## Parcel Labeling <br> Guide

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## 1. Introduction

### 1.1. Purpose

This document has been developed to make it easier to create and use labels on parcels shipped via the United States Postal Service ${ }^{\circledR}\left(\right.$ USPS $\left.^{\circledR}\right)$.

While some flexibility exists in design of shipping labels, using these standards will make label certification easier and make processing your parcels more efficient.

### 1.2.Scope

This document will focus primarily on the layout and content of domestic shipping labels and will cover the following topics:
a. Specifications for label elements
b. Label examples displaying layout and content
c. Applicable Intelligent Mail ${ }^{\text {TM }}$ package barcode (IMpb) standards

### 1.3. Audience

This document is designed for use by any party interested in creating or understanding USPS parcel labeling requirements. This may include:
a. Third-party vendors developing shipping software applications
b. Customers integrating USPS shipping capabilities in their custom shipping systems
c. Integrators or Value Added Resellers (VARs) producing shipping labels
d. Postal Service ${ }^{\text {TM }}$ employees involved in label production, label processing, or assisting third-parties in label development

### 1.4.The Domestic Mail Manual

The Mailing Standards of the United States Postal Service Domestic Mail Manual ( $\mathrm{DMM}^{\circledR}$ ) is the official source for all mailing standards described in this document. The information in this guide is meant to clarify and enhance the information in the DMM, but does not supersede it. Please refer to the DMM for official guidance on mailing standards and for any specific service, endorsement, or program requirements.


1. Service Icon Block
2. Service Banner
3. Postage Payment Area
4. Return Address Section
5. Endorsement Section
6. Delivery Address Section
7. Intelligent Mail Package Barcode Segment
8. Additional Information and User Segment

## 2. Label Design Elements

### 2.1. General Design Considerations - Color and Font

All USPS shipping labels should be printed in black ink on a white background with the exception of the additional information and user section which may include color if desired. Fonts must be sans serif (e.g.: Arial, Helvetica, or Verdana) and of sufficient quality to be processed by USPS Optical Character Recognition (OCR) equipment.

Specific font and type sizes are provided throughout this guide. However, label designers should be aware that font appearance (and dimensions) may vary significantly from printer to printer and different fonts may produce characters of different heights. Additional information on font usage may be found in Appendix C.

### 2.2. Payment and Branding Segment

The payment and branding segment of a USPS label consists of three sections: the service icon block, the service banner, and the postage payment area.


Figure 2: Payment and Branding Segment

### 2.2.1. Service Icon Block (1)

The service icon block should appear in the upper left hand corner of the shipping label. The service icon block is optional, but when used, must be used in conjunction with the service banner.
a. The service icon block is a 1 -inch block.
b. Letters inside the block must be $3 / 4$ inch or greater.
c. A minimum $3 / 4$-point must border the 1 -inch square.
d. There should be a minimum $1 / 16$ inch space between the letter and the border.

Valid entries include:
a. The letter $P$ indicates Priority Mail ${ }^{\oplus}$
b. The letter F indicates First-Class Mail ${ }^{\circledR}$ or First-Class Package Service ${ }^{\oplus}$
c. The letter E indicates Priority Mail Express ${ }^{\circledR}$
d. A solid box or box with two intersecting diagonal lines indicates Parcel Select ${ }^{\oplus}$, Media Mail ${ }^{\circledR}$, Library Mail or Bound Printed Matter
e. An empty box indicates Critical Mail ${ }^{\text {® }}$


Figure 3: Service Icon Blocks

### 2.2.2. Service Banner (2)

The service banner is located directly below the postage payment area and the service icon block and includes the class of mail and price marking. The service banner is optional, but when used, must be used in conjunction with the service icon block. The service banner meets DMM requirements for identification of mail subclass markings below the permit imprint and may eliminate the need for inclusion of the mail subclass within the permit imprint itself.
a. The service banner must extend across the entire shipping label.
b. The service banner must be bordered above and below by minimum 1-point separator lines.
c. There must be a $1 / 16$-inch clearance between the service banner text and the borders.
d. Text within the service banner must be printed in a minimum 20-point bold sans serif font (except in specific cases identified in Appendix E).
e. Text within the service banner must fit onto a single line.
f. Text within the service banner must be in uppercase letters.
g. Text within the service banner must be centered within the banner.
h. Text within the service banner should include the appropriate subclass marking (e.g.: STANDARD POST, MEDIA MAIL) preceded by the text "USPS" (except in specific cases identified in Appendix E) and any applicable price markings (e.g.: SINGLEPIECE, SNGLP, PRESORTED, or PRSRT).
i. Trademark and registered trademark symbols are optional.

Priority Mail Express and Priority Mail service banners may optionally ${ }^{1}$ be appended with USPS service standards or service commitments. Rules for the application of service standard and service commitment extensions may be found in Appendix E.

## USPS PRIORITY MAIL

## PRIORITY MAIL 1-DAYTM

Figure 4: Service Banner (with and without service banner extension and trademarks)

### 2.2.3. Postage Payment Area (3)

Evidence of postage payment should appear in the upper right hand corner of the label. Postage Payment may consist of any of the following:
a. Postage Stamps
b. Metered Postage
c. PC Postage
d. Permit Imprint Indicia

[^0]Postage stamps, metered postage, and PC Postage are proprietary formats of USPS or its approved meter vendors and PC Postage providers and are not further elaborated in this document.

The standards for permit imprint indicia are outlined in Section 604, Postage Payment Methods, of the DMM and are summarized below.
a. The indicia must be legible and oriented in the same direction as the address.
b. All text should be in uppercase and should contain the following information:
i. The class of mail and applicable price marking (e.g.: SINGLE-PIECE, SNGLP, PRESORTED, or PRSRT) as defined in the DMM.
ii. The text "U.S. POSTAGE PAID" or "U.S. POSTAGE AND FEES PAID."
iii. The city and state of the permit, except when used with the Electronic Verification System (eVS) as described below.
iv. The text "PERMIT NO." followed by the permit number, except when used with eVS as described below.

Though not required, the following formatting suggestions are recommended:
a. The indicia should be no less than $1 / 2$ inch in height.
b. A minimum $3 / 4$-point line should border the entire indicia.
c. A clear space of $3 / 8$ inch should surround the entire indicia.

The following additional markings are required for specific classes of mail when applicable:
a. Priority Mail cubic parcels must bear the price marking "Cubic" or "CUBIC" directly above, below, or to the left of the indicia.
b. Cubic Soft Pack must additionally include the package length, width and cubic tier size.
c. First-Class Commercial Plus must bear the additional marking CommercialPlusPrice or ComPIsPrice.

For eVS mailings, a "Company Permit Imprint" is preferred. Company permits replace the permit number, city and state with an approved company name which is provided as part of the eVS application process. Additionally, eVS mailings require the marking eVS or e-VS as the last line of the permit imprint. Refer to the eVS Business and Technical Guide, Publication 205, eVS ${ }^{\circledR}$ Business and Technical Guide, for more information on eVS permit imprint requirements.


Figure 5: Permit Imprint

### 2.3. Address and Delivery Information Segment

The address and delivery information segment consists of the return address, any endorsements, the retail distribution code, delivery route code, and delivery address.

Specific rules for address formatting can be found in the DMM Section 602, Basic Standards for All Mailing Services - Addressing. Additional information on address formatting can be found in Appendix B.


Figure 6: Address and Delivery Information Segment

### 2.3.1 Return Address Section (4)

A return address should conform to the following rules:
a. The return address should be placed between $1 / 16$ and $1 / 4$ inch from the left edge of the label.
b. The return address should be printed in an 8-point or greater sans serif font resulting in characters of $3 / 32$ inch (baseline to capsline) or greater. For more information on font selection please refer to Appendix C.
c. The return address should be printed in uppercase letters.
d. All lines of the return address should be left justified and evenly spaced.

### 2.3.2. Endorsement Section ©

Endorsements are used to provide delivery instructions, carrier release, or to request ancillary services.

Placement of the endorsement is dependent on the type of endorsement and is determined by the following:
a. The carrier release endorsement must be placed directly below the return address. If any additional endorsement is used, the carrier release endorsement must be separated from it by the equivalent of one blank line of the type size used.
b. A retention period specified by the mailer must be placed directly above the return address.
c. Ancillary service endorsements must be placed in one of these four locations:
i. Directly below the return address.
ii. Directly above the delivery address area (which includes the delivery address block and any related non-address elements such as a barcode, keyline, or optional endorsement line).
iii. Directly to the left of the postage area and below or to the left of any price marking.
iv. Directly below the postage payment area and below any price marking.

