

# *FastCode*

## User's Guide



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## 1. What is FastCode?

- FastCode prints barcode labels directly from product information held in Attaché.
- Eliminates the need for a dedicated barcode printing system with a separate product database.
- Prints EAN 8, EAN 13 and UPC-E labels.
- Prints on laser labels or continuous labels.
- Works with any Windows compatible printer including laser printers and dedicated barcode printers with Windows drivers.
- FastCode consists of a set of FastCode Fonts and the FastCode Template which creates an application in Microsoft Word. This application can extract data from the product database in Attaché using DDE and prepare correctly formatted barcode labels.
- Labels can include Selling Price, Product Code, Product Description and Barcode; all directly from data in Attaché.
- Label design can easily be tailored to suit different requirements by those with a working knowledge of Microsoft Visual Basic for Applications.

## 2. Quick Start

This section provides those people who don't require much instruction with a quick start to getting results with FastCode.

1. Run "a:\setup" on the **FastCode** installation disk and follow the instructions.
2. Open Attaché Business Partner in the company that has the products with barcodes and enable Data Transfer.
3. Click on the FastCode Icon  on the Desktop.
4. Click on  in the FastCode Toolbar and enter a valid Attaché Product Code for a product with a barcode.
5. The barcode label will be created on the screen.
6. Click on  in the FastCode Toolbar to commence printing.


### 3. System Requirements

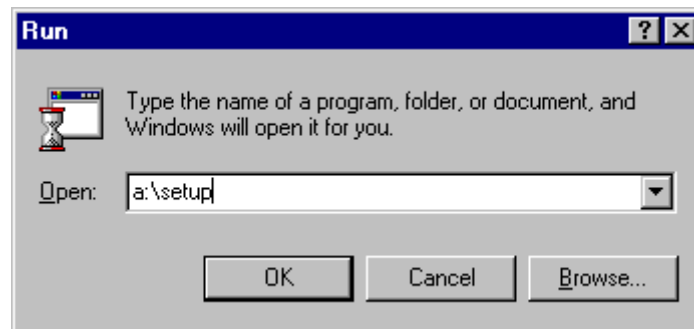
This section outlines the minimum system requirements for using FastCode. No requirements are placed on the PC hardware because any PC that can run Microsoft Office will run Attaché and FastCode.

- Microsoft Office 97 or greater; Standard or Professional version.
- Attaché Business Partner or Attaché Catapult with the Products Module and the Data Transfer System Module.
- Windows<sup>®</sup> compatible printer and labels.

### 4. Installing FastCode

This section covers the basic installation of FastCode.

1. Place the FastCode Installation Disk into the PC's floppy disk drive.
2. Click on the Windows Start Button  and select **R**un.
3. Type in "a:\setup" (without the quotes) and click OK.



4. Follow the instructions in setup programme and allow the PC to restart when prompted at the end of the installation.

FastCode has now been installed on your PC and is ready for use with Attaché Business Partner.

## 5. Using FastCode

FastCode supports printing to a number of predefined Laser Sheet Labels. The selected label can easily be changed to another from the list by clicking on the Options button on the FastCode toolbar.

When FastCode is first installed, it is set up to print on the Avery L7160 Laser Label sheet using the default Windows printer.

If changes are required to the label layout or if new labels need to be included or if a printer other than the default printer is to be used then changes will need to be made to the FastCode VBA macros. If this is the case refer to section 7 of this document.

