a company logo is permitted when the logo is placed no lower than 5/8 inch from bottom edge (see [Exhibit 7-10](#)).

*Exhibit 7-10*

### **Company Logo with Barcode**



## Printing Your Mail

### Design Specifications

The design specifications for CRM are the same as those outlined in [Chapter 2](#) for all other automation-compatible letter-size pieces.

### Using Window Envelopes

#### Basic Design

Exhibit 7-2c shows the basic design of a CRM piece with a window envelope and insert. For successful automated processing, design window envelopes and inserts so that all four sides of the delivery address and barcode (when included) show in the window area by at least a 1/8-inch margin regardless of how much the insert shifts (0.028 inch above and below for Intelligent Mail barcode).

## Meter Reply Mail

Meter reply mail (MRM) is similar to BRM, but allows the mailer to use meter stamps to prepay reply postage.

The USPS provides free of charge the FIM (facing identification mark) and appropriate barcode to print on meter reply letter-size mailpieces.

The following conditions apply (DMM 604.4.4.2):

- Meter stamp amount must be enough to prepay postage in full.
- Meter stamps may be printed directly on a mailpiece or address label that bears the delivery address of the meter license holder. A label must adhere so that once applied, it cannot be removed in one piece. Meter stamps should not overlap the FIM.
- Reply mail prepaid with meter stamps is delivered only to the address of the license holder.
- Any photographic, mechanical, or electronic process (other than handwriting, typewriting, or handstamping) may be used to prepare the address side of meter reply mail. The address side must follow the style and content of the example shown below.
- Meter stamps used to prepay reply postage must not show the date, except for IBI generated by a PC Postage system (DMM 604.4.5.1c).
- Mailers may use FIM A on barcoded letter-size First-Class Mail reply mail except when using PC Postage.
- When using PC Postage, mailers must use FIM D for prepaid reply mail when the indicia is printed directly on the mailpiece.
- Print the words "NO POSTAGE STAMP NECESSARY POSTAGE HAS BEEN PREPAID BY" directly above the address.

*Exhibit 7-11*

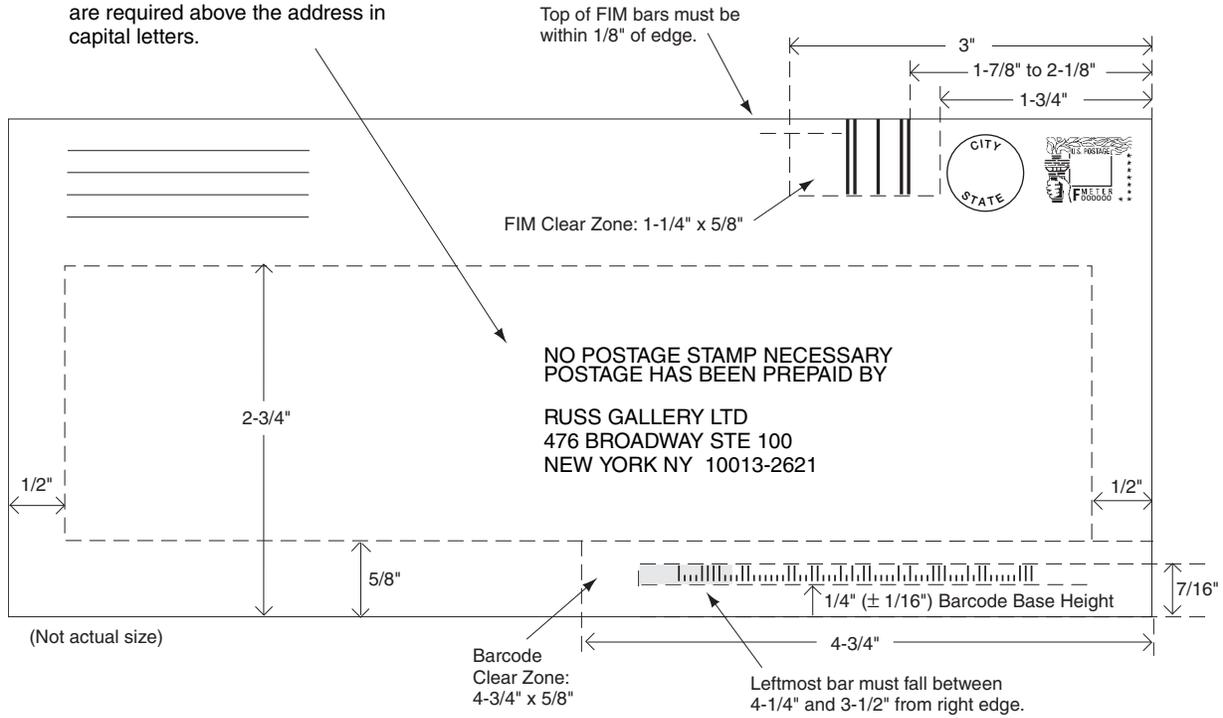
### ***Meter Reply Mail Dimensions***

MRM Dimension	—Card—		—Letter <sup>1</sup> —	
	Minimum	Maximum	Minimum	Maximum
Height	3-1/2"	4-1/4"	3-1/2"	6-1/8"
Length	5"	6"	5"	11-1/2"
Thickness	0.007"	0.016"	0.007"	1/4"

1. The minimum thickness is 0.009 inch if the length is more than 6 inches or the height is more than 4-1/4 inches. The length of a mailpiece is the dimension that parallels the lines of the delivery address. The top and bottom also parallel the delivery address lines.

**Exhibit 7-12**  
**Meter Reply Mail**

**Legend:** The words  
"NO POSTAGE STAMP NECESSARY  
POSTAGE HAS BEEN PREPAID BY"  
are required above the address in  
capital letters.