When used, endorsements must conform to the following rules:
a. Endorsements must be printed in a minimum of an 8-point sans serif font resulting in characters of $3 / 32$ inch (baseline to capsline) or greater. Additional information on fonts may be found in Appendix C.
b. Endorsements must be printed in upper case letters.
c. Endorsements must have a clear space of at least $1 / 4$ inch above, below, and to either side.
d. Endorsements must be oriented in the same direction as the return address and delivery address

### 2.3.3. Delivery Address Section ©

The delivery address should be located on the label according to the following rules:
a. The delivery address should be printed at least $1 / 2$ inch from the left edge of the label and indented at least $1 / 4$ inch from the left margin of the return address and any endorsements.
b. The delivery address should be printed using a 10-point or greater sans serif font in upper case letters resulting in characters of $1 / 8$ inch (baseline to capsline) or greater.
c. All lines of the delivery address should be left justified and evenly spaced.

Address indicator marks may be used to further delineate the delivery address. Address indicator marks are optional, but when included, assist in identifying delivery address information to USPS OCR equipment.
a. If used, address indicator marks should be in either angle iron or solid square formats.
b. Angle iron address indicators should be $1 / 8$ to $1 / 4$ inch in width and $1 / 32$ to $1 / 16$ inch in depth.
c. Solid square address indicators should be $3 / 32$ to $1 / 8$ inch in length and width.
d. Address indicator marks must have a $1 / 16$ inch clearance from any other element on the label except the lower right mark which may overlap or touch the label edge or boundary line.


Figure 7: Address Indicator Marks

### 2.3.4. Delivery Route Code and Retail Distribution Code

Delivery route codes and retail distribution codes (RDC) are included on labels produced by USPS systems and are recommended for labels produced by PC Postage providers. They may also be required by Negotiated Service Agreements or as part of a specific USPS mailing program.

The RDC should be formatted and located on the label according to the following rules:
a. The RDC should be printed in 14 -point bold sans serif font.
b. The RDC value must always be a 4 -digit value. When a 2 - or 3 - digit code is returned from the RDC Assignment Table (e.g.: from Web Tools) leading zeros must be added to create a 4-digit code.
c. The RDC should be placed in the upper right hand corner of the address and delivery information segment.
d. When necessary, the RDC may be placed below other information required in the upper right hand corner of the address block.

The route code should be formatted and located on the label according to the following rules:
a. The route code should be indented from the right edge of the label and the RDC.
b. The route code should be printed in a font no smaller than the delivery address. The recommend minimum font size is 10 points resulting in characters of $1 / 8$ inch or greater.
c. The route code should be located to the right of and above the delivery address and below any endorsements.
d. Ideally, the route code should be right justified with an imaginary box surrounding the entire delivery address block.
e. The entire route code should be bordered by a minimum 1-point box with a minimum of $1 / 16$ inch between the text and the border.

### 2.4. Intelligent Mail Package Barcode Segment

The Intelligent Mail package barcode segment ${ }^{2}$ is the most stringently defined segment of the label and compliance with the following standards is required for proper processing and certification. Formal specifications on barcode creation may be found in Appendix A of this guide, or in the supporting document USPS2000508, Intelligent Mai Package Barcode Specification.


Figure 8: Intelligent Mail Package Barcode Segment

[^1]
### 2.4.1. Intelligent Mail Package Barcode Segment

The Intelligent Mail Package Barcode Segment is comprised of four elements:
a. Identification Bars
b. Barcode Banner Text
c. GS1-128 Barcode
d. Human Readable Representation of the barcode data

Identification bars are required above and below the barcode section.
a. Identification bars must be $1 / 32$ to $1 / 16$ inch thick.
b. Identification bars must have a minimum clear space of $1 / 32$ inch above or below the corresponding barcode banner or human readable indicator.
c. Identification bars must extend for the full length of the barcode including the clear zone, but may extend further.

The barcode banner identifies the services and characteristics of the barcode.
a. The barcode banner must be printed in an uppercase bold sans serif font which results in characters of $29 / 32$ ( $0.09^{\prime \prime}$ ) to $1 / 8$ inch (baseline to capsline).
b. The barcode banner should be centered above the barcode.
c. The barcode banner must have a clear space of $1 / 8$ to $1 / 4$ inch between the banner and the barcode.
d. The barcode banner must not exceed the length of the identification bars.
e. Appropriate banners can be found in Publication 199, Implementation Guide to Intelligent Mail ${ }^{T M}$ Package Barcode, or Publication 205, eVS ${ }^{\oplus}$ Business and Technical Guide.

The GS1-128 barcode contains machine readable information specific to the mailpiece. Detailed specifications for the GS1-128 barcode are provided in Appendix A.
a. The barcode must be at least $3 / 4$ inch in height ${ }^{3}$.
b. The barcode must have a minimum clear space above and below of $1 / 8 \mathrm{inch}$.
c. The barcode must have a minimum clear space at least 10 times the X -dimension with a recommendation of $1 / 4$ inch to either side.

The human readable text below the barcode should display the relevant data of the barcode as described below.
a. The human readable indicator should be printed in an uppercase bold sans serif font which results in characters of $29 / 32$ ( 0.09 ") to $1 / 8$ inch (baseline to capsline).
b. The human readable indicator should be centered below the barcode.
c. The human readable indicator must have a clear space of $1 / 8$ inch to $1 / 4$ inch between the text and the barcode.
d. The human readable indicator should not exceed the length of the identification bars.
e. When using the IMpb , the human readable indicator should not include the Application Identifier 420 or the ZIP Code.
f. The human readable indicator should be parsed into groups of 4 with any remaining digits grouped at the end.

[^2]
### 2.5. Additional Information and User Segment

### 2.5.1. Additional Information and User Segment

The additional information and user area may contain information required for specific services or programs which is not otherwise defined in this labeling guide, or for any information as otherwise defined by the label creator such as shipment date and weight ${ }^{4}$. This segment may be used for specific shipment or shipper information including branding and logos.

Though generally freeform in design, information in the additional information and user information segment should conform to the following conventions:
a. Text should appear right justified (in order for OCR software to better differentiate this information from the address blocks).
b. Any blocks of information should be separated by a minimum of four character spaces to ensure readability by delivery associates.
c. Font size of text in this area should be smaller than that used in the Delivery Address Area but should adhere to the same font and style guidelines as other text on the label (e.g.: sans serif, capital letters, and a minimum 1/16 inch away from any edge or other element on the label).

## 3. Recommended Label Formats

### 3.1. Design considerations

The USPS preferred label size is the shipping industry standard of $4 \times 6$ inches. However, it is understood that a single label layout or size will not fit all applications or parcel sizes and shapes. To this end, this document provides recommendations that may be applied to "nonstandard" label sizes. A $6 \times 3$ inch and a $4 \times 4$ inch label are described herein, and are intended to assist shippers by defining smaller formats and sizes that may more readily fit parcels which do not support the standard $4 \times 6$ inch label.

### 3.2.4x6 Labels

The $4 \times 6$ ( 4 inches wide and 6 inches high) label is the USPS recommended layout for parcel labels. This layout allows for optimum spacing of all elements and still allows space for additional information and user elements to be defined by the mailer. With this layout, the payment and branding, addressing, and barcode segments can be grouped together with user specific elements placed at the top and/or bottom of the label.

### 3.2.1. Payment and Branding Segment

The $4 \times 6$ label allows for inclusion of all elements of the payment and branding segment including the service icon block and banner as well as a permit imprint or other postage payment method. The total size of this segment on the $4 \times 6$ label should be approximately $15 / 16$ inches in height.

[^3]
### 3.2.2. Addressing Segment

The $4 \times 6$ label allows sufficient space for inclusion of a return address, endorsements, and a delivery address. This format provides an area for the delivery address of approximately 3 $1 / 4 \times 15 / 16$ inches (including the left margin offset and space between the address and address marks, if used).

### 3.2.3. Intelligent Mail Package Barcode Segment

On all label sizes, the Intelligent Mail package barcode segment requirements must be adhered to as described in Section 2.4 above. This segment of the label should be approximately $11 / 2$ inches in height.


Figure 9: 4x6 Label

### 3.2.4. Additional Information and User Segment

On a $4 \times 6$ label the additional information and user segment may be placed above or below the payment and branding, addressing, and Intelligent Mail package barcode segments or split between the two.

Care should be taken when placing the additional information and user segment at the top of the label not to include address information which could be misinterpreted by OCR scanning equipment as either the return address or delivery address.

