AUSTRALIA **POST**

MAIL LABEL SPECIFICATIONS FOR VISA PRINT ON DEMAND & PREPRINTED LABELS

Customer Mail Label Specifications v5.3

Document History

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1.5	Feb 1999	Revised barcode height, modified icons on sample labels, no text within 4mm of label edge	NLO
1.6	May 1999	Revised label set header, barcode verification, no three wide paper stock, shorter label retention time without causing smudging, text placements, removal of Tray Count, swapping Time & Date fields	NLO
2.0	Apr 2001	Label Redesign (changes on format, text, barcode height and element placements); removal of Parent Centre text and symbol, new Tray Size Indicator and deletion of 2 & 3 wide direct thermal paper stock	NLO
2.1	Nov 2002	ULDs and some Amy Chan changes	A. Chan
2.2	Nov 2003	Added PrintPOST and updated specifications	A. Chan
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4.2	Sept 2006	Made changes to reinforce National Standards about label stock	S. Cooke
5.0	Feb 2009	Updated information to match label stock requirements and update images	S. Cooke
5.1	July 2010	Remove reference to Tables 5 and 6 – Tables were removed 2003	S. Cooke
5.2	Jun 2011	Revised barcode measurements from minimum 60mm to 70mm Section 6.5 Page 23 refers	M. Ratcliffe
5.3	Aug 2015	Updated information in relation to changes to the Unaddressed Mail Service & the introduction of the 2 speed network	J. Fowkes / S. Cvetkovski

Email visalabels@auspost.com.au

Document Production

This document has been produced using MS Word 2013 and Seagull Software Bar Tender International Professional v8.0.

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References

EAN Australia User Guide and Technical Information Manual (Edition 3, September 1995).

American National Standards Institute X3.182-1990 Bar Code Print Quality – Guideline.

British standard BS 1635, Bar code Print Quality guidelines.

International Standard ISO/IEC 15416 Bar Code Print Quality Test Specification - Linear Symbols (First Edition Aug 2000).

Label Type Matrix

This document contains the specifications for the printing, packaging and shipping of Printed on Demand (Visa) and Preprinted Labels that are currently in use within Australia Post. Some users might find that not all information is relevant to their own particular needs. The following matrix is a guide indicating the sections to be referred to according to the function of the user.

Section	Software Development		Label Stock Supply	
	Australia Post	Other Software	Direct Thermal	Pre-printed
1. General	Yes	Yes	Yes	Yes
2. Print on Demand Barcoded Tray Labels				
2.1 Customer Bulk Label for Barcoded Letters	Yes	Yes		
2.2 Customer Bulk Label for Unbarcoded Letters	Yes	Yes		
2.3 Header Label	Yes			
3. Preprinted Barcoded Tray Labels				
3.1 Customer Bulk Label for Barcoded Letters				Yes
3.2 Customer Bulk Label for Unbarcoded Letters				Yes
3.3 Clean Mail Label for Unbarcoded Letters				Yes
3.4 PrintPOST Bulk Label for Barcoded Letters				Yes
3.5 IMPACT Mail Label for Barcoded Letters				Yes
4. Preprinted Reinforced Bag Labels				
4.1 Miscellaneous				Yes
5. Label Elements	Yes	Yes		Yes
6. Barcode Specification	Yes	Yes		Yes
7. Label Stock				
7.1 Direct Thermal Non Reinforced			Yes	
7.2 Direct Thermal Reinforced			Yes	
7.3 Preprinted Non Reinforced				Yes
7.4 Preprinted Reinforced				Yes
8. Approval				
9.1 Software Development	Yes	Yes		
9.2 Label Development				Yes
9.3 Label Stock Supply			Yes	Yes
Label Element Placement Table				
Table 1 Print on Demand Customer Bulk Label	Yes	Yes		
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Table 3 Preprinted Tray & Bag Label				Yes
9. Data Structure & Text Representation Table				
Table 4 Customer Bulk Label for Barcoded Letters		Yes		

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1. Barcode Specification

1.1. Barcode Data Structure

The barcode data is presented in multiple data formats, differentiated by Application Identifiers (AIs) and Internal Identifiers (IIs), as per the EAN (Australia) standard. Allocation of AIs and IIs are managed under the Australia Post Barcoding Policy, Standards and Guidelines.

