

Intelligent Mail® Barcode - What Printers Need to Know

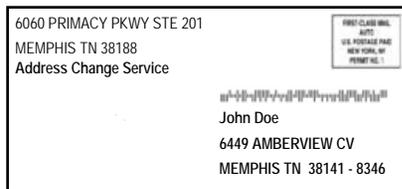
Brian P. Euclide – RR Donnelley

Gary Reblin - USPS

- ▶ Intelligent Mail® barcode
 - What is it?
 - How do I create it?
- ▶ Letter mail printer view
- ▶ Flat mail printer view
 - Information on initial testing
 - Where are we going from here?

Standardized Intelligent Barcodes

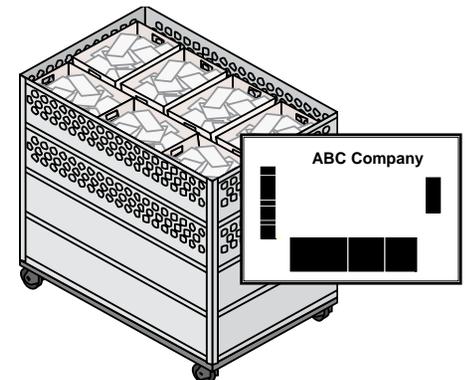
- ▶ New barcodes - common thread to Intelligent Mail programs
- ▶ Launched Intelligent Mail barcode for letters last September
 - Uniquely identifies the sender
 - Uniquely identifies the mail piece
 - Identifies any service(s) the mailer requests
 - Provides a destination ZIP Code for sortation & routing
- ▶ Will launch Intelligent Mail barcode for flats on May 1
- ▶ Plan to require it in calendar year 2009 for auto discount



**Intelligent Mail®
Barcode**



**Intelligent Mail®
Tray Barcode**



**Intelligent Mail®
Container Barcode**

New Letter & Flat Specification

- ▶ Significant effort was made to keep Intelligent Mail barcode specifications the same as PLANET and POSTNET codes

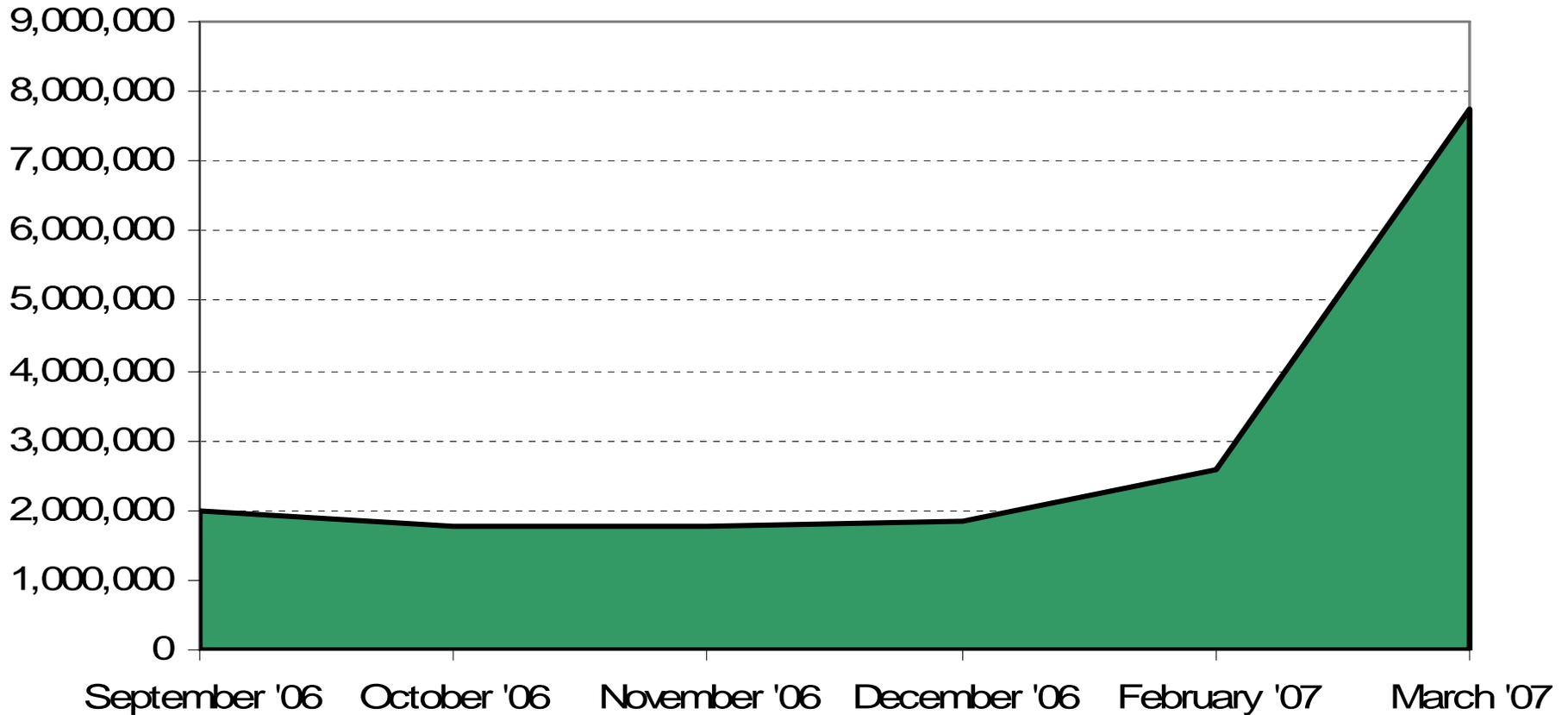


		11-digit POSTNET	13-digit PLANET	Intelligent Mail Barcode
Length {	Number of Bars	62	72	65
	Width of Bars (in inches)	0.020 ± 0.005	0.020 ± 0.005	0.020 ± 0.005
	Bars per inch (length)	22 ± 2 (max: 3.075")	22 ± 2 (max: 3.6")	22 ± 2 (max: 3.25")
Height {	Height of Full Bar (in inches)	0.125 ± 0.010 (min: 0.115)	0.125 ± 0.010 (min: 0.115)	0.182 ± 0.048 (min: 0.134)*