### 5.1 Starting FastCode

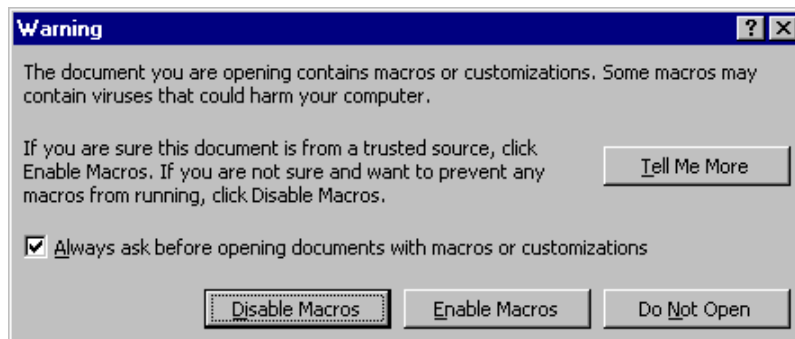
To Start FastCode, click on the FastCode Icon  on the Windows Desktop.

This will automatically start Microsoft Word if it is not already running and then load the FastCode Application.

### 5.2 Office 97 and 2000 Virus Warnings

FastCode employs macros to perform its tasks. Office includes functions to warn users when a document or template containing macros is being opened.

In Word the following warning message is presented.



This message is simply warning that the document contains macros and that Word doesn't know if they are harmful or not.


To continue to run FastCode, click on the **Enable Macros** button.

This warning message can be disabled or enabled at any time by selecting **Tools - Options ... General - Macro virus protection**.

### 5.3 Starting Attaché Business Partner with Data Transfer


FastCode uses the Data Transfer function in Attaché Business Partner to extract product information.

1. Login into Attaché Business Partner and select the company with products which require barcode labels.
2. Click on **TOOLS - COMPANY**.
3. Click on **DATA TRANSFER** and then **ENABLE DATA TRANSFER**.

Attaché Business Partner can then be reduced to an icon by clicking on the underscore button  in the top right hand corner of the screen.

Now that Data Transfer has been enabled, labels can be printed in FastCode.


### 5.4 Creating a Label

- Next, create a label by clicking on the  button in the FastCode Toolbar. This will prompt for a valid Attaché Product Code.
- Type in the Product Code of a product in Attaché with a barcode and select OK.

The label will then be created on the screen and is ready for printing.

If the product in Attaché had no barcode use **Products - Maintain** in Attaché to enter a valid barcode number (the number 12345670 can be used for testing for example).

### 5.5 Printing a Label

- Click on  in the FastCode Toolbar.  
This will prompt for the number of rows of labels to be printed on the sheet.
- Enter the number required, or accept the default for the full sheet, and select OK.

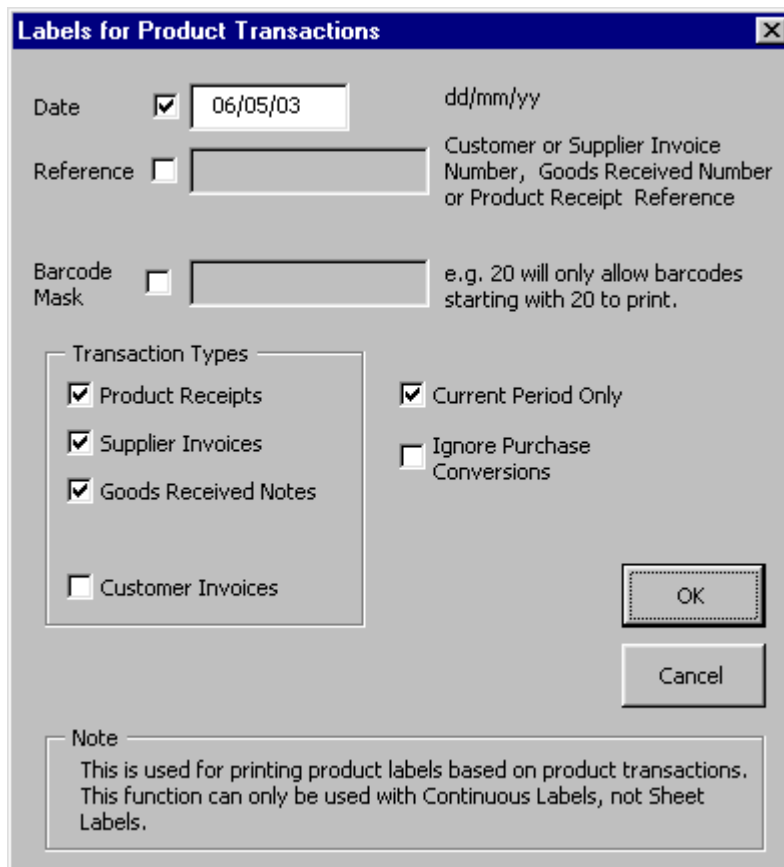
The sheet of labels should now be printing.