The barcode data shall consist of an Application Identifier plus Internal Identifier plus TDID plus Australia Post defined fields, depending on label type, and padded with zeros to maintain data length to 24 digits, not including the CODE-128 internally generated check digit. Not all human readable elements are included in the barcode, see Barcode Data for each label type in Sections 2, 3 and 4.

The sample labels contain barcode readable numeric data examples.

1.2. 9112 Barcode Data

Print on demand labels use the 9112 barcode structure with individual tray serial numbering system. Trays from internal and external customers will be identified using the Visa printing system ID.

Field	Length	Sample	Comments
AI/II	4 digits	9112	Preamble Number
TDID	8 digits	56001053	Tray Destination ID
Visa Application ID	5 digits	50159	Application ID
Serial number system	7 digits	0000021	Serial numbering managed by labelling
			(Section 6.4 describes serial # in more detail)

Sample barcode contents: 9112 56001053 501590000021

Please Note: Barcode length must be a minimum of 70mm to a maximum of 75mm, to be able to be read by the Australia Post TMS System.

1.3. 9113 Barcode Data

The 9113 barcode is for preprinted labels and contains the following barcode structure:

Field	Length	Sample	Comments
AI/II	4 digits	9113	Preamble Number
TDID	8 digits	1500000	Tray Destination ID
SAP	7 digits	8838626	Material Number
Version	3 digits	058	Latest Artwork Version Date (mmy)
Supplier ID	2 digits	00	Label Supplier ID – typically 00

Sample barcode contents: 9113 1500000 883862605800

1.4. Tray Serial Number

The tray serial number is a unique number for each of the 9112 print on demand labels.

The 12-digit Tray Serial Number is sourced from concatenating the Visa Application ID (5 digits) and 10 million numbers (with left padded zeros to maintain 7 digits). Uniqueness is managed at the printer by ranging between 0000000 (start) and 9999999 (end), providing a repetition rate greater than 1 year.

Sample number form for label serial number 0000021 on Visa Application ID 50159 is "501590000021".

1.5. Symbology Specification

The barcode shall be printed using CODE-128 Type C symbology.

The barcoded data must also be represented as human readable text below the barcode. The human readable text must be formatted to the following grouping:

- nnnn nnnnnnnn nnnnnnnnnnn (where n is a data numeric)

The CODE-128 standard includes an internally generated symbol check character within the barcode which is not reported in either the input data string, the human readable form or in the data string from the barcode reader. The barcode must be a minimum 70mm – maximum 75mm.

The barcode symbol must be surrounded by blank margin areas or "quiet zones" as described in Label Element Placement Tables to assist barcode identification and reading. The minimum quiet zone around a barcode is as follows:

- 3mm to the top
- 15mm to the left
- 5mm to the right
- 3mm to the bottom on either side and 1mm above the Human Readable Text
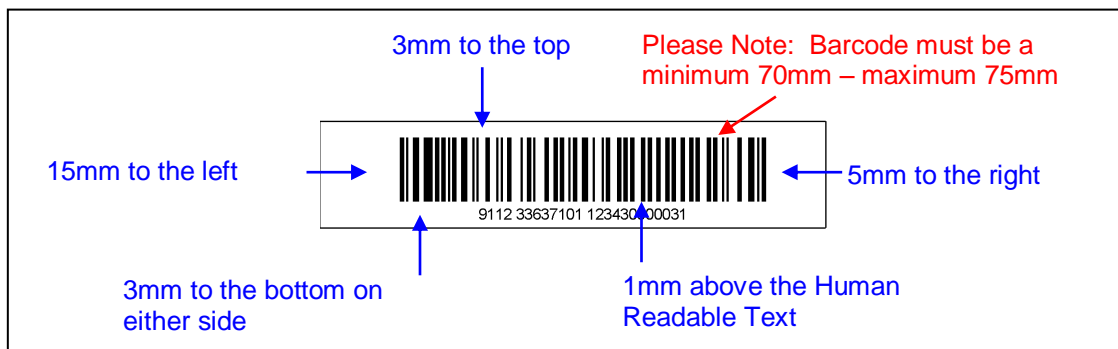
1.6. Printing Specification

1. The barcode shall be printed on the label at the X, Y location (in mm) defined in Tables 1 and 2. (For preprinted labels, as per artwork provided.)