### 3.3.4x4 Labels

The $4 \times 4$ (4 inches wide and 4 inches high) label allows for less information than the $4 \times 6$ label but may be a useful format when shipping smaller sized parcels. The following guidance is provided for formatting a $4 \times 4$ label. However, placement of label elements may vary based on mailing requirements and, as such, the suggestions below are meant as guidelines as opposed to rules.

### 3.3.1. Payment and Branding Segment

The reduced size of the payment and branding segment will most likely preclude the use of the service icon block and service banner on a $4 \times 4$ label in order to devote the largest area possible to the addressing segment. Though it may be possible to include the service icon block if the addressing segment will be known to be small or not include endorsements, it will most likely be necessary to reduce the size of and right justify the payment and branding segment in order to allow sufficient space for the return address. Please note that without a service banner, the class of mail will need to be identified as part of the indicia as described in the DMM and as shown in Figure 10 below.

### 3.3.2. Addressing Segment

The addressing segment on a $4 \times 4$ label is reduced in size from that of a $4 \times 6$ label but should still allow sufficient space for inclusion of a return address, endorsements, and a delivery address. However, the area for the delivery address will be reduced to approximately 1 inch in height. This measurement assumes a single endorsement and may be increased or decreased to accommodate fewer or greater endorsements or address lines. Reduced font sizes may also be necessary for the delivery address to maintain white space requirements, however, this is not preferred.

### 3.3.3. Intelligent Mail Package Barcode Segment

On all label sizes, the Intelligent Mail package barcode segment requirements must be adhered to as described in Section 2.4 above. This segment of the label should be approximately 1 1/2 inches in height.

### 3.3.4. Additional Information and User Segment

A $4 \times 4$ label devoting maximum space to addressing may not have room for an additional information and user segment. If this area is included, it will be necessary to alter or reduce the addressing segment accordingly.
INTERNET SALES DEPT
INTERNET SALES DEPT
FAST AND EFFICIENT SUPPLY CO.
FAST AND EFFICIENT SUPPLY CO.
10474 COMMERCE BLVD DUPLEX B
10474 COMMERCE BLVD DUPLEX B
SILVER SPRING MD 20910-9999
SILVER SPRING MD 20910-9999

PRIORITY MAIL
U.S. POSTAGE PAID PERMIT NO. CITY, STATE
RETURN SERVICE REQUESTED


Figure 10: 4x4 Label

### 3.4.6x3 Labels

The $6 \times 3$ ( 6 inches wide and 3 inches high) label may be a useful format when shipping unusually shaped mailpieces such as mailing tubes. Placement of label elements may vary based on mailing requirements and, as such, the suggestions below are meant as guidance as opposed to rules.

### 3.4.1. Payment and Branding Segment

The $6 \times 3$ label size requires that the payment and branding segment be reduced in size and right justified in order to allow room for other required elements. Please note that without a service banner, the class of mail will need to be identified as part of the permit imprint as described in the DMM and as shown in Figure 11 below.

### 3.4.2. Addressing Segment

The $6 \times 3$ label requires the addressing segment to be split, with the return address and endorsements left justified at the top of the label and the delivery address right justified below the payment and branding segment. Furthermore, since the $6 \times 3$ label format reduces the area available for a delivery address to approximately 2 inches wide by $11 / 4$ inches high, the use of smaller fonts or a reduced number of lines in the delivery address may be necessary. The reduced area for this section will also reduce the number of characters available per line.


Figure 11: 6x3 Label

### 3.4.3. Intelligent Mail Package Barcode Segment

On all label sizes, the Intelligent Mail package barcode segment requirements must be adhered to as described in Section 2.4 above. This segment of the label should be approximately $11 / 2$ inches in height. However, on the $6 \times 3$ label the barcode can be left justified and its identification bars should be limited to the length of the barcode plus its clear space requirement of $1 / 4 \mathrm{inch}$ on either side.

### 3.4.4. Additional Information and User Segment

A $6 \times 3$ label created as described in this section will contain approximately $1 / 3$ inch for the additional information and user segment. This area may be expanded based on the need for endorsements and delivery address space.

## 4.Other Label Types

### 4.1. Parcel Return Service Label

Parcel Return Service (PRS) must conform to the following specifications in addition to the general labeling rules described in Section 2 of this document.

### 4.1.1. Payment and Branding Segment

PRS labels require a postage guarantee imprint defined as follows:
a. The imprint must read "NO POSTAGE NECESSARY IF MAILED IN THE UNITED STATES."
b. The imprint must be located in the upper right hand corner of the label.
c. Below the imprint, a minimum of 3 horizontal bars are required.
d. The bars must be uniform in length, at least 1 inch long, at least $1 / 16$ inch thick and evenly spaced.
e. The imprint should not extend more than $13 / 4$ inches from the right edge of the label.

Parcel Return Service labels do not support a Service Icon Block or Service Banner.

### 4.1.2. Addressing Segment

The return address of the customer using the label to mail the parcel back to the permit holder must appear in the upper left-hand corner of the label. If the return address is not preprinted by the permit holder then space must be provided for the customer to enter a return address.


AGENT / CLIENT NAME PARCEL RETURN SERVICE 56999

## NDC ZIP - USPS PARCEL RETURN SERVICE



9202391234567806150009

RMA\# ||||||||||||||||||| ||| |||

Figure 12: PRS 4x6 Label

Above the delivery address the label must contain the Parcel Return Service legend.
Line 1: The first line of the legend must read "PARCEL RETURN SERVICE" or alternatively "PARCEL RTN SVC" in capital letters at least $3 / 16$ inches in height.
Line 2: The second line of the legend must include the permit holder's name, left justified in capital letters, followed by the text "PERMIT NO." and the actual permit number. Though a size for line 2 is not required by standard, an 8 -point font resulting in characters of approximately $3 / 32$ of an inch is recommended.

The entire legend should be bordered by a minimum 1-point box with $1 / 16$ inch clearance between the box and text.
The delivery address must be formatted as follows:
Line 1: The PRS agent or merchant's name.
Line 2: The text "PARCEL RETURN SERVICE" or alternatively "PARCEL RTN SVC."
Line 3: The unique PRS 569\#\# ZIP Code assigned by USPS to the permit holder in their PRS service agreement.

The delivery address should also meet the following printing requirements:
a. The delivery address, except for the ZIP Code, should be printed using a 10 -point or greater sans serif font in upper case letters resulting in characters of $1 / 8$ inch (baseline to capsline) or greater.
b. The ZIP Code must be printed in at least a 12-point font.
c. All lines of the delivery address should be left justified and evenly spaced.
d. The delivery address should be located at least 1 inch from the left edge of the label.


Figure 13: PRS 6x4 Label

### 4.1.3. Intelligent Mail Package Barcode Segment

As with all labels, the Intelligent Mail package barcode segment requirements must be adhered to as described in Section 2.4 above. However, for a PRS label the location of the barcode is service specific. The barcode must not be in the upper left, upper right, or lower right corners of the label as these are reserved for other information. The barcode may be placed below the delivery address on a $4 x 6$ label or in the lower left corner on a $6 \times 4$ or $6 \times 3$ label.

A postal routing barcode is required on PRS labels. If a concatenated barcode cannot be used, a postal routing barcode can be placed in any location on the label not occupied by other reserved data.

The barcode service banner for a concatenated barcode should include the additional notation "NDC" prior to the text "ZIP." If a concatenated barcode is not used, then the postal routing barcode banner should include the notation "NDC."

### 4.1.4. Additional Information and User Segment

The alphanumeric mailer identification assigned to the PRS permit holder must be included on the lower right-hand corner of the label formatted as follows:
a. The alphanumeric mailer ID consists of a single uppercase alphabetic character followed by a two, three, or four-digit number with no spaces or dashes.
b. The alphanumeric mailer ID must be at least $3 / 16$ inches in height.
c. The alphanumeric mailer ID should be surrounded by a box with a $1 / 16$ inch clearance between the mailer id and the box.
d. The alphanumeric mailer ID may optionally be printed in reverse type (white letters on a black background).

Additional information such as a company logo or Return Merchandise Authorization (RMA) number, etc. may be included in the additional information section if it does not interfere with any of the required elements of the PRS label.

### 4.2. Merchandise Return Service Label

Merchandise Return Service (MRS) has specific labeling requirements in addition to the general rules described in Section 2 of this document. The specific requirements of MRS necessitate the use of a 6x4 label (or greater) in landscape mode.