## Permit Reply Mail

Permit reply mail (PRM) enables a permit imprint permit holder to receive First-Class Mail and Priority Mail back from customers by prepaying postage for reply pieces at the time of mailing. Mailers must distribute PRM pieces as part of a First-Class Mail mailing using a permit imprint, and not through any other means.

The delivery address on a PRM mailpiece may not be altered to redirect it to any address other than the one preprinted on the piece. PRM may not be used for any purpose other than the purpose intended by the permit holder, even when postage is affixed.

*Exhibit 7-13*

### ***Permit Reply Mail Dimensions***

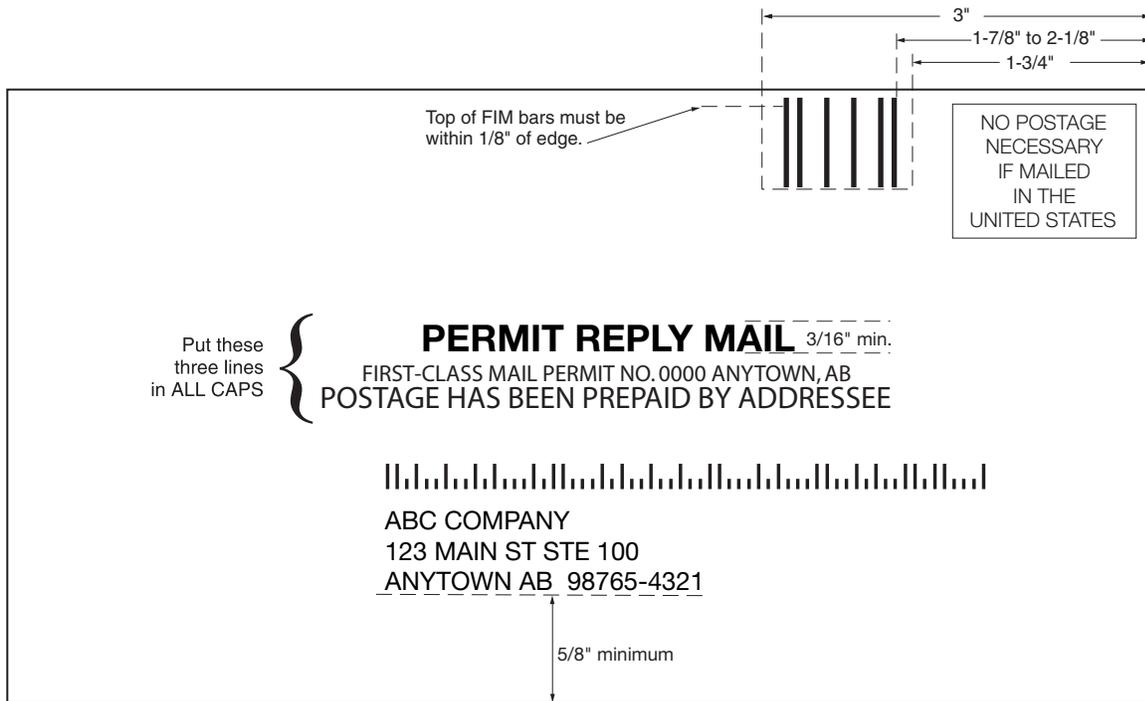
PRM Dimension	—Card—		—Letter <sup>1</sup> —	
	Minimum	Maximum	Minimum	Maximum
Height	3-1/2"	4-1/4"	3-1/2"	6-1/8"
Length	5"	6"	5"	11-1/2"
Thickness	0.007"	0.016"	0.007"	1/4"

1. The minimum thickness is 0.009 inch if the length is more than 6 inches or the height is more than 4-1/4 inches. The length of a mailpiece is the dimension that parallels the lines of the delivery address. The top and bottom also parallel the delivery address lines.

## Format Elements

All pieces of PRM must include the format elements shown.

Exhibit 7-14  
Permit Reply Mail



All legible forms of printing are permitted. Mailers may not use handwriting, typewriting, or handstamping to prepare PRM. The imprint, "NO POSTAGE NECESSARY IF MAILED IN THE UNITED STATES," must be printed in the upper right corner of the address side of the piece. The imprint must not extend more than 1-3/4 inches from the right edge of the piece.

The legend, "PERMIT REPLY MAIL," must appear on all pieces. The legend must appear above the address in capital letters at least 3/16 inch high. At the permit holder's discretion, the permit reply mail legend may be surrounded by a rule or border.

Directly below the permit reply mail legend, the words, "FIRST-CLASS MAIL PERMIT NO. [NO., CITY, STATE]" (representing the permit holder's number and the Post Office that issued the permit) must appear in capital letters. The permit holder may replace the permit number and the Post Office with a company permit. Directly below that, the endorsement, "POSTAGE HAS BEEN PREPAID BY ADDRESSEE," must appear in capital letters. At the permit holder's discretion, the permit number and postage endorsement may be surrounded by a rule or border.

The complete address (including the permit holder's name, delivery address, city, state, ZIP+4 code, and corresponding delivery point barcode) must be printed directly on the piece.

A facing identification mark (FIM) C must be printed on all letter-size PRM. The FIM C must meet the physical standards in DMM 708.9.0.

A company logo is permitted as follows:

- On letter-size PRM, if the logo is placed no lower than 5/8 inch from the bottom edge of the piece.
- On any piece, if the logo does not interfere with any required format element.

A company permit reply mail imprint is one in which the exact name of the company holding the permit is shown in the permit reply mail indicia in place of the city, state, and permit number.