2. Image colour is to be black (Pantone Process Black).

3. Paper stock background colour density of 0.12 (Optical Density Method).

4. Minimum image density of 1.25 by Optical Density Method (black).

5. The minimum width of the narrow bar (X dimension) to be within the following ranges to minimise pixellation errors by the printer. The barcode shall be printed vertically (picket fence) with a minimum barcode height of 12 mm.

6. within 0.380 mm and 0.420 mm for Print on Demand labels, or
   – within 0.338 mm and 0.380 mm for Preprinted Labels.

7. The barcode printed on labels must be free of picket fence type errors whereby faulty printing causes a bar to be misprinted without changing the visual appearance of the barcode.

8. The barcode shall be of sufficient contrast when scanned at 635nm wavelength (red) and through Australia Post standard plastic label pockets (SAP 8828889).

9. The optical characteristics of the barcode shall be sufficient to be readable:

10. using a contact scanner (wand reader);
    - at a distance of up to 0.5 metres using a non contact scanner; and
    - using a fixed scanner on a conveyor moving at speeds of up to 2 metres per second and having a depth of field ranging from 150mm to 500mm.

11. The barcode to have a read rate success of 100%.

12. Not smudge or leave residues when left in plastic label pockets for up to six weeks.

1.7. Barcode Verification

The barcode must be capable of being verified to Grade "C" or higher without a tray pocket using the 10 scan average method. (A 10mm viewing aperture apparatus and measured as described in ANSI X3.182 – 1990, ANSI Bar Code Print Quality Guidelines, or its related British standard, BS 1635, Barcode Print Quality Guidelines or ISO 15416 2000).

The data must be verified back to the Visa data set for the label application.

Note: a clean tray pocket will not lower a barcode verification assessment. A tray pocket containing dirt or smudged particulate matter can result in a lower ("D" or "Fail") verification rating.

2. Label Stock

The Australia Post National Standard for label stock is for a smooth <u>white</u> finish, subject to the following additional requirements.

2.1. Direct Thermal – Non Reinforced

2.1.1. Paper Board

1. Paper board weight in the range between 170gsm to 250gsm.

2. Paper board of sufficient substrate opacity of greater than 85% to minimise show-through from underlying markings behind the stock and so affecting reflectance.

3. Paper board with high sensitivity thermal coating sufficient for direct thermal printing of label text and barcodes using a range of direct thermal printers.

4. Direct thermal image colour is to be black.

5. Background density of 0.12 (optical density method).

6. Minimum image density of 1.25 (optical density method).

7. Resistance to loss of contrast for background density not to increase beyond 0.20 or fading for black images not to fall lower than 1.15 (both optical density method) when exposed to 5,000 lux for over 400 hours.

8. Thermal stock coated to increase resistance to loss of contrast from short-term exposure to Ultra Violet light and with a smooth, low sheen, white faced front surface finish.

9. Label stock must not be stained after sustaining some direct water exposure, eg. light direct rain and moist atmospheres, and subsequently drying off.

10. Label stock must not engender or support a mildew attack.

11. Maintain operating characteristics after exposure to operating temperature variations ranging from -50° Celsius (aircraft holds) to +50° Celsius (closed trucks).

12. Not smudge or residue printed when left in plastic label pockets for up to six weeks.

13. Supplier must specify static print-head temperature response and test conditions.

14. Supplier must specify dynamic print-head temperature response and test conditions.

2.1.2. Label Cutting

1. Label stock measures 127mm x 50mm with a 10mm chamfer cut at 45° on the top and bottom of the left hand edge and with 1.25mm radius on all corners.

2. One 6.5mm label hole to be partially die-cut through with 32 perforations at 180° at the middle of the right end, centred, and 6.3mm in from the right hand edge. The hole dump/plug must not fall out during handling.

3. Die-cut label shape to include defined, perforated, breakaway lands between sequential labels and registration clearances between labels for optical label registration.