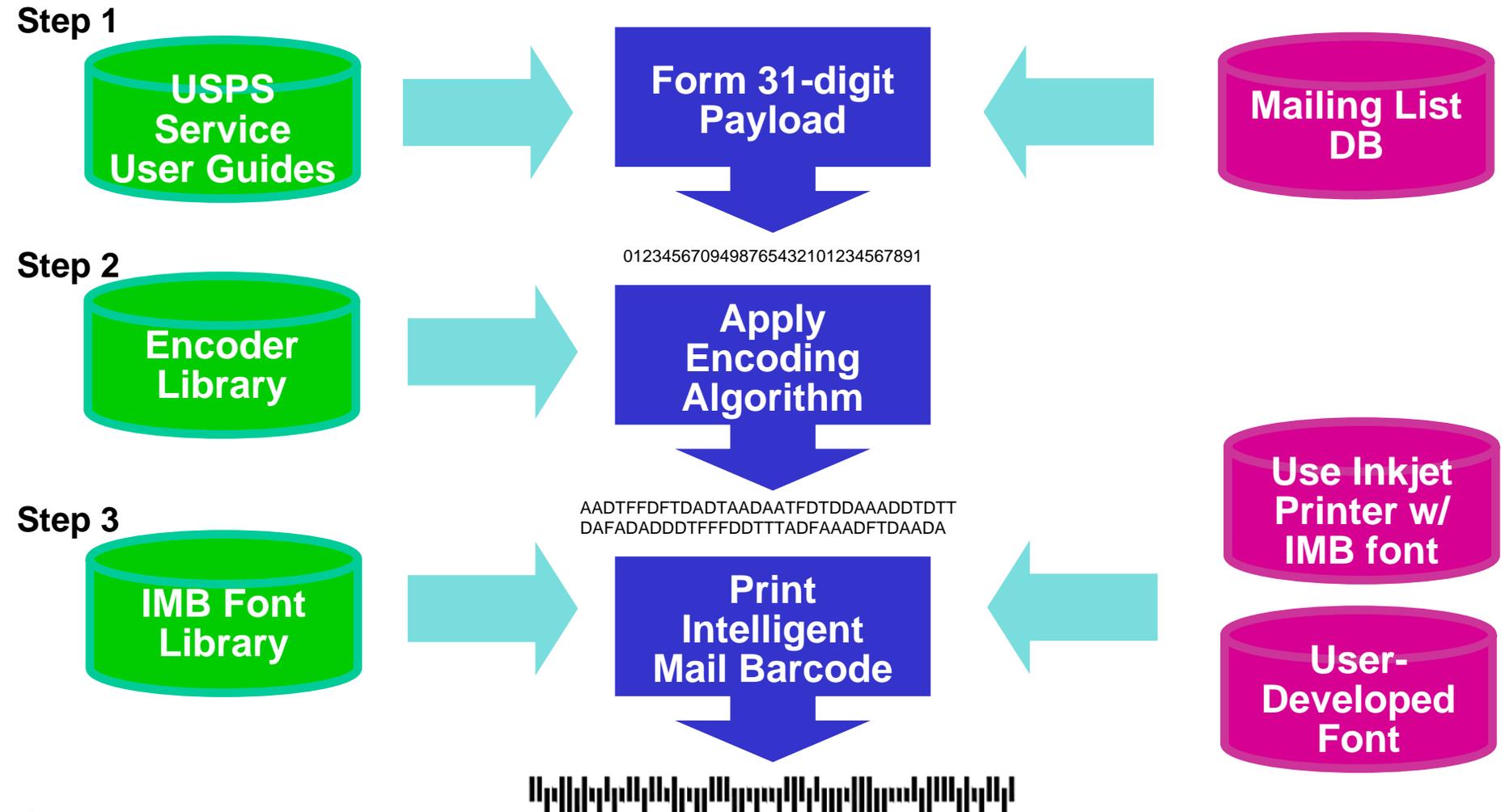
* The USPS is moving to further reduce the minimum height specification to 0.125"

Intelligent Mail Barcode Volume

**Average Weekly Count of Mailpieces with
Intelligent Mail Barcode (Nationwide)**



How Do I Begin Producing the Intelligent Mail Barcode?