To create a company permit reply mail imprint, replace the words "PERMIT No. [NO., CITY, STATE]" (representing the permit holder's number and the Post Office that issued the permit), with "PERMIT PAID BY [COMPANY NAME]" (representing the name of the company in the delivery address of the mailpiece) in capital letters.

# A Ink/Paper Definitions

This appendix provides definitions and formulas for determining the reflectance of mailpiece backgrounds and printing ink, print contrast ratio (PCR), and print reflectance difference (PRD). Values for these parameters are always less than one. Decimal fractions (for example, 0.65) and percentages are generally used interchangeably, but this publication uses percentages. All parameters are measured as shown in [Appendix B](#).

## Reflectance

The symbol R is used for reflectance. Only diffuse (scattered) reflectance is of interest. It represents the percentage of incident light diffusely reflected by the material in question. A surface perfectly reflecting the incident light has a reflectance of 100 percent; a surface reflecting only half the incident light has a reflectance of 50 percent.

## Print Reflectance Difference

$$\text{PRD} = (R_w - R_p) \times 100$$

$R_w$  is the reflectance of the background  
(e.g., envelope or card)

$R_p$  is the reflectance of the ink  
(e.g., character stroke)

## Print Contrast Ratio

$$\text{PCR} = \frac{R_w - R_p}{R_w} \times 100$$

$R_w$  and  $R_p$  are defined as above



# B Ink/Paper Measurement

This appendix is for mailers who have instruments capable of measuring optical reflectance and contrast.

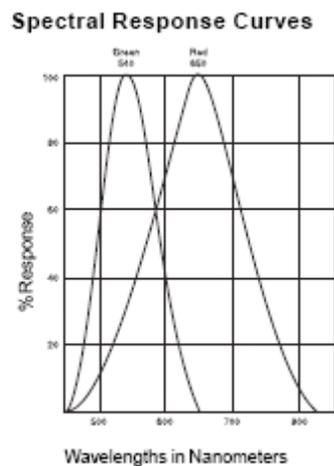
## Instrument Calibration Standards

The measurements here apply only to diffuse reflectance. A perfectly reflecting, perfectly diffusing surface has a reflectance of 100 percent. This is the reference or basis for reflectance measurements. Calibrated pressed barium sulfate ( $\text{BaSO}_4$ ) or magnesium oxide ( $\text{MgO}$ ) is a suitable reference standard for instrument calibration to indicate 100 percent reflectance for a white surface.

Carbon black or other black backing such as black velvet that reflects less than 1 percent light may be used as a suitable reference standard for zero reflectance. Instruments should be calibrated according to the manufacturer's instructions using either the above primary standards or the secondary standards supplied with the measurement equipment.

## Instrumentation

Measurements may be made using the Postal Service-approved envelope reflectance meter. If other instruments are used, they should provide the appropriate spectral response characteristics in the red and the green portions of the optical spectrum shown in the graph below and described on the next page.



## Area Resolution

For measurements associated with barcode functions, the effective area measured by the Postal Service envelope reflectance meter (ERM III) is 6 mils (0.006 inch) by 10 mils (0.010 inch).

## Address Block Measurements

Reflectance and contrast measurements on barcodes and potential interference should be made in the blue to red portion of light when viewed in grayscale of the optical spectrum as follows:

1. Make sure that auto-calibration has been performed on the instrument and the mode switch is in the “Operate” position. (The display should read “00%00%00%.00 inches.”)
2. Place the sample switch in the “Paper” position. Position the mailpiece in the mail slot of the instrument so that the paper background is centered within the reticle pattern on the view screen. Place the sample switch in the “Hold” position. The unit locks the last value displayed into its internal memory and uses this value for all future PRD and PCR calculations. This value is also locked into the display readout.
3. Place the sample switch in the “Ink” position and move the mailpiece in the mail slot so that a portion of the character is centered within the reticle pattern on the view screen. Place the sample switch in the “Hold” position. This value is locked into the unit’s internal memory for all future PRD and PCR calculations. This value is also locked into the display readout.
4. With the sample switch in the “Hold” position, all reflectance parameters are held on the display. By toggling the channel switch, the operator can obtain the corresponding values for the red spectrum channel.

## POSTNET Barcodes, Intelligent Mail Barcodes and FIM Measurements

Reflectance and reflectance difference measurements on POSTNET barcodes, Intelligent Mail barcodes, and FIM bars, and on potential interference, should be made in the blue to red portions of light when viewed in grayscale of the optical spectrum. The same procedures that apply to address block measurements apply to measuring POSTNET barcodes, Intelligent Mail barcodes, and FIMs.

# C Glossary

**Address Change Service (ACS™)**—An automated process that provides change-of-address information to participating mailers who maintain computerized mailing lists. The information is captured in the Computerized Forwarding System (CFS) units and sent to mailers on electronic media which reduces the volume of manual change-of-address notices.

**Address Element Correction (AEC)**—A process that identifies and revises incomplete or incorrect addresses and then attaches ZIP+4 and carrier route codes. It involves matching of records that cannot be coded using CASS-certified address matching software.

**Advanced Facer Canceler System (AFCS)**—The initial machine used to process single-piece First-Class Mail letters. The letters are faced; stamps are cancelled; and address is scanned for ZIP+4 and delivery point information.

**ancillary service**—Forwarding, return, or address correction service included within a mail class. Depending on the mail class, these services are performed at a charge, or at no additional charge, if and when the service is actually rendered.

**ancillary service endorsement**—A marking used by a mailer to request the new address of an addressee and to provide the USPS with instructions on how to handle mail that is undeliverable as addressed.