### 4.2.1. Payment and Branding Segment

Merchandise Return Service labels require a postage guarantee imprint defined as follows:
a. The imprint must read "NO POSTAGE NECESSARY IF MAILED IN THE UNITED STATES."
b. The imprint must be located in the upper right hand corner of the label.
c. Below the imprint, a minimum of 3 horizontal bars are required.
d. The bars must be uniform in length, at least 1 inch long, at least $1 / 16$ inch thick and evenly spaced.
e. The imprint should not extend more than $13 / 4$ inches from the right edge of the label.

If a class of mail price marking is specified, it must be printed in $3 / 16$ inch uppercase letters and placed above and to the right of the MRS legend (discussed below). MRS labels do not support a Service Icon Block or Service Banner.

### 4.2.2. Addressing Segment

The return address of the customer using the label to mail the parcel back to the permit holder must appear in the upper left-hand corner of the label. If the return address is not preprinted by the permit holder, then space must be provided for the customer to enter a return address.

Above the delivery address the label must display the Merchandise Return Service legend.
Line 1: The first line of the legend must read "MERCHANDISE RETURN SERVICE" in capital letters at least $3 / 16$ inches in height.
Line 2: The second line of the legend must include the text "PERMIT NUMBER" or "PERMIT NO." followed by the actual permit number and the name of the issuing Post Office (city and state) in capital letters and Post Office ZIP Code. Though a size for line 2 is not mandated in the DMM, an 8-point font resulting in characters of approximately $3 / 32$ of an inch is recommended.
Line 3: The last line of the legend should include the name and delivery address (street or Post Office box number) of the permit holder. Though a size for line 3 is not mandated in the DMM, an 8-point font resulting in characters of approximately $3 / 32$ of an inch is recommended.

The entire legend should be bordered by a minimum 1-point box with $1 / 16$ inch clearance between the box and text.

The delivery address itself should be formatted as follows:
Line 1: The text "POSTAGE DUE UNIT"
Line 2: The text "U.S. POSTAL SERVICE"
Line 3: The delivery address line for the postage due unit
Line 4: The city, state and ZIP Code of the postage due unit at the Post Office where the MRS permit is authorized

The delivery address should meet the following printing requirements:
a. The delivery address should be printed using a 10-point or greater sans serif font in upper case letters resulting in characters of $1 / 8$ inch (baseline to capsline) or greater.
b. All lines of the delivery address should be left justified and evenly spaced.
c. The delivery address should be located at least 1 inch from the left edge of the label.

### 4.2.3. Intelligent Mail Package Barcode Segment

As with all labels, the Intelligent Mail package barcode segment requirements must be adhered to as described in Section 2.4 above. However, on the MRS label, the location of the barcode is service specific and must be placed in the lower left corner of the label.

### 4.2.4. Additional Information and User Segment

The labeling requirements of the MRS label provide only minimal room for user customization. However, additional information such as a company logo, RMA number, etc. may be included if it does not interfere with any of the required elements of the MRS label.


Figure 14: MRS Label with Barcode


Figure 15: MRS Label with Registered Mail Service and Class of Mail Marking

### 4.2.5. Postage Due Section

The MRS label requires a unique postage due section for use by USPS to calculate postage. This section must be placed above the MRS legend, to the left of any price markings, and directly below the return address. All entries in the postage due section should be printed using an 8 -point sans serif font in upper case letters resulting in characters of $3 / 32$ inch (baseline to capsline) or greater.

The postage due section begins with a header formatted as follows:
a. If no extra services are requested, the postage due header should read "POSTAGE DUE COMPUTED BY DELIVERY UNIT."
b. If extra services other than registry are required, the postage due header should read "POSTAGE DUE COMPUTED BY ACCEPTANCE POST OFFICE."
c. If registry service is requested, the postage due header should read "ACCEPTANCE POST OFFICE COMPUTE POSTAGE DUE."

The postage due section must also include the following markings right justified and aligned.
a. POSTAGE
b. TOTAL POSTAGE AND FEES DUE $\qquad$
If any of the following services are requested by the permit holder, the appropriate endorsements must appear between the POSTAGE and TOTAL POSTAGE AND FEES markings. Extra Service endorsements should not be included unless requested or approved by the permit holder. All markings should be right justified and aligned as follows:
a. INSURANCE FEE (IF ANY)
b. RETURN RECEIPT FOR MERCHANDISE (IF ANY) $\qquad$
c. SPECIAL HANDLING FEE (IF ANY)
d. PICKUP ON DEMAND SERVICE FEE (IF ANY) $\qquad$
e. REGISTERED FEE $\qquad$
When Registered Mail service is selected, the following endorsement is also required below the "TOTAL POSTAGE AND FEES DUE" marking:
a. For merchandise with a value $>\$ 0.00$, include the endorsement "REGISTERED MAIL SERVICE WITH POSTAL INSURANCE DESIRED BY PERMIT HOLDER."
b. For merchandise with no value, include the endorsement "REGISTERED MAIL SERVICE WITHOUT POSTAL INSURANCE DESIRED BY PERMIT HOLDER."

### 4.3.USPS Returns Services

USPS Returns Service (Scan Based Payment) labels for Priority Mail Return, First-Class Package Return, and Ground Return services are available from USPS through Online Application Programming Interfaces (API) and the Merchant Returns Label tool. Business Rules for privately printed labels are forthcoming. Please contact USPS for more information on Scan Based Payment labels.

### 4.4. Priority Mail Open and Distribute

Priority Mail Open and Distribute (PMOD) labels have unique requirements which affect the address and delivery segment. Requirements for the remainder of the label segments remain consistent ${ }^{5}$ with standard label formats.


Figure 16: PMOD Address and Label (not drawn to scale)

### 4.4.1. Addressing Segment

Open and Distribute address labeling is dependent on the destination postal facility. Addressing data should be derived from the Drop Entry files located at the USPS FAST web site (http://fast.usps.com).

For shipments addressed to a Destination Delivery Unit (DDU), the address should be formatted as follows:

Line 1: The text "OPEN AND DISTRIBUTE AT:"
Line 2: The destination facility name
Line 3: The destination facility street address
Line 4: The city, state and ZIP +4
For shipments addressed to a sectional center facility (SCF), an administrative support facility (ASF), an area distribution center (ADC), or Network Distribution Center (NDC), the address should be formatted as follows:

[^4]Line 1: The text "OPEN AND DISTRIBUTE AT:"
Line 2: Text indicating the facility type (SCF, ASF, ADC, or NDC) followed by the city, state, and ZIP Code of the destination facility.

Below the delivery address, the label should indicate the class and processing category of the enclosed mail.

### 4.5. Hold For Pickup

The Hold For Pickup service has specific addressing requirements which affect the address and delivery segment of the label. Requirements for the remainder of the label segments remain consistent with standard label formats.

```
INTERNET SALES DEPT
FAST AND EFFICIENT SUPPLY CO.
10474 COMMERCE BLVD DUPLEX B
SILVER SPRING MD 20910-9999
```


## HOLD FOR PICKUP

HOLD FOR: RONALD RECEIVER C/O ABC POST OFFICE
8403 LEE HIGHWAY
MERRIFIELD VA 22082-9999

Height $=1$ "
3/32" Left justified uppercase text

3/16" Banner
$1 / 8^{\prime \prime}$ Bold sans serif centered text

Height $=15 / 16^{\prime \prime}$
$1 / 8^{\prime \prime}$ Indented left justified uppercase text


Figure 17: Hold For Pickup Address Segment

### 4.5.1. Addresssing Segment

Hold For Pickup labels require a Hold For Pickup banner directly below the return address and above the delivery (Pickup Location) address. The Hold For Pickup banner should conform to the following requirements:
a. The banner should be $3 / 16$ inch in height.
b. The banner should be printed in reverse type (white letters on a black background).
c. The text "HOLD FOR PICKUP" should be printed using a 10-point or greater sans serif font in upper case letters resulting in characters of $1 / 8$ inch (baseline to capsline) or greater.
d. There should be $3 / 32$ to $1 / 16$ inch of white space above and below the banner.

Requirements for the return address on a Hold For Pickup label remain consistent with the standard $4 \times 6$ or $4 \times 4$ label. However, the delivery address should contain the recipient name and the address of the post office at which the mailpiece will be held formatted as follows:

Line 1: The text "HOLD FOR:" followed by the recipient name.
Line 2: The text "C/O" followed by the post office facility name.
Line 3: The post office street address.
Line 4: The post office city, state, and ZIP Code.
As with other delivery addresses, the following rules should also be followed:
a. The delivery address should be printed at least $1 / 2$ inch from the left edge of the label and indented at least $1 / 4$ inch from the left margin of the return address and recipient address.
b. The delivery address should be printed using a 10 -point or greater sans serif font in upper case letters resulting in characters of $1 / 8$ inch (baseline to capsline) or greater.
c. All lines of the delivery address should be left justified and evenly spaced.