## 5.6 Print Barcode Labels based on Product Transactions

FastCode allows labels to be printed according products received into Attaché or products sold. This means that labels can be printed in the appropriate quantity for all product receipt or sale transactions in Attaché.

Printing labels based on Attaché product transactions is initiated by the

**Product Transactions** button on the Toolbar. This will cause the following dialog to appear.



**Figure 1 – Product Transactions Dialog – typical usage**

This dialog allows for various selection criteria for the labels to be printed.

Selection criteria include:



- Transaction Type: Product Receipt, Supplier Invoice, Goods Received Note and Customer Invoice.
- Current Period Only
- Transaction Date
- Reference: Product Receipt Reference, Invoice Number or Goods Received Note Number.
- Barcode Mask.

Notes:

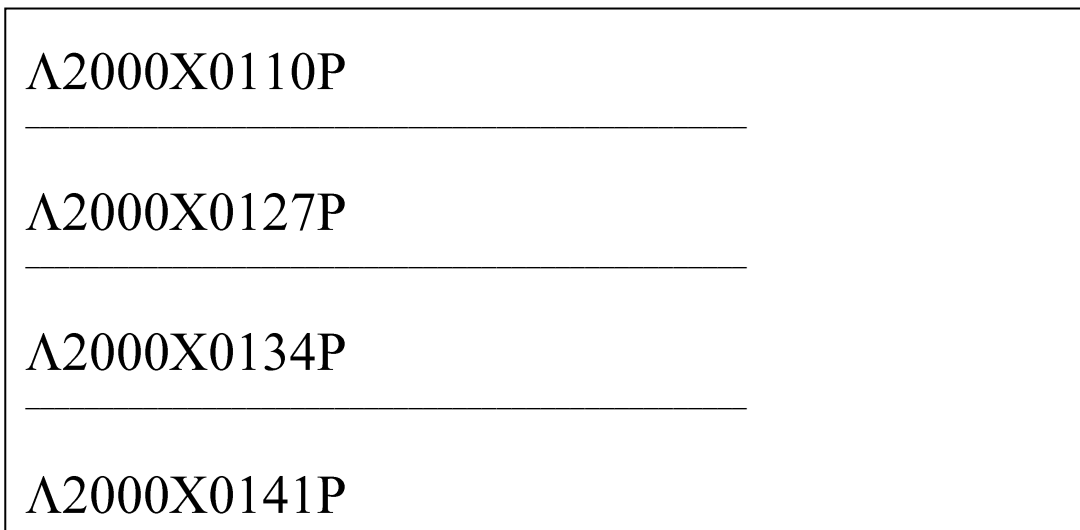
- Use Current Period Only where possible to yield the fastest searching time.
- The Date field will always default to today's date.
- Select only the Transaction types which are actually used to yield the fastest searching time.
- Use the Barcode Mask to allow only a limited range of Barcodes to be printed. This is used to inhibit Barcode labels from being printed if they are not within the required range. This is to cover the scenario where products are received into Attaché which are already suitably labelled with a valid EAN barcode supplied by another party. The mask could be used to inhibit labels with barcodes numbers from others from being printed.
- Use the option to Ignore Purchase Conversions if only one label is needed for a box of items rather than a label for each individual item. This is useful for small items that are impractical to label individually.