Sample 31-digit Payload (Destination Confirm)



0123456709498765432101234567891

Data Field	Number of Digits	Definition
Barcode ID	2	Fill with “00”
Service Type ID	3	040 – Destination First Class 042 – Destination Standard Mail 044 – Destination Periodicals
Subscriber ID	6	Add a “leading zero” to the existing subscriber ID
Mailing ID	9	For subscriber’s own identification purposes (e.g., mailpiece, mailing, client, etc.)
Routing ZIP	0, 5, 9, or 11	Delivery Point ZIP Code information

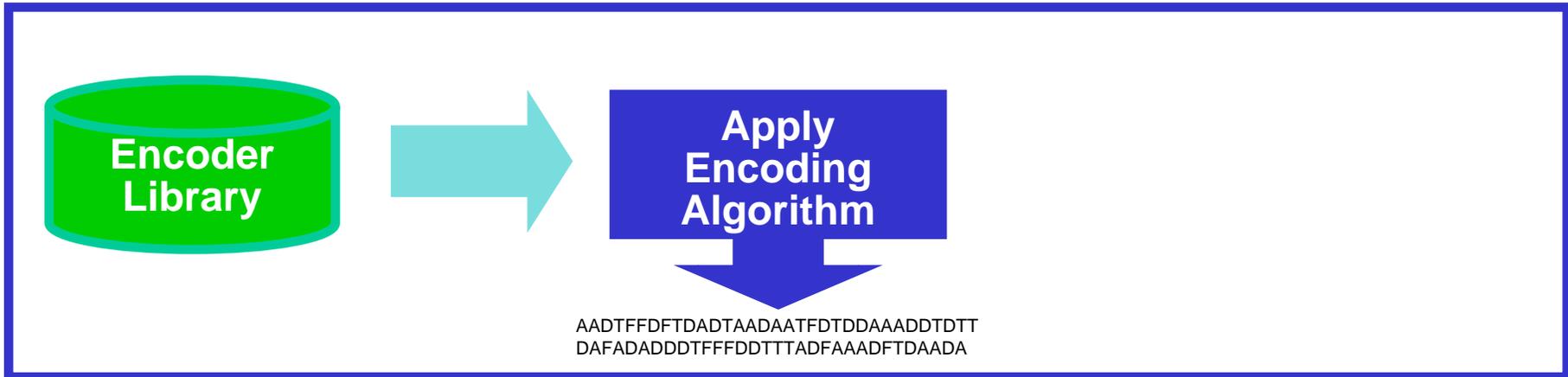
Apply Encoding Algorithm

Step 1



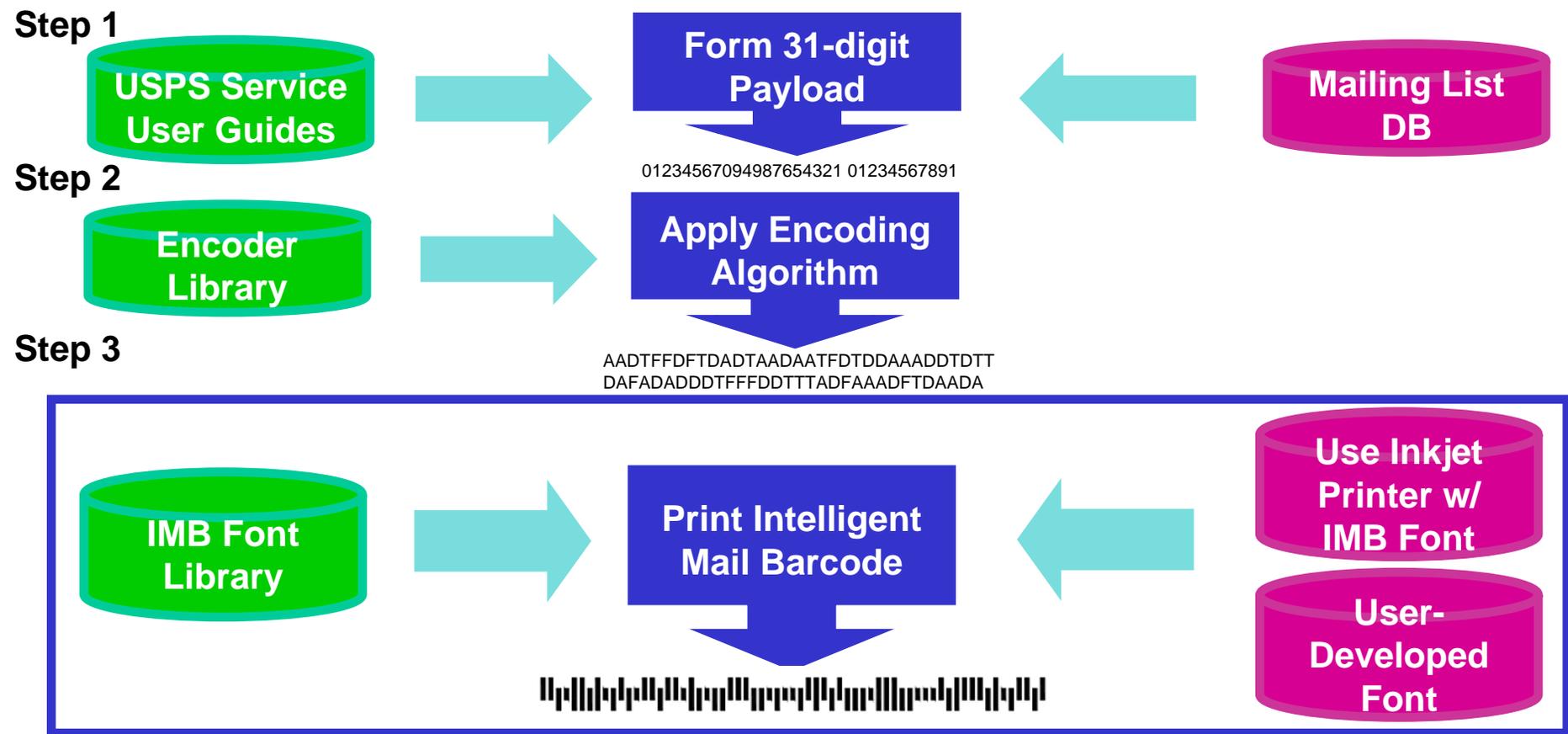
01234567094987654321 01234567891

Step 2



AADTFFDFTDADTAADAATFDTDAAADDTDTT
DAFADADDTTFFDDDTTTADFAAAADFTDAADA

- ▶ Encoder software is available for all major computing platforms (Windows, MVS, Linux, OS/400, VSE, and AIX)
- ▶ Encoders located at: <http://RIBBS.USPS.GOV/ONECODESOLUTION>



- ▶ USPS provides fonts for digital printing (TrueType, Postscript, AFP, Metacode, PCL, etc.)
- ▶ Inkjet and MLOCR require printer-specific fonts

How Would a Commercial Printer Produce the Intelligent Mail Barcode?