### 4.6. Critical Mail Labels

Critical Mail is a sub-class of Priority Mail that is available for automation-compatible letters and flats, and has specific labeling requirements. Critical Mail labels should only be used in conjunction with USPS-produced Critical Mail envelopes and should bear an Intelligent Mail barcode $(\mathrm{IMb})$ with the correct routing code that represents the finest depth of sort available.
a. Critical Mail labels may also include an IMpb for USPS Tracking ${ }^{\text {TM }}$ or other extra services. However, when used, the IMpb must be a non-concatenated barcode without the postal routing (ZIP Code) information imbedded.
b. The service icon, when used, should be a blank box and the service banner should indicate the mail class of CRITICAL MAIL®


Figure 18: Critical Mail Envelopes LETTER or CRITICAL MAIL® FLAT.
c. Critical Mail labels not created for specific window envelopes may follow the other standard label requirements defined in Section 2 of this document.

## 5. Appendix A: Barcode Specifications

The following appendix has been excerpted, edited and abbreviated from the document: Barcode, Package, Intelligent Mail (USPS2000508) Specification - Cage Code: 27085 2010-08-19 Rev C and adapted for commercial mailers. For non-commercial barcode usage or for additional details the reader is directed to the USPS2000508 specification and is encouraged to check with USPS for updated versions.

Whereas this guide describes the usage of barcodes on labels, and this appendix outlines barcode specifications, USPS2000508 remains the basis for all technical requirements.

### 5.1. Intelligent Mail Package Barcode Data

The following fields are used to create an Intelligent Mail package barcode (IMpb).

### 5.1.1. Postal Code Application Identifier

The Postal Code Application Identifier (AI) is a specific 3-digit GS1 application identifier that is used to designate the presence of a delivery Postal Code within the barcode. This field will always be " 420 " and, must precede the destination ZIP Code if such routing information is provided.

Source: Always "420."

### 5.1.2. Destination ZIP Code

This field should contain the destination ZIP Code associated with the mailpiece being labeled. This field may be 5 or 9 digits in length depending on the use of a ZIP Code or ZIP+4.

Source: Specific to the mailpiece.

### 5.1.3. Channel Application Identifier

The Channel Application Identifier (AI) is a specific 2-digit application identifier used to identify both the business induction channel from which the mailpiece originated and to indicate where USPS may locate a payment record for the mailpiece. Valid IMpb Channel Application Identifiers are " 92 ", " 93 ", " 94 ", and " 95 ." AI " 92 " and AI " 93 " are for use by commercial mailers. AI " 94 " is for USPS online channel mailings and AI " 95 " is reserved for the USPS retail environment.

Source: For the commercial mailer, always a " 92 " when used with a 9 -digit Mailer ID or " 93 " when used with a 6 -digit Mailer ID.

### 5.1.4. Service Type Code

The 3-digit Service Type Code (STC) field identifies the mail class of the parcel and the presence of any extra services. The service type code also identifies if the mailpiece belongs to a special USPS program such as Open and Distribute or Merchandise Return Service.

Source: Specific to the mailpiece being identified. A complete list of service type codes can be found in Publication 199, Implementation Guide to Intelligent Mail Package Barcode, or Publication 205, eVS Business and Technical Guide.

### 5.1.5. Mailer ID

The Mailer ID (MID) field may be 6 or 9 digits in length. Most mailers will be assigned a 9 -digit MID which is used in conjunction with AI "92." On an individual basis, some mailers or consolidators may be assigned a 6 -digit MID and would then use AI " 93 ."

Source: Each mailer should obtain a unique MID from USPS.

### 5.1.6. Serial Number

Every barcode must contain a serial number which uniquely ${ }^{6}$ identifies the mailpiece associated with the mailer ID. Commercial mailers, depending upon the length of their mailer ID, may use a 7, 10, 11, or 14-digit serial number as defined in Table 2, IMpb Barcode Constructs.

Source: Defined by the mailer uniquely for each mailpiece. Use of a sequential number is recommended.

### 5.1.7. Mod 10 Check Digit

Every barcode construct must utilize a 1-digit, Mod 10 check digit as the final digit in the barcode data string. The Mod 10 check digit is calculated using the package identification code (PIC) portion of the data, which includes the channel AI, STC, MID and serial number.

Source: Calculated from the barcode data (See Section 5.3 for additional details).


Minimum 1/4" White Space
$1 / 8^{\prime \prime}-1 / 4^{\prime \prime}$ White Space
1/32-1/16" Identification Bar
Figure 19: Intelligent Mail Package Barcode

[^5]
### 5.2. Intelligent Mail Package Barcode Data Constructs

### 5.2.1. Commercial Mailer Constructs

The Intelligent Mail package barcode is created by combining the barcode data previously defined as described in the chart below.

| Type | No. | Data Field | Field <br> Length | Comments |
| :--- | :---: | :--- | :---: | :--- |

Table 1: IMpb data field overview
Together, these data elements are combined to create an Intelligent Mail package barcode. USPS supports 10 commercial mailer ${ }^{7}$ barcode constructs that can be formed from the data elements and lengths defined above. These are identified in Table 2 below.

[^6]| Construct | Postal <br> Code AI | Dest <br> ZIP | Channel <br> AI | STC | MID | Serial <br> Number | Check <br> Digit | PIC <br> Length <br> Barcode <br> Length |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| C01 | 3 | 9 | 2 | 3 | 9 | 7 | 1 | 22 | 34 |
| C02 | 3 | 5 | 2 | 3 | 9 | 11 | 1 | 26 | 34 |
| C03 | 3 | 5 | 2 | 3 | 9 | 7 | 1 | 22 | 30 |
| C04 | 0 | 0 | 2 | 3 | 9 | 7 | 1 | 22 | 22 |
| C05 | 3 | 9 | 2 | 3 | 6 | 10 | 1 | 22 | 34 |
| C06 | 3 | 5 | 2 | 3 | 6 | 14 | 1 | 26 | 34 |
| C07 | 3 | 5 | 2 | 3 | 6 | 10 | 1 | 22 | 30 |
| C08 | 0 | 0 | 2 | 3 | 6 | 10 | 1 | 22 | 22 |
| C09 | 0 | 0 | 2 | 3 | 6 | 14 | 1 | 26 | 26 |
| C10 | 0 | 0 | 2 | 3 | 9 | 11 | 1 | 26 | 26 |

Table 2: IMpb barcode constructs
Barcodes must be formatted to match one of these constructs. However, these various constructs allow for flexibility in field length to meet the requirements of different mailers.

Most mailers will be assigned a 9-digit mailer ID and will use a channel AI of " 92 " and constructs C01-C04 or C10. On an individual basis, large mailers may be assigned a 6 -digit mailer ID and would then use a channel AI of " 93 " along with constructs $\mathrm{C} 05-\mathrm{C} 09$.

Depending on the length of the mailer ID and the postal code information, different length serial numbers may also be used. This option enables large-volume mailers to maintain uniqueness among their mailpieces, or alternatively, allows mailers to embed their own data within the IMpb serial number.

This variability in length allows the IMpb to be either 22, 26, 30, or 34 digits in length depending upon the channel AI, serial number, and length of the postal code data (ZIP or ZIP+4). Although it is acceptable for a mailer to use different barcode constructs on different mailpieces, it is recommended that one construct be chosen to provide consistency in the data exchanged between the mailer and USPS.

### 5.2.2. Formatting the Intelligent Mail Package Barcode

Once a barcode construct has been chosen, the barcode can be created as described in the example below.


Figure 20: Barcode Construct

### 5.3. Calculating the MOD 10 Check Digit

A MOD 10 check digit is used as the final digit in the Intelligent Mail package barcode. The check digit calculation is based only upon the digits that make up the PIC, specifically the Application Identifier, Service Type Code, Mailer ID, and Serial Number. It does not include the Postal Routing Code Application Identifier or the Postal Routing Code (when present).

The following example from USPS200508 illustrates how to conceptually calculate a MOD 10 Check Digit ${ }^{\text {. }}$.