4. Labels in a continuous fanfold format of 3 labels per turnover.

5. Occasional invisible joins on the rear of labels allowable.

6. Suppliers should obtain a copy of the latest direct thermal label drawings H5-0395 from National Label Operations (visalabels@auspost.com.au) for detailed measurements and cutting format.

2.2. Direct Thermal – Reinforced

2.2.1. Paper Board

As per non reinforced direct thermal labels, Section 7.1.1.

In addition, paper board to be reinforced on the back (non-thermal side) to withhold 40 newton/metre force when applied, using Australia Post's 2mm poly twine, to a 6.5mm diameter hole, 6.3mm in from the edge in long direction of the label. The material to be used for reinforcement shall not change the smoothness of the paper stock.

For reinforced Express Post labels, colour yellow (PMS 116) tinted on both thermal and non-thermal side.

2.2.2. Label Cutting

As per non reinforced direct thermal labels, Section 7.1.2., except that the reinforced direct thermal labels have an additional 6.5mm partially die-cut through label hole at the middle of the left end, 6.3mm (centred) in horizontally and vertically from the edges.

2.3. Preprinted – Non Reinforced

2.3.1. Paper Board

1. Paper board to be weighted in the range between 200gsm to 220gsm (250um to 265um, calliper method).

2. Paper board to be of sufficient substrate opacity of greater than 85% to minimise show-through from underlying markings behind the label and so affecting reflectance.

3. Paper board to be a smooth white finish with a matt surface on both sides.

4. Machine direction of board to be running in parallel with the label width (50mm) and the cross direction in parallel with the label length (127mm).

5. Paper board to be sufficiently absorbent to receive writing with biros and stamping with rubber-stamps on the front without causing any smudging or smearing on the label surface.

6. Not smudge or residue printed when left in plastic label pockets for up to six weeks.

7. Supplier must provide paper samples to the following for evaluation and approval prior to the production print run:

   National Label Operations
   GPO Box 1777
   MELBOURNE VIC 3001
   Telephone: (03) 9106 8845
   Fax: (03) 9106 4116
   E-mail: visalabels@auspost.com.au

2.3.2. Label Cutting

1. Label stock measures 127mm x 50mm with a 10mm chamfer cut at 43° on the top and bottom of the left hand edge and with 1.25mm radius on all corners.

2. One 6.5mm label hole to be partially die-cut through ('C' shape) at the middle of the right end, centred, and 6.3mm in from the right hand edge.

3. Labels die cut in sheets of 4 labels with perforated bottom label edge joined to the top edge of the next label and all facing one direction.

4. Shrink wrapped into packs of 500 (125 sheets).

5. Suppliers should obtain a copy of the latest preprinted label drawings H5-0455 from National Label Operations (visalabels@auspost.com.au) for detailed measurements and cutting format.

2.4.   Preprinted – Reinforced

2.4.1. Paper Board

As per non reinforced preprinted labels, Section 7.3.1.

In addition, paper board to be reinforced on the left-hand end or on the left-hand label hole to withhold 40 newton/metre force when applied, using Australia Post's 2mm poly twine, to a 6.5mm diameter hole, 6.3mm in from the edge in long direction of the label.

2.4.2. Label Cutting

As per non reinforced preprinted labels, Section 7.3.2, except that reinforced preprinted labels have an additional 6.5mm die cut through label hole at the middle of the left end, centred, and 6.3mm in from the left hand edge.

3. Approval

3.1. Software Development

1. Label printing software developed will be evaluated against the latest specification published.

2. Software developer/users shall provide a full set of label samples to the following for evaluation purposes:

   National Label Operations
   GPO Box 1777
   MELBOURNE VIC 3001
   Telephone: (03) 9106 8845
   Fax: (03) 9106 4116
   E-mail: visalabels@auspost.com.au

3. Only approved label printing software shall be permitted for printing of customer labels for bulk lodgment purposes. Customers wanting to lodge mail prior to software approval will need to use our preprinted labels.

