Overview

# Intelligent Mail barcode data

Intelligent Mail barcodes (IMBs) have several representations and two basic formats. A serial number that identifies each mailpiece is required when IMBs are used with the United States Postal Service (USPS) Intelligent Mail Full-Service option.

## Representations

AFP Enhancer lets you create Intelligent Mail barcodes (IMBs) in one of these representations:

- **BCOCA objects:** This object follows the Bar Code Content Object Architecture (BCOCA).
- **Generic barcodes:** This object guarantees compatibility on all IPDS printers.
- **Font barcodes:** A Presentation Text Object Content Architecture (PTOCA) object with transparent text represents the content. The referenced font resource must be available when printing.
- **DrawRule barcodes:** A PTOCA object uses rules to represent the content.

AFP Editor lets you create Intelligent Mail barcodes (IMBs) in one of these representations:

- **BCOCA objects:** Barcode objects follow the Bar Code Content Object Architecture (BCOCA). AFP Editor can create standard height IMB symbols.
- **Text barcodes:**AFP Editor uses the 300 dpi AFP IMB font (US23) that the USPS provides. This barcode font creates standard height IMB symbols.

In general, BCOCA objects are preferred to other barcode representations. However, some older printers, such as IBM 3900 printers, cannot process BCOCA IMBs. To print on these printers, you must use other barcode representations to create IMBs.

## Formats

IMBs have 5 elements and up to 31 digits. The mailer ID and serial number elements combine to fill 15 of the digits. There are 2 basic formats for IMBs, based on the length of the mailer ID assigned by the USPS. The 2 figures show the formats:

### Fields in IMBs with a 9-digit mailer ID and a 6-digit serial number



### Fields in IMBs with a 6-digit mailer ID and a 9-digit serial number



Both IMB formats have these elements:

### Barcode ID
A 2-digit number that identifies Optional Endorsement Line (OEL) information. The USPS defines the barcode IDs. This field is required.

### Service type ID
A 3-digit number that identifies the mail class and the postal services. For example, "080" is first-class mail with Address Service requested. The USPS defines the service types and service type IDs. This field is required.

### Mailer ID
A 6- or 9-digit number that identifies the mailer. The USPS assigns the mailer ID.

> ⊕ **Note:** You can use the Mailer ID field for other purposes in an IMB that is used for reply mail.

### Serial number
A 6- or 9-digit number that the mailer assigns to identify the mailpiece. If the mailer ID contains 6 digits, the serial number contains 9 digits. If the mailer ID contains 9 digits, the serial number contains 6 digits. This field is required; however, if you use only USPS "Basic Services", the serial number can be zeroes.

### Routing ZIP Code
The 5-, 9-, or 11-digit routing ZIP Code of the mail recipient, also called the "Delivery Point Code". This field is not required.

AFP Editor lets you specify these IMB elements on the Data tab.

AFP Enhancer lets you specify these IMB elements using Content Expression Language (CEL). For example, you can use this supplied CEL example:

```
'04260' Job.Postal.MailerID fmt("%05d",Doc.Address.ZipCode) '00'
```

| Content of CEL example | Information to substitute or insert |
|---|---|
| 04 | Replace 04 with your 2-digit Barcode ID.<br>If you have the Postal Enablement feature, the **Job.Postal.MailStream** job property specifies this information. Define the property as your Barcode ID in the **SetPostalJobProps** step. |
| 260 | Replace 260 with your 3-digit Service type ID.<br>If you have Postal Enablement, the **Job.Postal.Type** job property specifies this information. Define the property as your Service type ID in the **SetPostalJobProps** step. |
| Job.Postal.MailerID | Replace this job property with a custom job property, such as **Job.Info.Attr1**. Define the property as your Mailer ID in the **SetJobPropsFromTextFile** step.<br>If you have Postal Enablement, use this job property to specify the Mailer ID. Define the property as your Mailer ID in the **SetPostalJobProps** step. |
|  | If you do not need to specify a unique serial number for each document:<br>• Insert a space, 6 zeroes, and another space between `Job.Postal.MailerID` and `fmt("%05d",Doc.Address.ZipCode)` if you have a 9-digit Mailer ID.<br>• Insert a space, 9 zeroes, and another space if you have a 6-digit Mailer ID.<br>If you need to specify a unique serial number, see the next section. |
| fmt("%05d",Doc.Address.ZipCode) | Create an index tag for the ZIP code data and map the index tag to the **Doc.Address.ZipCode** document property.<br>If the ZIP code is nine digits, change `"%05d"` to `"%09d"`. |
| '00' | If you want to extend the barcode by two digits, leave this content in the example.<br>If you do not want to extend the barcode by two digits, delete this content. |

This CEL example uses the **Job.Info.Attr1** job property with a 6-digit Mailer ID and a 5–digit ZIP code:

```
'04080' Job.Info.Attr1 000000000 fmt("%05d",Doc.Address.ZipCode) '00'
```

This CEL example uses Postal Enablement job properties with a 9–digit Mailer ID and a 9–digit ZIP code:

```
Job.Postal.MailStream Job.Postal.Type Job.Postal.MailerID 000000 fmt("%09d",Doc.Address.ZipCode)
```

## Serial numbers

The serial number in an Intelligent Mail barcode (IMB) identifies the mailpiece. If you use the USPS "Full service" option, the serial number must not repeat in another barcode for a 45-day period.