For the data:
a. $\quad$ Application Identifier $=91$
b. Service Type Code $=01$
c. Mailer ID $=123456789$
d. Serial Number $=00000001$

Calculate the MOD 10 check digit using the following steps:
Step 1: Create a two-row matrix, labeled 1 through 22, 1 being the most significant position (i.e., right-most position). Starting from the least significant position of the matrix (position 22), copy each digit of the PIC all the way to position 2 (excluding the position of the check digit shown in the example below by a "?").

| Position | 22 | $\mathbf{2 1}$ | $\mathbf{2 0}$ | $\mathbf{1 9}$ | $\mathbf{1 8}$ | $\mathbf{1 7}$ | $\mathbf{1 6}$ | $\mathbf{1 5}$ | $\mathbf{1 4}$ | $\mathbf{1 3}$ | $\mathbf{1 2}$ | $\mathbf{1 1}$ | $\mathbf{1 0}$ | $\mathbf{9}$ | $\mathbf{8}$ | $\mathbf{7}$ | $\mathbf{6}$ | $\mathbf{5}$ | $\mathbf{4}$ | $\mathbf{3}$ | 2 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| PIC | 9 | 1 | 0 | 1 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |

Figure 21: Illustrative Matrix for Positions/Values in a PIC - Step 1
Step 2: Starting from position 2 of the matrix, add the values from the even-numbered boxes.

| Position | 22 | 21 | 20 | 19 | 18 | 17 | 16 | 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| PIC | 9 | 1 | $\square$ | 1 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | $?$ |

Figure 22: Illustrative Matrix for Positions/Values in a PIC - Step 2
For the example: $1+0+0+0+9+7+5+3+1+0+9=35$
Step 3: Multiply the result of step 2 by 3.
For the example: $35 \times 3=105$
Step 4: Starting from position 3 of the matrix, add the values from the odd-numbered boxes, skipping position 1 because it is the position of the check digit.

| Position | $\mathbf{2 2}$ | $\mathbf{2 1}$ | $\mathbf{2 0}$ | $\mathbf{1 9}$ | $\mathbf{1 8}$ | $\mathbf{1 7}$ | $\mathbf{1 6}$ | $\mathbf{1 5}$ | $\mathbf{1 4}$ | $\mathbf{1 3}$ | $\mathbf{1 2}$ | $\mathbf{1 1}$ | $\mathbf{1 0}$ | $\mathbf{9}$ | $\mathbf{8}$ | $\mathbf{7}$ | $\mathbf{6}$ | $\mathbf{5}$ | $\mathbf{4}$ | $\mathbf{3}$ | 2 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| PIC | 9 | 1 | 0 | 1 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |

Figure 23: Illustrative Matrix for Positions/Values in a PIC - Step 4
For the example: $0+0+0+0+8+6+4+2+1+1=22$
Step 5: Add up the results for steps 3 and 4.

[^7]For the example: $105+22=127$
Step 6: The check digit is the smallest number which, when added to the result obtained through step 5 , gives a number that is a multiple of 10 .

For the example: $127+X=130$ therefore $X=3$
Thus the resulting PIC is 9101123456789000000013 .
NOTE: The dimension of the matrix (the number of cells) will vary depending on the length of the PIC, which in this example is 22.

The following code excerpt demonstrates one method of implementing this calculation programmatically. This example uses Visual Basic scripting which automatically converts data type providing the conversion from strings to integers. Your implementation may require additional steps.

| Dim PIC_without_checkdigit As String | 'Start with AI \& STC \& MID \& Seq no. |
| :--- | :--- |
| Dim PIC_with_checkdigit As String | 'Variable to hold the final PIC |
| Dim checkdigit As Integer | 'Variable to hold the check digit |
| Dim i As Integer | 'Variable to increment the loop |

Both the conceptual and programming examples above progress backwards through the data to calculate the check digit as this supports any length PIC whether it contains an odd or even number of digits. It is possible to calculate the same checksum by progressing forward through the data by first determining if the data string is odd or even.

Note: All current commercial IMpb barcode constructs (C01-C10) result in an initial data string length which is odd (without the check digit). However, this is subject to change.

### 5.4. Barcode Identification and Layout Requirements

In addition to the barcode itself, the Intelligent Mail package barcode segment of the label also includes a human readable representation of the barcode data, a USPS banner, and identification bars. These indicators, described below, serve as a guide in distinguishing the IMpb from other potential barcodes on a package.

### 5.4.1. Human Readable Representation of the Encoded Barcode Data

A human readable interpretation of the data characters represented in the barcode should be displayed below the barcode as specified within this document. The human readable text should not include the Postal Routing AI (420) or the ZIP Code (5 or 9-digit).

The human readable text should be displayed at least $1 / 8$ inch, but not more than $1 / 4$ inch below the barcode. The printed height of the characters should be within the range of $1 / 10$ inch to $1 / 8$ inch. To enhance readability, the human readable representation of the barcode data should be printed in a bold ${ }^{9}$, sans serif font and parsed or separated as defined in this document.

### 5.4.2. Barcode Banner

A barcode banner must be printed in all uppercase letters centered above the barcode. A clear zone of $1 / 8$ inch, but not more than $1 / 4$ inch must be maintained between the bottom edge of this text and the top of the barcode. The banner should be printed in a boldface sans serif font. The printed height of the characters should be within the range of $1 / 10$ to $1 / 8$ inch. The USPS Banner may not exceed the total combined length of the barcode and the minimum clear zones to left and right of the barcode. A table of service banners can be found in Publication 199, Implementation Guide to Intelligent Mail Package Barcode, or Publication 205, eVS Business and Technical Guide.

When creating labels for use with the Electronic Verification Service (eVS), the characters "eVS" should follow the barcode banner.

### 5.4.3. Identification Bars

Horizontal black lines with a thickness within the range of $1 / 32$ to $1 / 16$ inch thick should be printed above the USPS Banner and below the human readable representation of the barcode data. The lines must extend at least the total combined width of the barcode and the minimum clear zones to the left and right of the barcode, but may extend beyond this measurement up to the width of the label.

### 5.5. Physical Barcode Requirements

### 5.5.1. Barcode Symbology

The Intelligent Mail package barcode consists of a data string encoded in a format generally following the GS1-128 specification that supports the use of Application Identifiers and concatenation ${ }^{10}$. However, USPS has selectively deviated from GS1-128 specifications in several instances as required by operational constraints. Unless otherwise specified, the mailer must follow GS1 system rules for encoding element strings in GS1-128 barcode symbols. Only subset C is be permitted for this application.

### 5.5.2. Barcode X-Dimension

A barcode's X-dimension is the nominal width of the narrowest bar or space element within the barcode. X-dimensions are typically measured in mils, one mil being equivalent to 1/1,000 of an inch. The Intelligent Mail package barcode requires an X-dimension measuring between 0.013 inch ( 13.0 mils) and 0.021 inch ( 21.0 mils). X-dimensions ranging from 0.015

[^8]to 0.017 inch inclusive are preferred. The X-dimension must remain constant throughout the barcode symbol and may not vary.

### 5.5.3. Barcode Length

The overall length of the barcode is a function of the number of characters encoded and the X-dimension used.

### 5.5.4. Barcode Height

The overall minimum height of the barcode must measure at least $3 / 4$ inch. USPS may permit an alternate height under certain conditions as specified in the DMM or by customer-specific USPS agreement.

### 5.6. Quiet / Clear Zone Requirements

### 5.6.1. Minimum Horizontal Barcode Quiet / Clear Zone

A clear zone measuring at least ten times the X -dimension must be maintained immediately to the left and right of the barcode. No text, images, or other markings may appear in this area. USPS recommends a minimum clear zone of $1 / 4 \mathrm{inch}$.

### 5.6.2. Minimum Vertical Barcode Quiet / Clear Zone

A clear zone measuring at least $1 / 8$ inch must be maintained directly above and below the barcode. No text, images, or other markings may appear in this area.

### 5.7. Print Quality Requirements

### 5.7.1. Printer Resolution

USPS recommends a printer with a minimum resolution of 203 dots per inch (dpi) for printing the Intelligent Mail package barcode. Dots per inch is a measure of a printer's resolution, in particular it is the number of individual dots that can be produced within a linear 1-inch (2.54 cm) space.

### 5.7.2. Reflectance / Symbol Contrast

The Intelligent Mail package barcode must be printed on a substrate (e.g.: shipping label) which is uniform in color. Barcode scanning equipment responds to differences between light reflected from the darkest bar and lightest space within barcode symbols, including quiet zones. Reflectance will be measured on a USPS-specified reflectance meter or barcode verifier.