**aspect ratio**—The dimension of a mailpiece expressed as a ratio of height to length. For example, a postcard 5-1/2 inches long by 3-1/2 inches high has an aspect ratio of 1.57. An aspect ratio between 1.3 and 2.5, inclusive, is required for automation compatibility.

**automation discount**—A postage reduction offered to mailers who barcode their mailpieces and meet addressing, readability, and other requirements for processing on automated equipment.

**barcode**—A series of vertical full bars representing tracking and/or ZIP Code information.

**barcode clear zone**—The rectangular area in the lower right corner of the address side of cards and letter-size pieces, 4-3/4 inches from the right edge and 5/8 inch from the bottom.

**barcode read area**—The clear zone on the lower right corner of a letter-size mailpiece that must be kept free of printing and symbols except for the barcode itself.

**barcode reader**—A component of a barcode sorter that reads and interprets the barcode previously applied to a mailpiece.

**barcode sorter (BCS)**—A computer-controlled machine that sorts letters and cards, based on an imprinted barcode on the letters, at speeds of 32,000 pieces an hour.

**basis weight**—The weight in pounds of a ream (500 sheets) of paper cut to a specified standard size for that grade.

**Business Reply Mail® (BRM)**—A service that allows a permit holder to receive First-Class Mail and Priority Mail back from customers and pay postage only for the returned pieces. These pieces must have a specific address and format. Postage and per piece charges are collected when the mail is delivered back to the permit holder.

**Carrier Sequence Barcode Sorters**—A high speed delivery sequence barcode sorter that is smaller than a DBCS.

**Courtesy Reply Mail™ (CRM)**—A preprinted return envelope or card provided as a courtesy to customers. Customers responding to the original mailing pay the return postage.

**delivery barcode sorter (DBCS)**—A multilevel, high-speed barcode sorter that finalizes letter mail sortation to the carrier sector/delivery point segment level using a two-pass operation.

**delivery point barcode (DPBC)**—A ZIP+4 barcode containing two additional digits (represented by 10 additional bars) that designate a specific delivery point.

**Domestic Mail Manual (DMM®)**—The Postal Service manual that contains the mailing standards governing domestic mail services; descriptions of the mail classes and services and conditions governing their uses; and standards for rate eligibility and mail preparation. Domestic mail is classified by size, shape, weight, content, service, and other factors.

**em space**—A unit of measure exactly as wide as the point size of the type being set. In 12-point type, the em space is 12 points wide.

**em height**—A unit of measure exactly as high as the point size of the type being set. In 12-point type, the em height is 12 points high.

**facing identification mark (FIM)**—A pattern of vertical bars printed in the upper right portion of the mailpiece just to the left of the postage indicia, used to identify business reply mail, courtesy reply mail, and meter reply mail. The FIM is an orientation mark for automated facing and canceling equipment.

**FASTforward®**—A USPS-licensed automated system that updates addresses by identifying names and addresses for which current change-of-address orders are on file. A piece updated with *FASTforward* can be delivered directly to the new address rather than forwarded from the old address. *FASTforward* systems interface with USPS-approved automation systems such optical character readers and remote video encoding (RVE) operations.

- First-Class Mail®**—A class of mail that includes all matter wholly or partly inwriting or typewriting, all actual and personal correspondence, all bills and statements of account, and all matter sealed or otherwise closed against postal inspection. Any mailable matter (with the exception of some hazardous materials) may be sent as First-Class Mail. First-Class Mail is a USPS trademark.
- font**—A complete assortment of letters, numbers, punctuation marks, etc., of a specific size and type style.
- franked mail**—The official mail sent without prepayment of postage by members and members-elect of Congress, the Vice President, and other authorized individuals. Mail must relate to the office business, activities, and duties of Congress. The envelope or wrapper bears a written signature, printed facsimile signature, or other required marking instead of a postage stamp.
- halftone**—The reproduction of continuous-tone artwork, such as a photograph, through a crossline or contact screen, which converts the image into dots of various sizes for printing.
- horizontal bars**—A series of uniform wide bars, parallel to the length of the mailpiece, printed immediately below the “NO POSTAGE NECESSARY” endorsement on business reply mail.
- indicia**—The imprinted designations used on mailpieces denoting method of postage payment (e.g., permit imprint).
- insert**—A letter or other item placed in an envelope for mailing.
- Intelligent Mail® barcode**—(formerly 4-State barcode). A barcode is used for tracking and ZIP Code information. The barcode consists of 65 vertical bars and up to 31 digits of information.
- International Business Reply Service (IBRS)**—A service that allows envelopes and postcards to be distributed in certain foreign countries for return without postage prepayment to the original sender in the United States.
- International Mail Manual (IMM)**—The Postal Service manual containing rates and mailing standards for international mail services; descriptions of the mail classes and services.
- kerning**—Reducing space between characters. Negative letter spacing.
- keyline**—Optional mailer information printed at least two lines above the address or in the lower left corner of the envelope. Under some postage payment systems, the keyline is a required line that contains specific information about the mailpiece.
- meter mail**—Any mail class (except Periodicals) with postage printed by a USPS-approved postage meter.
- meter reply mail (MRM)**—A preprinted return envelope or card provided as a courtesy to customers. The postage is prepaid by the meter license holder as a courtesy to the respondent.

**mil**—A unit of measure equal to 0.001 inch.

**nanometer (nm)**—A unit of wavelength (when applied to light) of  $10^{-9}$  meters (1 billionth of a meter).

**National Change of Address Linkage System (NCOA<sup>Link</sup>)**—An address correction service that the Postal Service provides to mailers through licensees. The licensees match mailing lists submitted to them against change-of-address information for the entire country from all Computerized Forwarding System units. NCOA<sup>Link</sup> makes change-of-address information available to mailers to help reduce undeliverable mailpieces before mail enters the mailstream.