### 5.7 Miscellaneous Functions

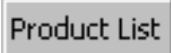



Other Barcode functions that are available from the Toolbar include:

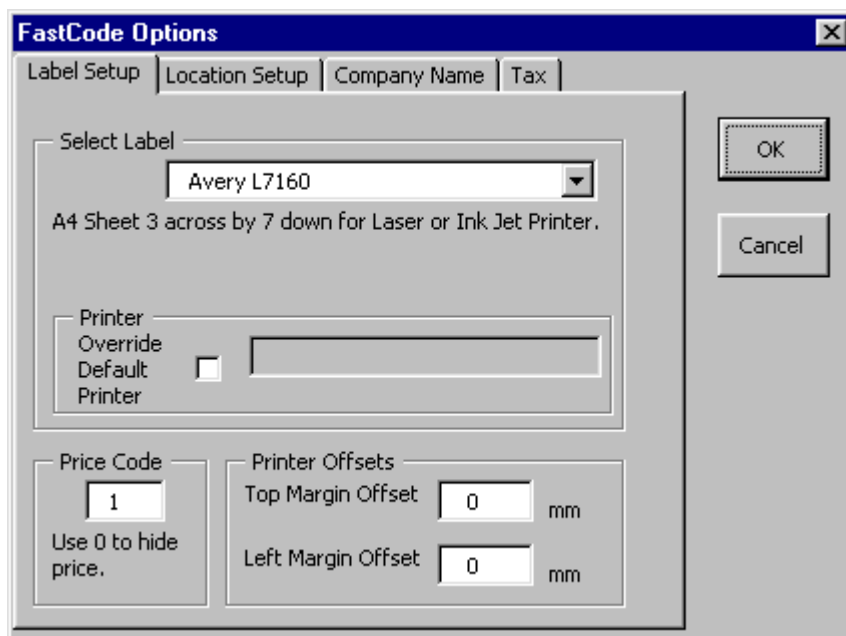
-  Check Digit Calculator. This is a simple calculator for calculating the check digit on a barcode number.
-  EAN8 Series Print a Barcode Register. This is used to create and then print out a list of valid EAN 8 barcode numbers. These are the 8 digit EAN barcode numbers.

Note: Country Codes 20 to 29 are reserved for in-house use and hence can be used in cases where the labels are not required to read by outside parties.



**Figure 2 – Sample from EAN8 Series function**

-  Create a Product Price List that includes a barcode, description, and selected prices. This would typically be used at the point of sale for items that are impractical to label directly with barcodes.
-  Quit from FastCode without saving any settings. This would used to quit a normal session with FastCode.
-  About FastCode. This reports the version of FastCode.
-  Set the Options for FastCode.  
The Options to be set include:
  - Label Type
  - Label Print Offset in mm
  - Pinter selection to allow either the default printer to be used or a specific printer.
  - Price Code for the price to be used on the label
  - Product Location for use with multiple locations in Attaché
  - Company name to be used on the label.
  - Fixed tax to the price. This is used to add tax for a retail price where the product prices are Tax Exclusive.



**Figure 3 – FastCode Options Dialog**

## 6. Barcode Formats

FastCode automatically determines the correct barcode format to be used in the label, based on the length of the barcode number stored in Attaché.

- For barcode numbers that are 13 digits long, FastCode will use the EAN 13 format.
- For barcode numbers that are 8 digits long, FastCode will use the EAN 8 format.
- For barcode numbers that are 6 digits long, FastCode will use the UPC E format.

If the check digit is wrong, or if the length is not consistent with one of the supported formats, or if the barcode contains non-numeric characters, then an error message window will alert the user of the problem.

## 7. FastCode Error Messages

This section contains a list of the error messages that may be generated while using FastCode.

- **Attaché Business Partner is not running.**

FastCode cannot find Attaché Business Partner. Make sure that Attaché Business Partner is running on this PC with Data Transfer enabled.

- **Attaché Data Transfer is not enabled.**

FastCode cannot connect with Attaché Business Partner because Data Transfer is not enabled. Make sure that Attaché Business Partner is running on this PC with Data Transfer enabled.