BÖWE BELL + HOWELL (Steve Krejcik)

- ▶ Implemented the Intelligent Mail barcode on MLOCRs for PSI and Prudential
 - Required upgrades
 - » Firmware or software upgrade
 - » Old Videojet PC70 only printer requiring replacement
 - Software-based verifiers need IMB upgrade
 - New system capable of creating Mail.dat

How Would a Commercial Printer Produce the Intelligent Mail Barcode?

New York State DMV (Walt Kolakowski)

- ▶ Using MVS encoder software on mainframe
- ▶ Using USPS-provided AFP and TrueType fonts
 - AFP fonts on the IBM printer
 - TrueType fonts for the IBM OnDemand system
 - IBM mapped the new font within the OnDemand system which uses images of the mailpiece
- ▶ Using Destination Confirm for proof-of-delivery
 - Have already mailed over 258,000 pieces in 2007

➤ Converting largest customer mailings

- » Move confirmation letters (MVL / CNL) – Jan '07
- » Dialog campaign – June '07

Customer Notification Letter



Move Validation Letter



Dialog Campaign



➤ Converting largest employee mailings

- » Payroll – Spring '07
- » Area Updates – TBD



Flat Shaped Mail – Launch May 1

- ▶ USPS and printers are jointly working to address concerns raised
 - Encoding/decoding
 - Height of the barcode
 - Inkjet technology
 - » Binary
 - » Raster

▶ Encoding

➤ POSTNET and PLANET code

» Image-based fonts

» Did not require encoding algorithms

– POSTNET Example: 

»= 53594

» You could visually determine the information....(74210)

➤ Intelligent Mail barcode

» Bar-for-bar image

» Requires conversion with algorithms

– IMB Example: 00000100000000000000153594137875

– TAFATFFFAADDDFDFDDAADTTDDTTADTFTFDTADDATAFD
DDFDDADAAAFDAATFD TFF



▶ Decoding:

➤ POSTNET

» The number 5 = 5 ... You could count visually

➤ IMB:

» There is no way without a barcode reader or software to convert

» To be this: 00000100000000000000153594137875

New Quality Control Concerns for Bindery Production Environments!

▶ Encoding

- ▶ All major posts use a 4-state symbology
- ▶ USPS made encoders available to ease the transition
 - » No known implementation issues
 - » 20 different platforms are supported

▶ Decoding

- » USPS has fielded scanners to our BMEUs and Mailpiece Design Analysts to be used for quality control
 - HHP 4600
 - Intelligent Mail Device (IMD)
- » Online decoder tool is available at:
<http://ribbs.usps.com/OneCodeSolution>

Concern Over the Height of the Intelligent Mail Barcode

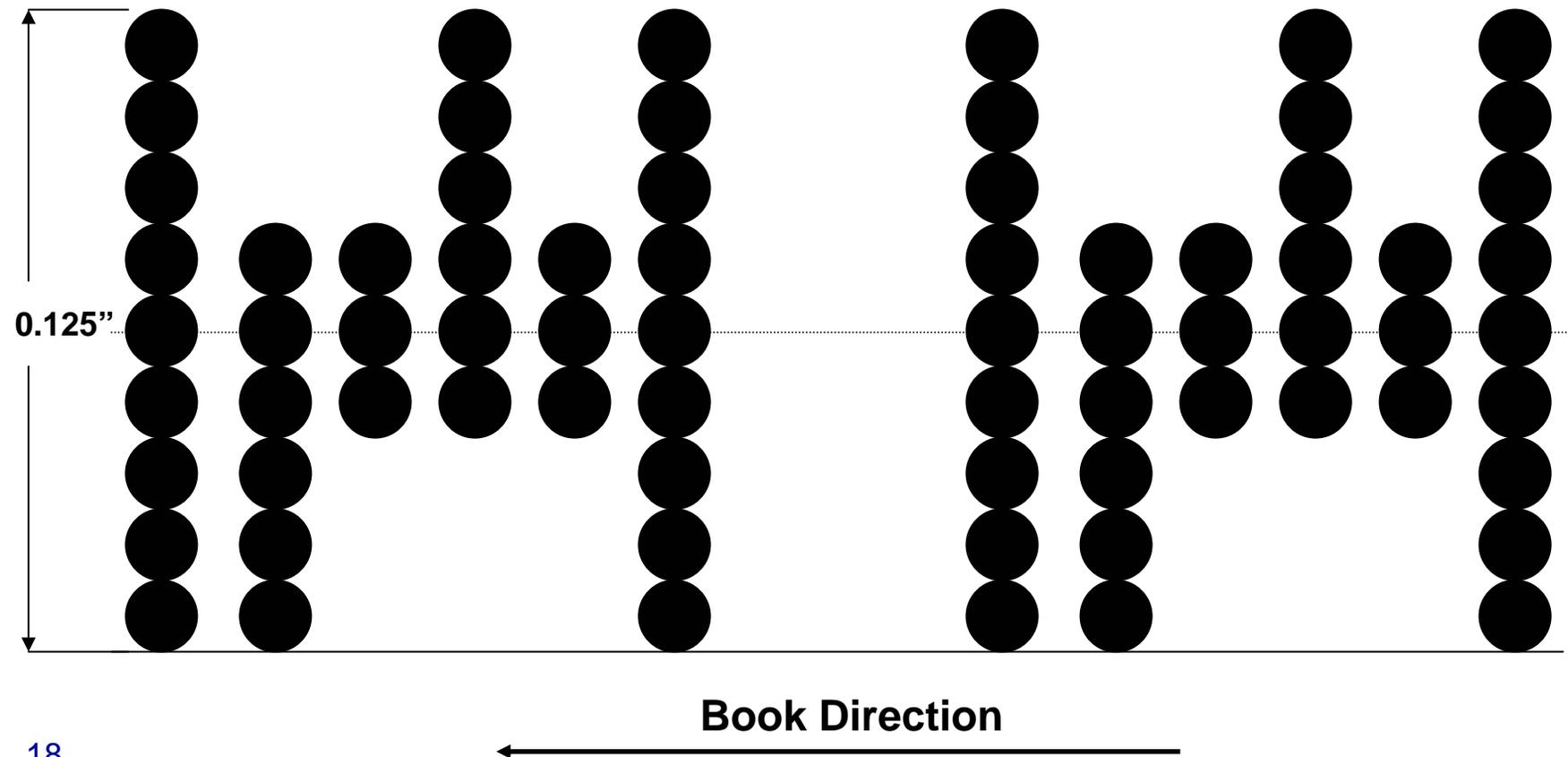
- ▶ The ability to print the Intelligent mail barcode and pass acceptance
 - Binary Printing vs. Raster Printing