The reflectance value of the darkest bar within the barcode symbol (Rmin) must be equal to or less than half the reflectance value of the lightest space (Rmax), when measured in the red spectral range between 630 nanometers ( nm ) and 675 nm .

$$
\mathrm{R}_{\min } \leq 0.5 \mathrm{R}_{\max }
$$

Symbol contrast is the difference between the highest reflectance value (Rmax) and the lowest reflectance value (Rmin) within the barcode symbol, including the quiet zones. The symbol contrast must be greater than or equal to 40 percent.

$$
\begin{aligned}
& S C=R_{\text {max }}-R_{\text {min }} \\
& S C \geq 40 \%
\end{aligned}
$$

### 5.7.3. Barcode Quality

At least 70 percent of the barcodes in each mailing must have an overall symbol grade of " B " or better when measured with the appropriate aperture size in the red spectral range between 630 nanometers ( nm ) and 675 nm . The remainder must measure no less than a symbol grade of "C." Specified symbol grades are based upon the ISO/IEC 15416 Barcode Print Quality Guideline which recommends a method of measuring the quality parameters of printed barcode symbols.

The different symbol grades indicate print quality. Only the use of the appropriate aperture for the specific X -dimension of the barcode symbol under consideration will guarantee that the grade obtained from measurement of this symbol is the correct grade according to the ISO/IEC 15416 specified methodology. Therefore, in accordance with this methodology, the mailer should use a 10 -mil aperture $(0.250 \mathrm{~mm})$ when measuring barcodes printed with X-dimensions between 0.013 and 0.021 inches (13-21 mils).

## 6. Appendix B: Addressing Considerations

The following appendix is provided as a "quick reference guide" to the reader to assist in proper addressing. For complete information on address preparation and formatting, the reader is directed to Publication 28, Postal Addressing Standards.

### 6.1. Address Elements

A residential delivery address may contain the following information.

| Line | Data Element | Example | Requirement |
| :---: | :---: | :---: | :---: |
| 1 | Optional Endorsement Line | \#BXNHHVF ${ }^{\text {***********}}$ C002 | Required for certain programs and discounts |
| 2 | Key Line Data | \#ABCDEFGHIJKLMNO3\#/12345678 | Required for certain programs and discounts |
| 3 | Intelligent Mail barcode (IMb) | In | Not applicable for parcels but may be required on letters and flats for certain programs and discounts |
| 4 | Recipient Line | MS MILDRED DOE | Required |
| 5 | Delivery Address Line | 12 RESIDENTIAL DR NW | Required |
| 6 | City, State, ZIP (or ZIP+4) Line | KRYTON TN 38188-0002 | Required |

Table 3: Residential Delivery Addressing
A business delivery address may contain the following information:

| Line | Data Element | Example | Requirement |
| :---: | :---: | :---: | :---: |
| 1 | Optional Endorsement Line | \#BXNHHVF ***********002 | Required for certain programs and discounts |
| 2 | Key Line Data | \#ABCDEFGHIJKLMNO3\#/12345678 | Required for certain programs and discounts |
| 3 | Intelligent Mail barcode (IMb) | ${ }^{1}$ | Not applicable for parcels but may be required on letters and flats for certain programs and discounts |
| 4 | Mailstop Code | MSC 4567ABCD | Optional |
| 5 | Attention Line | MS MILDRED DOE | Optional |
| 6 | Individual Title | PROFESSIONAL ENGINEER | Optional |
| 7 | Functional Title | DESIGN ENGINEERING MGR | Optional |


| 8 | Group, <br> Department, <br> Division | BRAKE CONTROL DIVISION | Optional |
| :---: | :--- | :--- | :--- |
| 9 | Business / Firm <br> Name | BIG BUSINESS INC | Required |
| 10 | Delivery Address <br> Line | 12 E BUSINESS LN STE 209 | Required |
| 11 | City, State, ZIP <br> (or ZIP+4) Line | KRYTON TN 38188-0002 | Required |

Table 4: Business Delivery Addressing
At a minimum the delivery address should always contain the following information:
a. Business Name or Recipient Line
b. Delivery Address Line
c. Last Line (city, state, and ZIP+4)

Other items, such as the optional endorsements line and key line may be required for certain USPS programs and discounts.

### 6.2. Delivery Addresses

For optimal mail delivery, the following formatting considerations should be observed:
a. The delivery address line is critical to mail delivery and should be broken down into its distinct components of address number, pre-direction, street name, suffix, postdirection, secondary address identifier, and secondary address with one space between each of the components.
b. The delivery address line should be limited to 40 characters. Suggested standard abbreviations to reduce the address line length to 40 characters or less can be found in Publication 28, Postal Addressing Standards. However, if all of the delivery address cannot fit in one line, then secondary address information can be placed immediately above the delivery address line.
c. For domestic addresses, the last line of the address should contain the city, state, and ZIP (or ZIP+4) Code. The city and state should be separated by one space and the state and ZIP Code should be separated by 2 spaces. With the exception of the hyphen used in ZIP +4 formatting, all punctuation may be omitted in the last line of the address block.
d. International addresses should be formatted according to the standards of the destination county and include the country name in English below any other address lines.
e. Above the delivery line, optional endorsements and key line data may be placed in accordance with the mail sorting or discount requirement of various USPS programs.

```
MR JOHN DOE
123 MAGNOLIA ST
HEMPSTEAD NY 11590-1234
```

```
ATTN MR P KLAUSNER
ABC COMPANY
1401 MAIN ST
FALLS CHURCH VA 22041-1234
```

\#BXNHJVF*********C002
\#ABCDEFGHIJKLMN03\#/12345678

MS RACHEL MARJORY
PROFESSIONAL ENGINEER
IMPRESSIVE BUSINESS
323 E BUSINESS LN STE 1994
KRYTON TN 38188-0002

## ABC MOVERS

1500 E MAIN AVE
SPRINGFIELD VA 22162-1010

```
MS B RICHARDSON
APT C
5800 SPRINGFIELD GARDENS CIR
SPRINGFIELD VA 22162-1058
```

```
INGE DIETRIC-DISCHER
HARMANSTRASSE }
5300 BONN 1
GERMANY
```

SSGT I KOSNOSKY
UNIT 2050 BOX 4190
APO AP 96278-2050

Figure 24: Delivery Addresses

### 6.3. Return Addresses

The return address can be constructed in the same format as delivery addresses with the exception of optional endorsements and key line data. A return address is required in any of the following situations:

- Mail of any class bearing a printed ancillary service request or an ancillary service request embedded within an Intelligent Mail barcode
- Official mail
- Mail paid with pre-canceled stamps (except Standard Mail pieces weighing 13 ounces or less and bearing a mailer's postmark)
- Materials bearing a company permit imprint
- Priority Mail (including Critical Mail)
- Periodicals in envelopes or wrappers
- Standard Post
- Media Mail, Library Mail, and Bound Printed Matter (except unendorsed Bound Printed Matter)
- Parcel Select (including Parcel Select Lightweight and Regional Ground)
- Registered Mail
- Insured mail
- Collect on Delivery (COD) mail
- Certified Mail if a return receipt is requested
- Priority Mail Express if a return receipt is requested
- Detached Address Labels
- Adult Signature


## 7.Appendix C: Font Considerations

This appendix is included to clarify the definitions, terms, and measurements used in this guide regarding the use of text on labels and to clarify common misconceptions surrounding font and point size which can affect print readability and OCR capabilities.

### 7.1. Point Size

Point size is a standard measure of type. One point is approximately $1 / 72^{\text {nd }}$ of an inch. However, that should not be interpreted to imply that a letter printed in a 72-point font will be 1 inch in height.

Font size includes a letter's ascent and descent. Ascent refers to that part of a character that rises above the capsline, and descent refers to that part of a character that falls below the baseline. Few, if any, letters will comprise the total points inherit in a font. A capital letter is measured from the baseline of a font to its capsline, which is a subset of the total font size or font height.


Figure 25: Font Size Basics
The size of the ascent and descent are incorporated in the font design and different fonts may be designed with different ascents and descents. For an example, refer to the differences between Times New Roman and Arial fonts below.


Figure 26: Font Comparison
Because font sizes may differ, the recommendations in this guide are given in both fonts and wherever possible, recommended size in inches. Careful attention to character sizing will ensure the most efficient processing of labels and parcels by USPS.

### 7.2.Sans Serif

Serifs are the short lines at the end of the main strokes of a character. Sans serif (without serif) refers to fonts without these lines. In the above example, Times New Roman is a serif font and Arial is a sans serif font. USPS OCR equipment requires sans serif fonts for optimum readability.