- **Barcode error: xxxx is not 6, 8 or 13 digits for UPC-E, EAN-8 or EAN-13.**

FastCode supports UPC-E, EAN-8 and EAN-13 coding which requires the barcode in Attaché to be 6, 8 or 13 digits long. Make sure that the barcode in Attaché is the correct length.

- **Non-numeric character in Barcode.**

FastCode supports UPC-E, EAN-8 and EAN-13 coding which requires the barcode in Attaché to be numeric. Make sure that the barcode in Attaché contains only numbers.

- **Product Code not found.**

FastCode could not find the requested product code in Attaché.

If Product Locations are used in Attaché, make sure that the correct Location is set using the Set Location button in the FastCode Toolbar.

If Product Locations are not used in Attaché, make sure that the Location is set to blank using the Set Location button in the FastCode Toolbar.

- **The Product xxx has no Barcode.**

The requested product has no barcode number stored within Attaché.

- **Wrong Check Digit supplied: x. It should be: y.**

The barcode for the requested product has the wrong check digit stored in Attaché for an EAN-8 or EAN-13 barcode number. Make sure that check digit (the last digit) of the barcode stored in Attaché is correct. Use the Check Digit Calculator if necessary to establish the correct check digits.

## **7. Tailoring FastCode in Office 97 or 2000**

This section is provided for those people with a reasonable knowledge of Microsoft Word Macro and Visual Basic for Applications to be able to make changes to the layout of the labels or add new labels.

### **7.1 Background**

The FastCode application is contained within the Microsoft Visual Basic Modules within the word template file: FastCode.dot.

This is normally held in the \Program Files\FastCode directory.

The modules that determine the characteristics of the printed labels all have the prefix 'aLabel' in their name.

For example, the labels Avery L7160 and Costar 1x1 are defined by the following modules:

aLabelL7160	This contains the dimensions of the Avery L7160 A4 laser label and the layout of the contents of the label.
aLabelCostar1x1	This contains the dimensions of the CoStar 1" x 1" continuous label and the layout of the contents of the label.

Other label layouts that are added to FastCode should have "aLabel" as the first part of the name to ensure that they are all grouped together.

As new label definitions are added they need to be registered within the aLabel module to ensure that FastCode can use them. This is covered in section 7.4 Registering the New Label.

The following sections provide an outline of some of the common modifications that may be performed on the label printing.

## 7.2 Modifying the Standard Avery L7160 Label Layout

The macro aLabelL7160 defines the dimensions of the Avery L7160 sheet of labels as well as the layout of the information which is included within the label.

The following is an extract of the aLabelL7160 module.

```

*****
'* Label Size
*****
Sub InitLabel()
  If Name$ <> SelectName Then GoTo Done

  LabelType$ = "sheet"
  TopMargin = 0.5
  BottomMargin = 0.4
  LeftMargin = 0.3
  RightMargin = 0.3

  LabelAcross = 3
  LabelDown = 7
  LabelTopMargin = 1.59
  LabelSideMargin = 0.72
  LabelVertPitch = 3.81
  LabelHorPitch = 6.6
  LabelHeight = 3.81
  LabelWidth = 6.35
  LabelOrientation = 0 'Portrait
  LabelDescription = "A4 Sheet 3 across by 7 down for Laser or Ink Jet Printer."

Done:
End Sub

*****
'* Label Layout
*****
Sub Create(Barcode$, ProdDesc$, Price$, ProdCode$)
  If Name$ <> LabelName$ Then GoTo Done

  Selection.ParagraphFormat.Alignment = _
    wdAlignParagraphCenter

  WordBasic.FontSize 46
  InsertBarCode.InsertBarCode Barcode$

  WordBasic.Font "Arial"
  WordBasic.FontSize 8
  WordBasic.InsertPara
  WordBasic.Insert Left(ProdDesc$, 30)
  WordBasic.InsertPara
  WordBasic.FontSize 10
  WordBasic.Insert Left(ProdCode$, 20) + " "

  If PriceCode$ <> "0" Then
    WordBasic.Bold 1
    WordBasic.FontSize 10
    WordBasic.Insert "$" + Price$
  End If

  WordBasic.InsertPara
  WordBasic.Bold 1
  WordBasic.FontSize 10
  WordBasic.Insert Left(Options.CompanyName$, 30)
Done:
End Sub
*****
'* The following is the Label Name
*****
Function Name$()
  Name$ = "Avery L7160"
End Function