Inkjet Technology

Binary vs. Raster (Slow Speed)

Binary Inkjet

9-drop Raster Inkjet

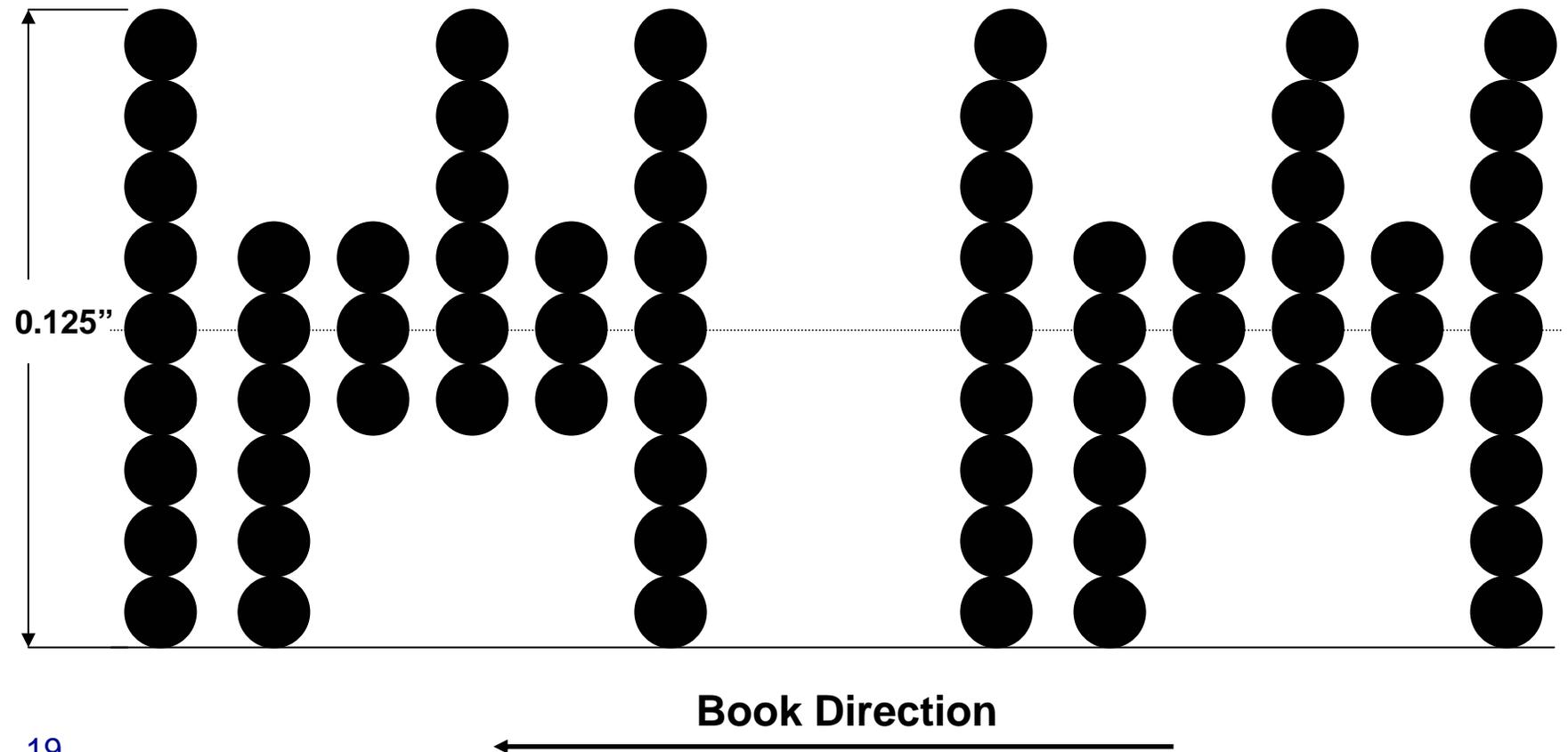


Inkjet Technology

Binary vs. Raster (Faster Speed)