3.2. Label Development

1. Approval is only given for specific versions; any future changes will require modification and re-approval.

2. Label developer/users shall provide a full set of label samples to the following for evaluation purposes:

   National Label Operations
   GPO Box 1777
   MELBOURNE VIC 3001
   Telephone: (03) 9106 8845
   Fax: (03) 9106 4116
   E-mail: visalabels@auspost.com.au

3.3. Label Stock Supply

1. Reinforced label stocks will be tested by Australia Post on tearing resistance for reinforcement strength.

2. The supplier shall provide pre-production samples of label stocks, samples of die-cut labels and packaging carton box (including information sheet) for evaluation purposes.

3. The final label dies, label & box artworks and carton box design shall be approved before release into production.

4. The evaluation officer (or another nominee) for technical matters is as below:

   National Label Operations
   GPO Box 1777
   MELBOURNE VIC 3001
   Telephone: (03) 9106 8845
   Fax: (03) 9106 4116
   E-mail: visalabels@auspost.com.au

5. The supplier shall specify the technical contact of the company, including name, position, technical background, fax & phone numbers, and e-mail address, and the supplier shall provide and maintain this information with Australia Post National Label Operations or another nominee.

6. The supplier shall specify the sales contact of the company, including name, position, technical background, fax & phone numbers, and e-mail address, and the supplier shall provide and maintain this information with Australia Post National Label Operations or another nominee.
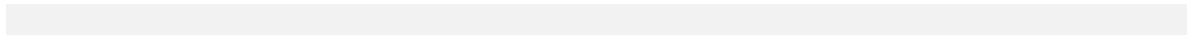
7. The supplier shall provide samples (for tray labels, generally a gang of four) of each new label produced to National Label Operations, for inclusion in the Labels Catalogue and eProcurement catalogue.

Table 1 - Label Element Placement: Print on Demand Customer Bulk Label

The label elements are placed on the label using the following dimensions, in millimetres, commencing from the bottom left hand corner (0, 0) with descendants of lower case text allowed to drop below. The font specified is Arial or equivalent sans serif font.

Table 1 - Label Element Placement: Print on Demand Customer Bulk Label

Text components	X[1]	Y[1]	Width	Height	Point Size	Font	Style	Alignment
Destination	10	39	82	5	20	Arial	Bold	Left
Sub destination	10	33	55	5	20	Arial	Bold	Left
Barcode leading (LHS) quiet zone	0	11	15	20	n/a	n/a	n/a	n/a
Barcode trailing quiet zone	90	11	5	20	n/a	n/a	n/a	n/a
Barcode top quiet zone	15	28	75	3	n/a	n/a	n/a	n/a
CODE-128 barcode [2]	15	16	75	12	n/a	n/a	n/a	Left
Quiet zone to human readable text	15	15	75	1	n/a	n/a	n/a	n/a
Barcode human readable text	15	13	70	2	8	Arial	Reg	Centre
Tray size text	11	7	23	3	12	Arial	Bold	Left
Product text	36	7	28	3	12	Arial	Reg	Left
Job identification text	67	2	15	2	8	Arial	Reg	Left
Job identification field	70	7	21	3	11	Arial	Reg	Left
Date text	93	2	15	2	8	Arial	Reg	Left
Date field	99	7	23	3	12	Arial	Reg	Left
IATA city code or Linehaul Code	93	31	30	14	48	Arial Narrow	Bold	Centre
IATA city name or Linehaul text	96	27	27	2	8	Arial	Reg	Centre
Line below IATA	96	25	27		n/a	n/a	Grey	Left
Source of origin – First line	96	20	27	3	8	Arial	Reg	Left
Source of origin – Second line	96	15	27	3	10	Arial	Reg	Left
Tray size indicator	124	0	3	50	n/a	n/a	Bold	Left
Label printing identifier	15	1	45	2	8	Arial	Reg	Left

Boxes	X[1]	Y[2]	Width	Height	Box Line
Tray size box	10	5	25	6	Grey
Product box	35	5	30	6	Grey
Job identification box	66	1	26	10	Grey
Date box	92	1	31	10	Grey

[1] Label X = 0 to 127mm; Y = 0 to 50mm
[2] Barcode X dimension 0.38mm, density 2.27characters/cm and varies with density, 75mm width allowed (minimum 70mm).