```

The first section of the module defines the size, margins and quantity of labels on the A4 sheet. Section 8, A4 Sheet Laser Label Dimensions, and Section 9, Continuous Label Dimensions, provide details on the dimensioning of the labels.

All dimensions are in centimetres.

The second section defines the printed design of the label. Any changes to the design of the label such as changing the font type or size or placement of the fields on the label would be performed here.

The third section of the label definition module provides the name of the label.

The steps to modify the Avery Label L7160 sheet label would be as follows:

- Select **T**ools - **M**acro - **V**isual Basic Editor.
- Double Click on **aLabelL7160** to allow editing.
- Make the required changes.
- Save the module by selecting **F**ile - **S**ave FastCode and then **F**ile - **C**lose and **R**eturn to Microsoft Word.

### 7.3 Creating a New Label

A completely new label layout would be created by copying from one of the standard layouts and then making changes as required. The label to copy from, should be the same basic type as the new label, for example a new continuous label should be copied from an existing continuous label.

The steps to create an new laser sheet label would be as follows:

- Select **T**ools - **M**acro - **V**isual Basic Editor.
- Select **I**nsert **M**odule to create a new module.
- Rename the new module to **aLabelMyLabel**.
- Double Click on **aLabelL7160** to allow editing.
- Type **Ctrl-A** and then **Ctrl-C** to copy the contents of the module.
- Double Click on **aLabelMyLabel** to allow editing.
- Type **Ctrl-V** to paste the module contents.
- Make the required changes.
- Save the module by selecting **F**ile - **S**ave **F**astCode.

## 7.4 Registering the New Label

FastCode uses the aLabel module to find registered label definitions.

New label definitions should be registered within the aLabel module using existing labels as an example.

Each label module needs to be identified in three places:

- InitLabel,
- Create, and
- GetNames.

The following is an example of the aLabel module.

```

*****
'* Add new Labels to each of these 3 lists.
'* Follow the example of the existing Labels.
*****
Sub InitLabel ()

    'set up some default values
    ColumnQty = 1
    Printer = ""
    BarcodeSource = "PbCode"

    aLabelL7160.InitLabel
    aLabelL7159.InitLabel
    aLabelL7159_ProdCode.InitLabel
    aLabelL7165.InitLabel
    aLabelL7166.InitLabel
    aLabelL7166_EAN8.InitLabel
    aLabelCostar1x1.InitLabel
    aLabelL7651.InitLabel
    aLabelSeiko1x2.InitLabel
    aLabelSeiko1x3_5.InitLabel
    aLabelDMX400_1x1_3up.InitLabel
    aLabelDMX400_1x1.InitLabel
    aLabelIntermec3100_2x1.InitLabel
    aLabelBlaster60x30.InitLabel
    aLabelBlaster30x30_2up.InitLabel
    'aLabelMyNewLabel.InitLabel

End Sub

Public Function Create(Barcode$, ProdDesc$, Price1$, ProdCode$)
    aLabelL7160.Create Barcode$, ProdDesc$, Price1$, ProdCode$
    aLabelL7165.Create Barcode$, ProdDesc$, Price1$, ProdCode$
    aLabelL7166.Create Barcode$, ProdDesc$, Price1$, ProdCode$
    aLabelL7166_EAN8.Create Barcode$, ProdDesc$, Price1$, ProdCode$
    aLabelL7159.Create Barcode$, ProdDesc$, Price1$, ProdCode$
    aLabelL7159_ProdCode.Create Barcode$, ProdDesc$, Price1$, ProdCode$
    aLabelCostar1x1.Create Barcode$, ProdDesc$, Price1$, ProdCode$
    aLabelL7651.Create Barcode$, ProdDesc$, Price1$, ProdCode$
    aLabelSeiko1x2.Create Barcode$, ProdDesc$, Price1$, ProdCode$
    aLabelSeiko1x3_5.Create Barcode$, ProdDesc$, Price1$, ProdCode$
    aLabelDMX400_1x1_3up.Create Barcode$, ProdDesc$, Price1$, ProdCode$
    aLabelDMX400_1x1.Create Barcode$, ProdDesc$, Price1$, ProdCode$
    aLabelIntermec3100_2x1.Create Barcode$, ProdDesc$, Price1$, ProdCode$
    aLabelBlaster60x30.Create Barcode$, ProdDesc$, Price1$, ProdCode$
    aLabelBlaster30x30_2up.Create Barcode$, ProdDesc$, Price1$, ProdCode$
    'aLabelMyNewLabel.Create Barcode$, ProdDesc$, Price1$, ProdCode$
End Function

Function GetNames(Index As Integer) As String
    Dim Names(16) As String

    Names(1) = aLabelL7159.Name$
    Names(2) = aLabelL7159_ProdCode.Name$