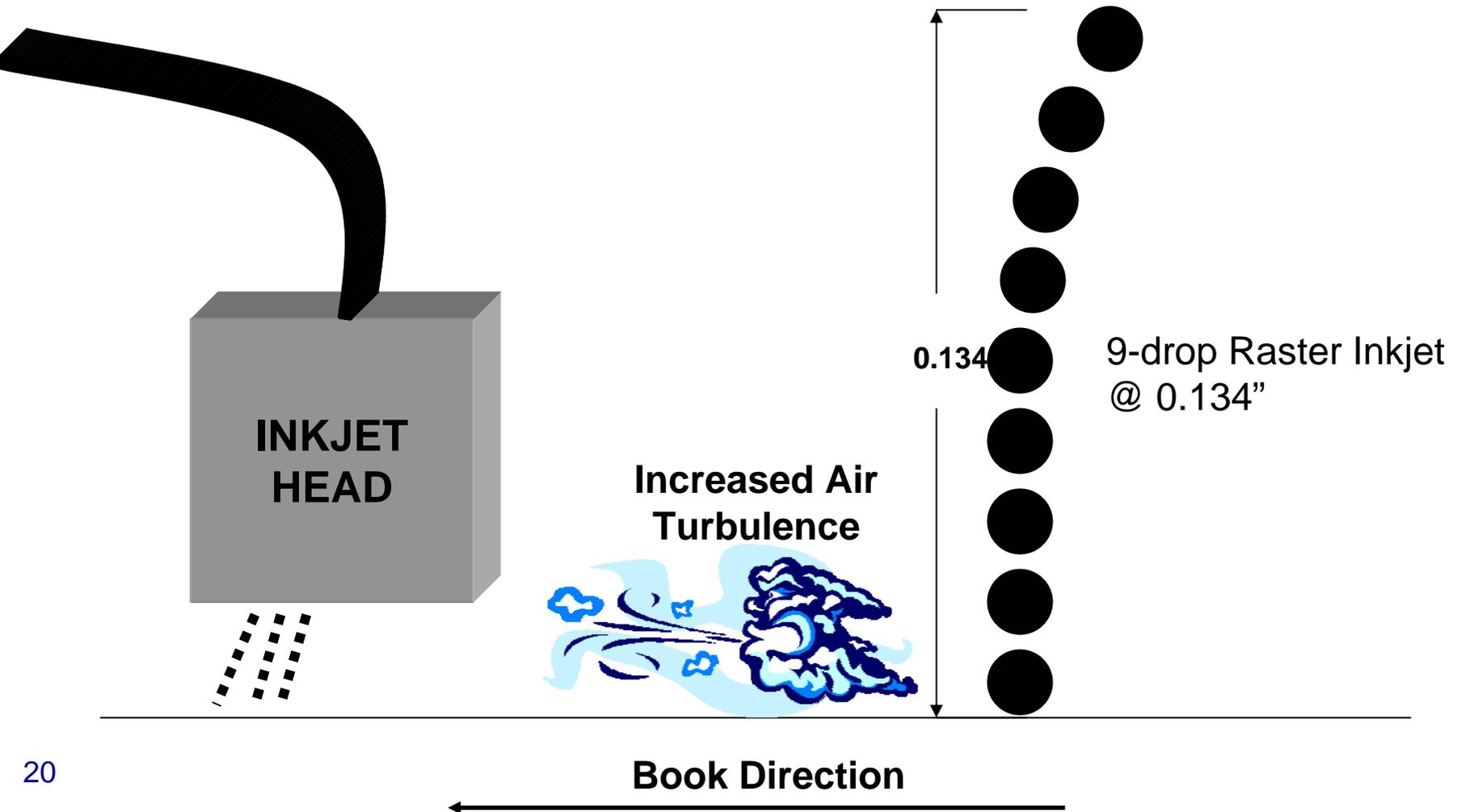
Binary Inkjet

9-drop Raster Inkjet



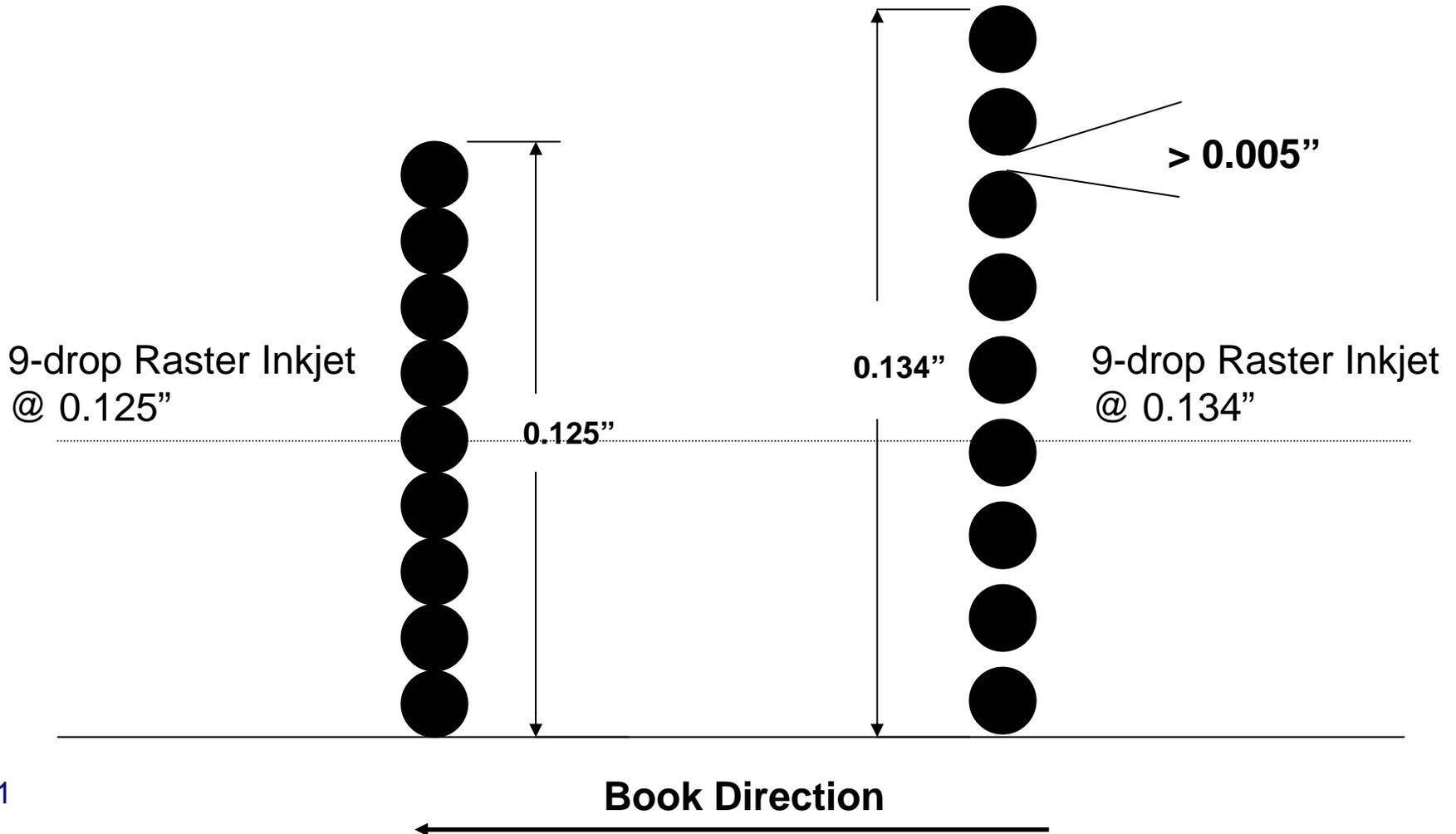
Inkjet Technology