Table 2 - Label Element Placement Example: Print on Demand Customer Bulk Label
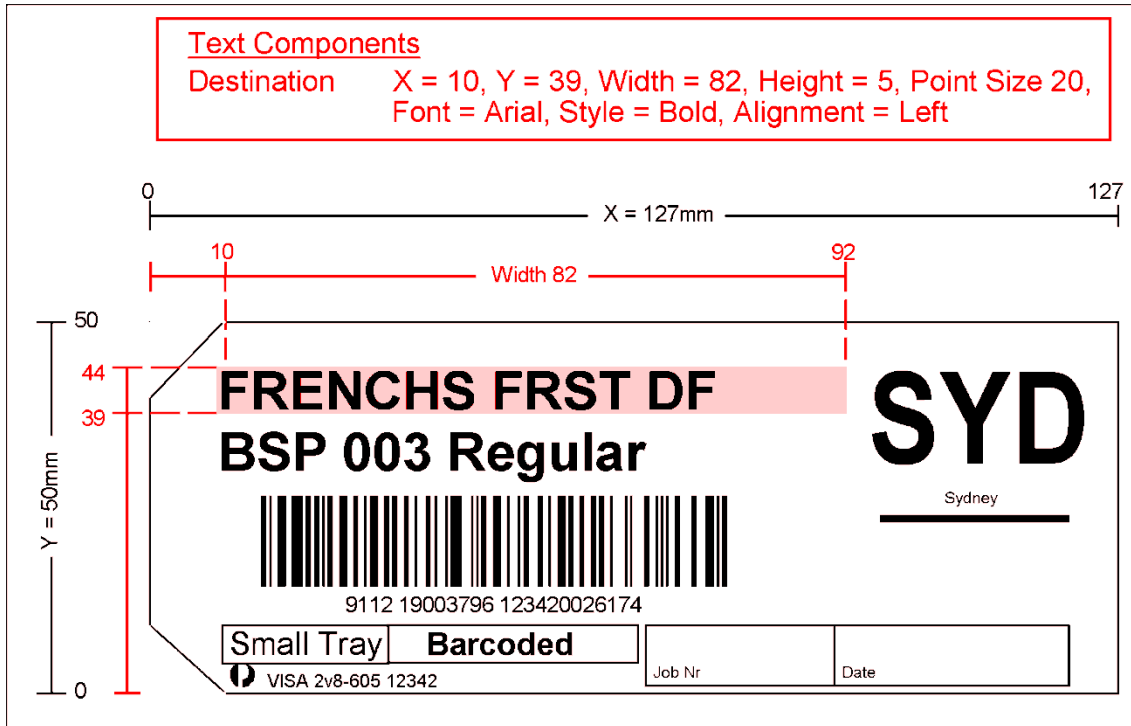
Table 3 - Label Element Placement: Header Label

The Header label elements are placed on the label using the following dimensions, in millimetres, commencing from the bottom left hand corner (0, 0) with descendants of lower case text allowed to drop below. The font specified is Arial or equivalent sans serif font.

Text components	X[1]	Y[1]	Width	Height	Point Size	Font	Style	Alignment
Label Plan Name text	10	37.5	31	2.5	10	Arial	Bold	Right
Label Plan Name field	43	37.5	57	3	12	Arial	Bold	Left
Label Plan last modified date	100	37.5	24	3	12	Arial	Bold	Left
1st Label Plan stacker number	10	30	31	2.5	10	Arial	Reg	Right
1st label Sub destination + Destination text	43	30	75	2.5	10	Arial	Reg	Left
Last Label Plan stacker number	10	24	31	2.5	10	Arial	Reg	Right
Last label Sub destination + Destination text	43	24	75	2.5	10	Arial	Reg	Left
Total labels in set text	10	18	31	2.5	10	Arial	Reg	Right
Total labels in set count	43	18	15	2.5	10	Arial	Reg	Left
Print Time text	10	12	31	2.5	10	Arial	Reg	Right
Print Time field	43	12	15	2.5	10	Arial	Reg	Left
Print Date text	62	12	18	2.5	10	Arial	Reg	Right
Print Date field	82	12	20	2.5	10	Arial	Reg	Left
Source of origin	10	3	50	3	12	Arial	Reg	Left
Label printing identifier	79	1	32	2	8	Arial	Reg	Left

[1] Label X = 0 to 127mm; Y = 0 to 50mm