**optional endorsement line (OEL)**—A series of specific printed characters on the top line of the address block that identifies the sortation level of a package or bundle and may contain an ACS participant code. The OEL is used in place of package labels.

**permit**—Any authorization required for specific types of preparation or postage payment. For example, an authorization to mail without postage affixed by using permit imprint indicia.

**permit imprint**—Printed indicia, instead of an adhesive postage stamp or meter stamp, that shows postage prepayment by an authorized mailer.

**pitch**—The center-to-center spacing between two adjacent objects such as characters in a line of characters, bars in a barcode, or lines in an address block.

**point**—A typographical unit of measure equal to approximately 1/72" (0.0138").

**POSTNET**—(POSTal Numeric Encoding Technique) The barcode used to encode ZIP Code information on letter-size and flat-size mail.

**pricing and classification service center (PCSC)**—A field office of headquarters that provides guidance to field personnel and customers on mail classification, postage rates, mail preparation, and postage payment programs.

**print contrast ratio (PCR)**—The contrast between the ink used in the address and the background of the mailpiece. Expressed as a percentage, PCR is the reflectance of the background minus the reflectance of the ink divided by the reflectance of the background multiplied by 100.

**print reflectance difference (PRD)**—The background reflectance minus print reflectance, expressed as a percentage.

**proportional spacing**—The spacing of characters in a line so that the space occupied by a character is proportional to the width of that character, as opposed to fixed spacing in which every character occupies the same amount of space regardless of its actual width.

**Qualified Business Reply Mail (QBRM)**—An automated method for sorting, counting, and rating business reply mail (BRM) for authorized mailers.

**remote encoding center**—A Postal Service unit that uses advanced technology to assign barcodes to hand-addressed mailpieces physically located at a general mail facility. After the mailpiece image is displayed on a computer terminal, an operator, who is at the center, keys in the ZIP Code and the street address in order to match this information with that in a database. This allows for the imprinting of the barcode and automated mailprocessing at the general mail facility.

**serif**—The short crosslines at the ends of the main strokes of letters in certain type styles.

**skew**—The misalignment or slant of a character, bar, line of characters, or barcode with respect to the bottom or top edge of the mailpiece.

**Standard Mail®**—A class of mail consisting of mailable matter that is not required to be mailed as First-Class Mail or is not mailed as Periodicals, and that weighs less than 16 ounces. Standard Mail includes circulars, printed matter, pamphlets, catalogs, newsletters, direct mail, and merchandise. Standard Mail may be sent at presorted rates and at automation rates. There are separate rates for qualified Nonprofit mailers.

**stroke**—The line or lines forming a character such as the stem or the top of a “T.”

**unique five-digit ZIP Code™**—A five-digit ZIP Code assigned to a company, government agency, or entity with sufficient mail volume, based on average daily volume of letter-size mail received, availability of ZIP Code numbers in the postal area, and USPS cost-benefit analyses.

**ZIP+4™**—A nine-digit numeric code incorporating the original five-digit ZIP Code, a hyphen, and four additional digits. The first five digits identify the delivery office. The four-digit add-on identifies a specific delivery segment such as a city block face, a floor of a building, a department within a firm, range of rural route box numbers, or a group of post office boxes.

**ZIP (Zone Improvement Plan) Code**—Established in 1963, the system of 5-digit codes that identifies the individual Post Office or metropolitan area delivery station associated with an address.

# D Decimal Equivalents

## **Eighths (1/8ths)**

1/8	=	0.125
2/8 (1/4)	=	0.250
3/8	=	0.375
4/8 (1/2)	=	0.500
5/8	=	0.625
6/8 (3/4)	=	0.750
7/8	=	0.875

## **Sixteenths (1/16ths)**

1/16	=	0.0625
3/16	=	0.1875
5/16	=	0.3125
7/16	=	0.4375
9/16	=	0.5625
11/16	=	0.6875
13/16	=	0.8125
15/16	=	0.9375

## **Thirty-Seconds (1/32ths)**

1/32	=	0.03125
3/32	=	0.09375
5/32	=	0.15625
7/32	=	0.21875
9/32	=	0.28125
11/32	=	0.34375
13/32	=	0.40625
15/32	=	0.46875
17/32	=	0.53125
19/32	=	0.59375
21/32	=	0.65625
23/32	=	0.71875
25/32	=	0.78125
27/32	=	0.84375
29/32	=	0.90625
31/32	=	0.96875

## **Sixty-Fourths (1/64ths)**

1/64	=	0.015625
3/64	=	0.046875
5/64	=	0.078125
7/64	=	0.109375
9/64	=	0.140625
11/64	=	0.171875
13/64	=	0.203125
15/64	=	0.234375
17/64	=	0.265625
19/64	=	0.296875
21/64	=	0.328125
23/64	=	0.359375
25/64	=	0.390625
27/64	=	0.421875
29/64	=	0.453125
31/64	=	0.484375
33/64	=	0.515625
35/64	=	0.546875
37/64	=	0.578125
39/64	=	0.609375
41/64	=	0.640625
43/64	=	0.671875
45/64	=	0.703125
47/64	=	0.734375
49/64	=	0.765625
51/64	=	0.796875
53/64	=	0.828125
55/64	=	0.859375
57/64	=	0.890625
59/64	=	0.921875
61/64	=	0.953125
63/64	=	0.984375



# Getting More Information

## References

Postal Explorer at [pe.usps.com](http://pe.usps.com)

Quick Service Guide 201a - Designing Letters and Cards for Automated Processing

Quick Service Guide 201b - Using Tabs, Wafer Seals, and Glue Strips

Quick Service Guide 507a - Business Reply Mail

Quick Service Guide 507b - Courtesy Reply mail

Quick Service Guide 507c - Meter Reply Mail

Quick Service Guide 507d - Ancillary Service Endorsements

Quick Service Guide 602 - Addressing

## Postal Groups, Activities, and People

### Mailpiece Quality Control Program

The Mailpiece Quality Control (MQC) program is a course designed to assist individuals or groups who are responsible for creating pieces that are mailed in large numbers. This program helps graphic artists, administrators, sales representatives—anyone involved in preparing large mailings—to accomplish their jobs with proficiency and confidence.