Why Not Stretch the 9-drop Raster?



Inkjet Technology

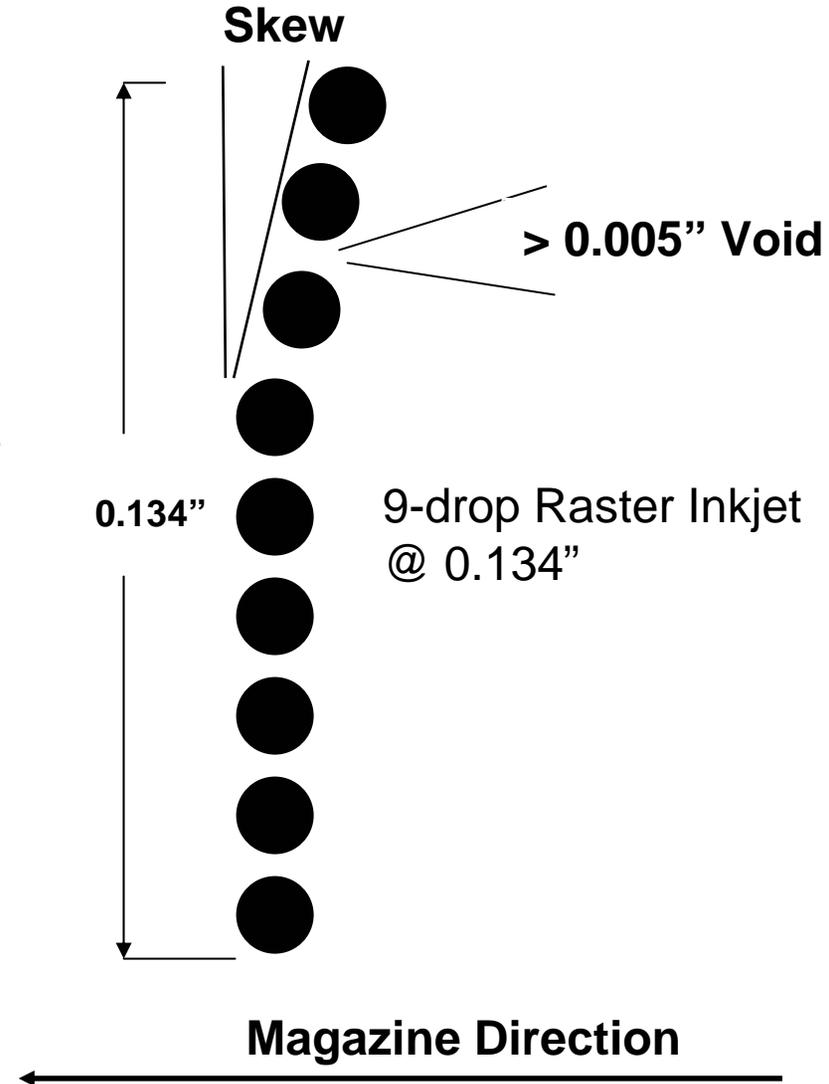
Why Not Stretch the 9-drop Raster?