### 7.3. Recommendations

Fonts such as Arial, Verdana, Helvetica, Avant Garde, Century Gothic and Geneva are recommended for use in creating USPS labels.

## 8. Appendix D: Label Placement

Improperly applied shipping labels can cause scanning problems and affect the quality of tracking data provided by USPS. The following label placement guidelines will help ensure maximum label scanning and processing.
a. Always place the label fully on the address side of the package without overlapping the side or any other label.
b. If for some reason, the Intelligent Mail package barcode appears on a separate label from the delivery address, you should place the barcode above or to the left of the delivery address with less than $1 / 2$ inch between the label and the address.
c. Do not cover USPS barcodes with tape or plastic wrap that may negatively impact readability of these barcodes.
d. When placing a barcode onto a convex or round object (such as a mailing tube), it is very important that the barcode be placed on the package such that the bars of the barcode are perpendicular to the curve of the item (note: if a parcel curves in more than one direction, you should consider placing the item within a box or other flatsided container).


## 9. Appendix E: Service Banner Extensions

Effective July 28, 2013, USPS provided for service standards and service commitments to be added to Priority Mail and Priority Mail Express service banners. Service standards and commitments must be determined using approved USPS time-in-transit sources such as the Rate Engine, Web Tools or Service Standards and Exceptions files.

Service banner extensions, also known as "day-specific" banners, are required for all USPS created Priority Mail and Priority Mail Express labels as well as those created by USPS PC Postage providers. They are optional for manifest vendors and custom-built applications.

Due to the increased size of the mail class name, the 20-point font rule for the service banner has been relaxed for service banners bearing a service standard exception. The largest font available should be used which allows the entire banner text to fit on one line with a minimum of $1 / 16$ " clear space between the banner and its borders.

The following rules govern the use of the service banner extensions:
a. When using a service banner extension, the "USPS" prefix should not be included in the banner text.
b. "1-DAY" will be appended to shipments with a 1 business day transit time within the 50 United States and possessions, territories, and freely associated states except as identified in the table below.
c. "2-DAY" will be appended to shipments with a 2 business day transit time within the 50 United States and possessions, territories, and freely associated states except as identified in the table below.
d. "3-DAY" (Priority Mail only) will be appended to shipments with a 3 business day transit time within the 50 United States and possessions, territories, and freely associated states except as identified in the table below.
e. "MILITARY" will be appended to shipments destined to an APO or FPO except those originating in select possessions, territories, and freely associated state post codes as identified in the table below.
f. "DPO" will be appended to shipments destined to a DPO except those originating in select possessions, territories, and freely associated state post codes identified in the table below.
g. "INTL" will be appended to all Priority Mail International and Priority Mail Express International shipments.
h. When the transit time cannot be determined, the 1-DAY, 2-DAY and 3-DAY extensions should be omitted.

The following banners are trademarked. The trademark is optional on the label but when used must be included as shown below.
a. PRIORITY MAIL 1-DAYTM
b. PRIORITY MAIL 2-DAYTM
c. PRIORITY MAIL 3-DAYTM
d. PRIORITY MAIL MILITARY ${ }^{\circledR}$
e. PRIORITY MAIL DPO ${ }^{\circledR}$
f. PRIORITY MAIL INTLTM
g. PRIORITY MAIL EXPRESS 1-DAY ${ }^{\top M}$ (recommended banner font is 16 points)
h. PRIORITY MAIL EXPRESS 2-DAY ${ }^{\top M}$ (recommended banner font is 16 points)
i. PRIORITY MAIL EXPRESS INTL ${ }^{\text {TM }}$ (recommended banner font is 16 points)
j. PRIORITY MAIL EXPRESS DPO ${ }^{\text {M }}$ (recommended banner font is 16 points)
k. PRIORITY MAIL EXPRESS MILITARYM (recommended banner font is 14 points)

## PRIORITY MAIL EXPRESS 1-DAY PRIORITY MAIL 1-DAY ${ }^{\text {M }}$

Figure 27: Day-Specific Service Banner
Specific examples of labels can be found in Appendix F.

## 10. Appendix F: Sample Labels



Figure 28: First-Class Package eVS


Figure 30: Priority Mail Express eVS


Figure 29: First-Class Commercial Plus


Figure 31: Priority Mail Express eVS with Service Banner Extension


Figure 32: Priority Mail Cubic


Figure 34: Adult Signature eVS


Figure 33: Signature Confirmation eVS


Figure 35: Hold For Pickup


Figure 36: Parcel Select Lightweight with Solid Service Icon


Figure 38: Priority Mail with Service Banner Extension


Figure 37: Parcel Select Lightweight with Intersected Diagonal Lines Service Icon


Figure 39: Priority Mail with Service Banner Extension Destined to a DPO


Figure 40: Priority Mail with Service Banner Extension Destined to an APO or FPO


Figure 42: Cubic Soft Pack


Figure 41: Priority Mail Express with Service Banner Extension Destined to an APO or FPO


Figure 43: Label Showing Address Marks

## 11. Appendix G: Reference Documents

The following documents providing input to this guide may be of interest to the reader:
a. DMM 202, Elements on the Face of a Mailpiece
b. DMM 602, Addressing
c. DMM 604, Postage Payment Methods
d. DMM 708, Technical Specifications
e. GS1: General Specifications
f. ISO/IEC 15416, Information Technology - Automatic Identification and Data Capture Techniques - Barcode Print Quality Test Specification - Linear Symbols
g. ISO/IEC 15417, Information Technology - Automatic Identification and Data Capture Techniques - Barcode Symbology Specification Code 128
h. Publication 28, Postal Addressing Standards
i. Publication 97, Priority Mail Express Manifesting Business and Technical Guide
j. Publication 199, Intelligent Mail Package Barcode (IMpb) Implementation Guide for Confirmation Services and Electronic Verification System (eVS) Mailers
k. Publication 205, Electronic Verification System (eVS) Business and Technical Guide
I. USPS2000508, Intelligent Mail Package Barcode Specification

## 12. Appendix H: Revision History

| Version | Author | Change Summary |
| :---: | :--- | :--- |
| 1.0 | P. Klausner | Original source document published 2012 |
| 1.1 | P. Klausner | Corrected IMpb construct Figure 20. |
| 2.0 | P. Klausner / <br> Y. Bakalov | Incorporated or revised the following standards: Priority Mail <br> Express, day-specific service banner extensions, route code, <br> retail distribution code, Critical Mail, MRS IMpb. Removed <br> obsolete content pertaining to the discontinued POSTNET <br> Leg |

Table 5: Revision History


[^0]:    ${ }^{1}$ Service standard and commitment extensions are required for labels produced by USPS systems and PC Postage providers.

[^1]:    ${ }^{2}$ This guide describes usage of the IMpb. Users creating labels for Priority Mail Express Manifesting, which utilizes the UPU S10 barcode, are directed to Publication 97, Priority Mail Express Manifesting Business and Technical Guide.

[^2]:    ${ }^{3}$ Though discouraged, with approval from USPS, a $1 / 2$-inch barcode may be allowed for specific labeling requirements.

[^3]:    4 Although somewhat common in current practice to include shipping information to the right of the return address, it is preferred to locate this information in the Additional Information and User Segment.

[^4]:    ${ }^{5}$ Open and Distribute shipments may have container labeling requirements, in addition to address labels, which are not discussed in this document. Please refer to the DMM for a full description of Open and Distribute program requirements.

[^5]:    ${ }^{6}$ Barcode serial number uniqueness must be maintained for a minimum of 180 days.

[^6]:    ${ }^{7}$ Commercial mailer barcode constructs are used for permit imprint mailings. Online constructs, not included in this document, exist for PC Postage and metered mailings. For more information please refer to reference document USPS2000508, Intelligent Mail Package Barcode Specification.

[^7]:    ${ }^{8}$ Please note that this example, taken from the source document, uses a legacy barcode construct with an application identifier of " 91 " however, this does not affect the calculation logic.

[^8]:    ${ }^{9}$ Not all fonts/typefaces print with the same thickness of stroke; "boldface" is meant as a subjective recommendation, conveying the need for emphasis and readability. Fonts such as Helvetica Bold or Arial Bold are examples of simple, boldface fonts which would satisfy USPS requirements.
    10 Mailers should pay close attention to the Data Constructs detailed in this document in order to construct the Intelligent Mail package barcode properly. Concatenated barcodes use a second Function 1 (FNC1) character immediately following the ZIP Code to join the routing information with the traditional PIC. Accidentally omitting this character will cause a format error.