After you complete the course, you will better understand the mailpiece acceptance standards of the U.S. Postal Service for all classes of mail and processing categories. You will have enough understanding of the presorted mailing process to be able to analyze discount and payment options. You will also know how to consult reference materials to help make your job easier.

Poor mailpiece design can cause delays in the processing and delivery of your mail. MQC is a systematic way to ensure that designs from your organization are acceptable for mailing and are eligible for worksharing discounts from the Postal Service.

Good designs give you the confidence that your time and effort will pay off in postal “worksharing” discounts and successful processing of your mail. This course, which deals exclusively with domestic mail, can be downloaded from the Postal Explorer web site at [pe.usps.com](http://pe.usps.com).

### National Postal Forum

The Postal Forum is an educational and trade show event for the mailing industry that is held annually at different locations throughout the nation. For more information, visit their web site at [www.npf.org](http://www.npf.org).

### **Postal Customer Councils**

Most areas have a local postal customer council (PCC), which can give you tips from experienced mailers who have successfully developed bulk mailing programs. PCCs also have general meetings to discuss Postal Service issues.

### **Postal Service Seminars**

The Postal Service offers seminars on direct mail at selected sites around the country. Your local business mail entry unit can tell you when seminars are offered in your area.

### **Postal Service Specialists**

#### **Postmasters**

Although your local postmaster should be able to help you with many basic questions about preparing mailings, there are other postal specialists to help you with more complex technical issues.

#### **Business Mail Entry Managers**

Business mail entry managers are located in customer services districts and are supported by pricing and classification service centers. These managers are experts on the regulations described in the DMM and can give you advice if you want to try something new.

#### **Account Managers**

Although account managers are normally assigned to large business mailers, they can help you make sure that your mail gets the best possible service. Contact your local business mail entry if you would like an account manager to help you.

## **Non-Postal Sources**

Some mail-related services are handled by private companies rather than by the Postal Service. Several are listed below.

### **Postage Meters**

To lease a postage meter, look under “Mailing Equipment” in your local telephone directory.

### **Presort Service Bureaus**

To find a presort service bureau, look under “Mailing Services” in your local telephone directory.

### **Mailing Lists**

To buy a mailing list, look under “Mailing Lists” in your local telephone directory.

## Postal Publications

Some of the following postal publications are available from larger Post Offices. Refer to the publication number in parentheses when you order or request them.

### Publications

#### Domestic Mail

*Domestic Mail Manual (DMM)*—The Postal Service manual that contains the mailing standards governing domestic mail services, descriptions of mail classes, the conditions governing their use and, rates. The DMM is updated monthly and is available free of charge to view or download on Postal Explorer at [pe.usps.com](http://pe.usps.com). Available through the Government Printing Office (GPO).

#### Prices

*Pricelist (Notice 123)*—A 20-page booklet that contains domestic and international rates and fees in a concise and accessible manner. Available on the Postal Explorer Website at [pe.usps.com](http://pe.usps.com).

#### Quick Service Guide

*Quick Service Guide (Publication 95)*—A collection of simplified instructions for most classes of mail, based on the Quick Service Guides (QSGs) in the DMM. Available online on Postal Explorer at [pe.usps.com](http://pe.usps.com).

#### Addressing

*Postal Addressing Standards (Publication 28)*—Describes addressing for the best service.

#### Training Program

*Mailpiece Quality Control (MQC) Training Program*—A self-study course to aid in designing mailpieces with an emphasis on automated mail processing. Required for Systems Certification participants, but recommended for all mailers. This program is available on Postal Explorer at [pe.usps.com](http://pe.usps.com). From the home page, select “Mailpiece Design” in the left frame.

#### Newsletters

*DMM Advisory*—A free subscription email service instantly notifying mailers of DMM changes, pending standards, and *Federal Register* filings. Click on DMM Advisory from the Postal Explorer home page and send an email putting “Subscribe” in the subject line.

*Mail Pro*—Available on a free subscription basis. Issued bi-monthly. Covers changes in regulations and new services, mostly in the form of highlights and interpretations. Subscribe by email to [mncsc@email.usps.gov](mailto:mncsc@email.usps.gov).

*Postal Bulletin*—Issued biweekly online. Covers changes in regulations and new services. You can access the Postal Bulletin from Postal Explorer at [pe.usps.com](http://pe.usps.com). Click on Postal Bulletin in the left frame.

## Addressing Software

For information on addressing software, contact the Memphis NCSC at 1-800-238-3150 or the Business Mail Entry National Customer Service Support Center at 901-683-7661.