- ▶ Mailer testing began in summer 2006
- ▶ To address these concerns over height on inkjet printers
- ▶ Printing participants:
 - Arandell
 - Perry Judd's
 - Brown Printing
 - RR Donnelley/California
 - RR Donnelley/Pennsylvania
 - RR Donnelley/South Carolina
 - Quad Graphics
 - Quebecor World
- ▶ USPS Test Platforms:
 - AFSM 1000
 - UFSM
 - APPS

Testing Results

- Barcode skew
 - » No additional read degradation
 - » Specification set at 10 degrees
- Void
 - » No measured problem
 - » Average void 0.001"
 - $0.134 - 0.125 = 0.009$ (9 drops)
 - » Specification will provide relief



Concern Over the Height of the Intelligent Mail Barcode

- ▶ The minimum height of 0.134" poses a challenge for a large percentage of existing inkjet technology
- ▶ Many inkjet printers are designed around a 1" print head and print eight (8) 0.125" high lines.
- ▶ Any bar height greater than 0.125" reduces the number of lines available for printing

- ▶ Heights below 0.134” are an issue on the USPS’s UFSM
 - USPS Engineering investigating UFSM issue
 - Formed workgroup with IdeAlliance
 - » Determining exact UFSM “no-read” threshold
 - » Reviewing barcode specification to make printing easier
 - Currently ink jet printers use line spacing of 0.167” per line
 - » 0.125” barcode height
 - » 0.04” clearance between barcode and text
 - Alternative scenario is being tested
 - » 0.134” barcode height
 - » 0.028” clearance zone
 - Also being worked in MTAC

```
Line 1:   
Line 2: ATTN: POSTAL CUSTOMER  
Line 3: ABC COMPANY  
Line 4: 123 MAIN STREET  
Line 5: ANYTOWN US 98765-4321  
Line 6: Text  
Line 7: Text  
Line 8: Text
```

- ▶ Flats testing
- ▶ Formation of a technical team
 - USPS
 - Domino Amjet
 - Eastman Kodak
 - RR Donnelley
 - Quebecor World
 - Quad Graphics
- ▶ Developed a formal testing plan
- ▶ Desired outcome:
 - Determine whether a technical specification can be developed that meets the needs of both industry and the USPS

Formal Testing Plan - Objectives

- ▶ New round of testing to ascertain whether Intelligent Mail barcode can:
 - Be produced on the industry's existing equipment
 - Be scanned and decoded effectively by USPS equipment
 - Be produced by industry without impacting performance:
 - » Production speed
 - » Must accommodate flats varying 0.25" in thickness
 - » No compromise on the address block layout
 - » Without violating any address block requirements
 - » Uptime reliability of equipment

- ▶ Test site selection (USPS) – In Progress (March)
- ▶ Agreement on accessibility (USPS) – In Progress
- ▶ Pre-trial site survey to identify any additional equipment required – In Progress
- ▶ Anticipated test time frame (USPS) – April
- ▶ Agreement to supply equipment (Domino and Kodak) – Not Available

- ▶ USPS continues to work issues and are printing and reading the barcode on flats
 - 15,300 flats mailed by USPS (Memphis) since August
- ▶ Mailer testing is underway
 - JC Penney and Harte-Hanks testing flats (Ty Taylor)
 - » 18.3 million letters and 63 million flats already mailed



ENTIRE STOCK 50% OFF
PIERRE CARDIN® SPORTSHIRTS & KNIT TOPS
Sale \$12.99-17.99
Orig. \$26-\$36.

ENTIRE STOCK 50% OFF
YOUNG MEN'S TOPS & BOTTOMS FROM SOUTHPOLE® U.S. POLO ASSN.® AUREX®
Sale 9.99-26.99
Orig. \$22-\$55.
524-4141,0164

SHOP EARLY! SPECIAL FRIDAY PREVIEWS

ENTIRE STOCK 50% OFF
CUSTOM FIT SUITS
Sale 37.50-99.99
Reg. \$75-\$200.
553-5885,4585

ENTIRE STOCK 19.99
DRESS SHIRTS FROM STAFFORD® PIERRE CARDIN® VAN HEUSEN®
Reg. \$34-\$75.
553-4637,1442, A-338

NEW PRICE REDUCTIONS!
STOREWIDE CLEARANCE
50% OFF ORIGINAL PRICES!
Reductions on original price merchandise effective until stock is depleted. Intermediate markdowns may have been taken. Selection may vary by store.

To find the JCPenney store nearest you, call 1-877-FIND JCP or go to jcpenney.com

Customers receiving this mailer late should bring it to the store, and we will honor all advertised sales.
POS: W190MB Super Saturday Bonus Mailer: 270632 C

REQUESTED IN-HOME DATES: JUNE 6, 7, 8

*****8000***** ECBL01 ** R-002
238653075 0800 I-53-01-473-0-2
30

IDENT
105 BAKER ST SW
COOPERSTOWN ND 58425-7522

PSNET STD
U.S. POSTAGE
PAID
JCPenney Corp
P.O. Box 10001
Dallas, TX 75201

Sale prices effective Fri, Sat - Sat, 9/10/06, unless otherwise noted. Percentages off regular prices or original prices, as shown. Actual savings may exceed stated percentage off. "Regular" and "Original" prices reflect offering prices which may not have resulted in actual sales. "Original" prices may not have been in effect during the past 90 days or in all trade areas. Any event designated as a "sale" excludes Value Right merchandise and items sold every day with discounts if purchased in multiples of 2 or more. Intermediate markdowns may have been taken on original-priced merchandise. Clearance items are available while supplies last. Merchandise selection may vary from one JCPenney store to another. Catalog/Internet merchandise and prices may vary from those offered in JCPenney stores. Some in-store discount offers may not apply to Catalog and Internet orders.

Questions?