A serial number can consist of 6 or 9 digits, depending on the length of the mailer ID.

### AFP Enhancer

AFP Enhancer lets you specify a serial number using a document property.

To add a serial number to the `'04260' Job.Postal.MailerID fmt("%05d",Doc.Address.ZipCode) '00'` supplied CEL statement:

‣ Insert a format function `fmt()` with the document property you are using for the serial number.
  For example, insert `fmt("%09d",Doc.Custom.AccountNumber)`:
  `'04260' Job.Postal.MailerID fmt("%09d",Doc.Custom.AccountNumber) fmt("%05d",Doc.Address.ZipCode) '00'`
  The format function expands the number to 9 digits if you specify `"%09d"` or to 6 digits if you specify `"%06d"`.
‣ Create an index tag for the account number data and map the index tag to the document property, for example, **Doc.Custom.AccountNumber**.

> ⬇ Note: If you want to use data that repeats every month as the serial number but the serial number must not repeat for 45 days, create an index tag for the month data in a document date. Map the index tag to a custom document property, such as **Doc.Custom.Month**. Insert 2 format functions:
> `fmt("%02d",Doc.Custom.Month) fmt("%07d",Doc.Custom.AccountNumber)`

### AFP Editor

AFP Editor lets you specify the serial number in these ways:

‣ **Index tag:** You can specify an index tag that contains the value to encode as the serial number. The index tag can contain a different value in each page group (mailpiece). For example, if the customer ID is indexed, the serial number can be the customer ID. If the customer ID is shorter than the 6 or 9 digits required for a serial number, AFP Editor automatically adds zeroes to the beginning of the customer ID.

- **Serial number file:** For each barcode, you can specify a file that contains the number to use as the serial number in the first IMB in the AFP file. AFP Editor automatically increments the number in the file by 1 in each subsequent barcode that it creates to make the serial number unique. For example, if the serial number file contains a starting serial number of 000000, the serial numbers in the barcodes are 000000, 000001, 0000002, 0000003, and so on.
  Because 6 or 9 digits might not be long enough to completely identify a mailpiece (for example: the recipient, the type of mailing, the date of mailing), you can use a sequential number as the serial number and save the serial number in an index tag in the mailpiece or in a separate index file. If the USPS returns electronic Address Change Service (ACS) information, you can then use the serial number to retrieve the actual mailpiece or information about the mailpiece.

When the EditAFP step creates IMBs in production AFP files:

1. In the first IMB in the AFP file, it encodes the serial number that is in the serial number file.
2. In each subsequent IMB created, it increments the serial number by 1. This ensures that the serial number is unique in each barcode.
3. When the serial number reaches the maximum number of digits specified in the serial number file (6 or 9 digits), the number wraps to 000001 or 000000001.
4. When it finishes creating IMBs in the AFP file, it updates the serial number file so that the file contains the starting serial number for the first IMB in the next AFP file that the EditAFP step processes.

For example, if the serial number file contains the 6-digit serial number 000001, and the EditAFP step creates four IMBs in two AFP files (each AFP file uses the same serial number file), the barcodes contain these serial numbers:

- First AFP file: 000001, 000002, 000003, and 000004
- Second AFP file: 000005, 000006, 000007, and 000008

AFP Editor can save the actual barcode data that it encoded in each IMB in an index tag. This is especially useful when you use a serial number file because each index tag in the AFP file contains the actual serial number that was encoded in the barcode.

You specify the name of the serial number file when you create an IMB in the sample AFP file. You can specify a different serial number file for each sample AFP file that has its own control file. Make sure the serial number file has the appropriate permissions set so that the RICOH ProcessDirector system user (**aiw1** is the default) and all users in the RICOH ProcessDirector group (**aiwgrp1** is the default) can read and update the file.

> ⊙ Note: The EditAFP step processes multiple page groups concurrently. Therefore, the serial numbers in the IMBs are not always in sequential order by page group. For example, EditAFP might create the IMB in the third page group (using serial number 000002) before it creates the IMB in the second page group (using serial number 000003). Even though the serial numbers might not be in sequential order by page group, the serial number in each IMB is unique.

Parent topic: [Barcodes](Barcodes)