## Trade Associations

Direct mail trade associations are excellent sources of information and assistance. These include:

DIRECT MARKETING ASSOCIATION  
1120 AVENUE OF THE AMERICAS  
NEW YORK NY 10036-6700  
(212) 768-7277 / [www.the-dma.org](http://www.the-dma.org)

POSTCOM  
1901 N FORT MYER DR STE 401  
ARLINGTON VA 22209-1609  
(703) 524-0096 / [www.postcom.org](http://www.postcom.org)

NATIONAL MAIL ORDER ASSOCIATION  
2807 POLK ST NE  
MINNEAPOLIS MN 55418-2954  
(612) 788-1673 / [www.nmoa.org](http://www.nmoa.org)

MAILING FULFILLMENT SERVICE ASSOCIATION  
1421 PRINCE ST STE 410  
ALEXANDRIA VA 22314-2806  
(703) 836-9200 / [www.mfsanet.org](http://www.mfsanet.org)

## Other References

### Ordering the DMM and IMM

You can order copies of the two Postal Service manuals containing mailing standards for domestic and international mail—the *Domestic Mail Manual* (DMM) and the *International Mail Manual* (IMM)—from the U.S. Government Printing Office by writing to the address below. Copies can also be ordered from the GPO Website.

SUPERINTENDENT OF DOCUMENTS  
US GOVERNMENT PRINTING OFFICE  
732 N CAPITOL ST NW  
WASHINGTON DC 20401-0003  
Telephone: (202) 512-1800  
Fax: (202) 512-2250 / <http://bookstore.gpo.gov/>

# Checklists

## Business Reply Mail

### 1. “Business Reply Mail” Legend

- All letters are capitals.
- Letters are at least 3/16 inch high.
- Legend is properly worded.

### 2. “First-Class Mail Permit No. ### City/State”

- Endorsement is properly worded.
- Permit number is correct.
- City and state are correct.

### 3. “Postage Will Be Paid by Addressee”

- Endorsement is properly worded.
- Endorsement is properly positioned.
- For official mail only, name of authorized federal agency is included.

### 4. Delivery Address Block

- Delivery address line (street address/PO box number) is directly above city/state/ZIP+4 line.
- ZIP+4 code corresponds with ZIP+4 barcode.
- No extraneous printing is below “postage will be paid by addressee” line.
- City/state/ZIP+4 line is at least 5/8 inch from bottom edge.
- City/state/ZIP+4 line is no higher than 2-1/4 inches from bottom edge.
- If ZIP+4 barcoded, logo is at least 5/8 inch from bottom edge. If not ZIP+4 barcoded, logo is no lower than top of delivery address line.
- For window envelopes only: minimum clearances between address block (including barcode) and window edges are maintained on all sides during “insert shift.”

### 5. Barcode and Lower Right Barcode Clear Zone

- Barcode is correctly positioned.
- Barcode is readable.
- Address block barcodes are placed using the options in Chapter 4.
- Intelligence Mail barcodes are formatted correctly using the standards in Chapter 4.
- Print reflectance minimum is met.
- No extraneous printing or other matter is in the barcode clear zone.

### 6. Facing Identification Mark (FIM)

- For nonbarcoded, FIM B is used. For ZIP+4 barcoded, FIM C is used.
- FIM is properly positioned.
- Top of FIM bars is no lower than 1/8 inch and bottom of bars is no lower than 5/8 inch from the top edge of the piece.
- Print reflectance minimum is met.
- No extraneous printing is in the FIM clear zone.

### 7. “No Postage Necessary If Mailed in the United States”

- Endorsement is properly worded.
- Endorsement is properly positioned.
- Endorsement extends no more than 1-3/4 inches from right edge of piece.

### 8. Horizontal Bars

- If ZIP+4 barcoded, bars are no lower than 5/8 inch from bottom edge. If not ZIP+4 barcoded, bars are no lower than top of delivery address line.
- Bars are properly spaced.
- Bars are uniform in thickness and length.

### 9. Other

- Aspect ratio is met (required for QBRM, encouraged for all others).
- Dimensions are within letter-size standards and piece is automation-compatible.
- Piece is at least 3-1/2 inches high.
- Piece is at least 5 inches long.
- If no larger than 4-1/4 inches by 6 inches, piece is at least 0.007 inch thick, and at least 0.009 inch thick if piece is larger than 4-1/4 inches by 6 inches.
- For self-mailers and reusable pieces: piece contains instructions to user.
- For official mail: endorsed “Official Business, Penalty for Private Use \$300” in upper left area.

## Courtesy Reply Mail

### 1. Facing Identification Mark (FIM)

- FIM A is used.
- FIM is properly positioned.
- Minimum print reflectance difference (PRD) is met.
- No extraneous printing is in the FIM clear zone.

### 2. Postage Area: Customer Reminder to Affix Postage (optional element)

- Area extends no more than 1-3/4 inches from right edge of the piece.

### 3. Delivery Address Block

- Delivery address line (street address/PO box number) is directly above city/state/ZIP+4 line.
- ZIP+4 code corresponds with ZIP+4 barcode.
- City/state/ZIP+4 line is at least 5/8 inch from bottom edge of piece.
- City/state/ZIP+4 line is no higher than 2-1/4 inches from bottom edge.
- For window envelopes only: minimum clearances between address block (including barcode) and window edges are maintained on all sides during "insert shift."

### 4. Barcode

- Barcode is correctly positioned (in address block or in barcode clear zone).
- Barcode is readable.
- Print reflectance minimum is met.
- If barcoded in the barcode clear zone: there is no extraneous printing or other matter in the zone.

### 5. Other

- Aspect ratio is met.
- Dimensions are within the letter-size standards and the piece is automation-compatible.
- Piece is at least 3-1/2 inches high.
- Piece is at least 5 inches long.
- If no larger than 4-1/4 inches by 6 inches, piece is at least 0.007 inch thick, and at least 0.009 inch thick if piece is larger than 4-1/4 inches by 6 inches.
- For official mail only: endorsed "Official Business, Penalty for Private Use \$300" in upper left area.

## Meter Reply Mail

### 1. Facing Identification Mark (FIM)

- FIM A is used.
- FIM is properly positioned.
- Minimum print reflectance difference (PRD) is met.
- No extraneous printing is in the FIM clear zone.

### 2. Meter Stamp

- Stamp is properly positioned.
- Stamp contains no date.
- Stamp is legible.
- Postage is sufficient for type and weight of piece (for example, 1 ounce or 2 ounce).

### 3. “No Postage Stamp Necessary Postage Has Been Prepaid By”

- Letters are all capitals.
- Endorsement is properly worded.

### 4. Delivery Address Block

- Delivery address line (street address/PO box number) is directly above city/state/ZIP+4 line.
- ZIP+4 code corresponds with ZIP+4 barcode.
- City/state/ZIP+4 line is at least 5/8 inch from bottom edge of piece.
- City/state/ZIP+4 line is no higher than 2-1/4 inches from bottom edge.
- For window envelopes: minimum clearances between address block (including barcode) and window edges are maintained on all sides during “insert shift.”

### 5. Barcode and Lower Right Barcode Clear Zone

- Barcode is correctly positioned (in address block or barcode clear zone).
- Barcode is readable.
- Print reflectance minimum is met.
- If barcoded in the barcode clear zone: no extraneous printing or other matter is in the zone.

### 6. Other

- Aspect ratio is met.
- Dimensions are within the letter-size standards and piece is automation-compatible.
- Piece is at least 3-1/2 inches high.
- Piece is at least 5 inches long.
- If no larger than 4-1/4 inches by 6 inches, piece is at least 0.007 inch thick, and at least 0.009 inch thick if piece is larger than 4-1/4 inches by 6 inches.
- For official mail: endorsed “Official Business, Penalty for Private Use \$300” in the upper left area.

## Permit Reply Mail

### 1. Facing Identification Mark (FIM)

- FIM C is used.
- FIM is properly positioned.
- Minimum print reflectance difference (PRD) is met.
- No extraneous printing is in the FIM clear zone.

### 2. "Permit Reply Mail" Legend

- All letters are capitals.
- Letters are at least 3/16 inch high.
- Legend is properly worded.

### 3. "No Postage Necessary If Mailed in the United States"

- Endorsement is properly worded.
- Endorsement is properly positioned.
- Endorsement extends no more than 1-3/4 inches from right edge of piece.

### 4. Delivery Address Block

- Delivery address line (street address/PO box number) is directly above city/state/ZIP+4 line.
- ZIP+4 code corresponds with ZIP+4 barcode.
- City/state/ZIP+4 line is at least 5/8 inch from bottom edge of piece.
- City/state/ZIP+4 line is no higher than 2-1/4 inches from bottom edge.
- For window envelopes: minimum clearances between address block (including barcode) and window edges are maintained on all sides during "insert shift."

### 5. Barcode and Lower Right Barcode Clear Zone

- Barcode is correctly positioned (in address block or barcode clear zone).
- Barcode is readable.
- Print reflectance minimum is met.
- If barcoded in the barcode clear zone: no extraneous printing or other matter is in the zone.

### 6. Other

- Aspect ratio is met.
- Dimensions are within the letter-size standards and piece is automation-compatible.
- Piece is at least 3-1/2 inches high.
- Piece is at least 5 inches long.
- If no larger than 4-1/4 inches by 6 inches, piece is at least 0.007 inch thick, and at least 0.009 inch thick if piece is larger than 4-1/4 inches by 6 inches.
- For official mail: endorsed "Official Business, Penalty for Private Use \$300" in the upper left area.

## OCR Readability

### (Letter-Size Mail Including Cards)

#### 1. Mailpiece Material

- For envelopes, paper is at least 16-pound weight.
- For cards, paper is at least 71.25-pound offset.

#### 2. Printing Characteristics

- Stock (including inserts that show through windows) is white or, if colored, reflects at least 25% of an image taken, using the blue to red spectrum of light when viewed in grayscale.
- Print contrast ratio must not exceed 15% for an image taken using the blue to red spectrum of light when viewed in grayscale.
- Print contrast is sharp and uniform, without voids, smudges, or extraneous ink.
- Ink is black or a dark color.
- Underlines, halftone backgrounds, or nonaddress printing are used little or not at all.

#### 3. Clear Zones

- OCR read area is free of return address. Logos and other extraneous printing are above the delivery address line.
- POSTNET barcode and Intelligent Mail barcode clear zone is free of printing and patterns except for the barcode.
- FIM clear zone is free of printing except for the FIM.

#### 4. Layout

- For windows, inserts clear the edges by at least 1/8 inch on all sides through the full range of shift.

- Piece measures at least 3-1/2 inches high, 5 inches long, and 0.007 inch thick.
- Piece is not larger than 6-1/8 inches high, 11-1/2 inches long, and 1/4 inch thick.

#### 5. Address Block

- Block is at least 1/2 inch from both edges of envelope and between 5/8 inch and 2-3/4 inches from bottom edge.
- Preferred font size is 10 or 12 point.
- Left margin is uniform, state uses standard 2-letter abbreviation, and block includes ZIP Code or ZIP+4.
- Font has uniform stroke widths between 3/4 point and 2 points and is a simple, sans serif style.
- Characters are between 8 and 18 points high—10-12 points is preferred.
- Characters are spaced between 3/4 point and 3 points apart.
- Words are spaced between 1 and 5 em spaces (full-size character spaces) apart.
- Lines are spaced between 2 points and 2 em spaces (full-size character heights) apart.
- Address is not skewed more than 5 degrees.