```

---

```
Names (3) = aLabelL7160.Name$
Names (4) = aLabelL7165.Name$
Names (5) = aLabelL7166.Name$
Names (6) = aLabelL7166_EAN8.Name$
Names (7) = aLabelL7651.Name$
Names (8) = aLabelCostar1x1.Name$
Names (9) = aLabelSeiko1x2.Name$
Names (10) = aLabelSeiko1x3_5.Name$
Names (11) = aLabelDMX400_1x1_3up.Name$
Names (12) = aLabelDMX400_1x1.Name$
Names (13) = aLabelIntermec3100_2x1.Name$
Names (14) = aLabelBlaster60x30.Name$
Names (15) = aLabelBlaster30x30_2up.Name$
'Names (16) = aLabelMyNewLabel.Name$

GetNames = Names (Index)

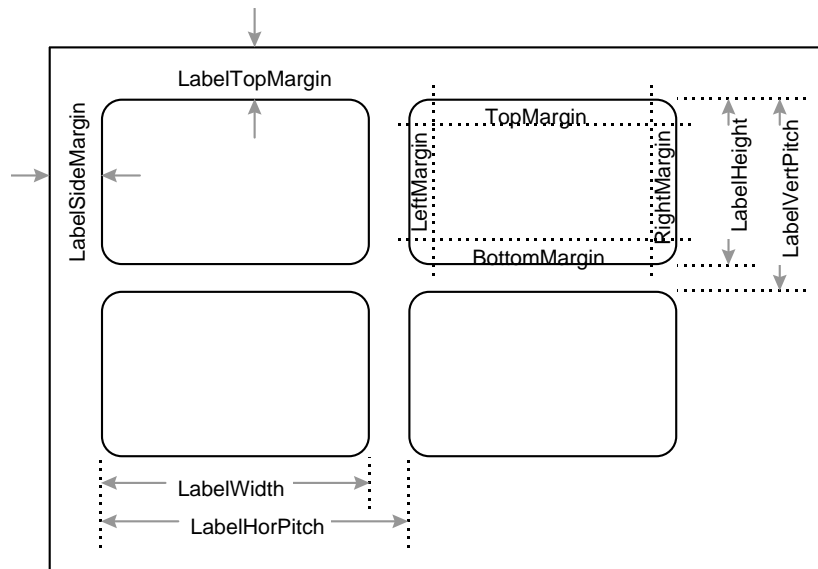
End Function
```

It should be noted that the apostrophe character (‘) is used to comment out lines in Microsoft VBA.

## 8. A4 Sheet Laser Label Dimensions

This section provides an overview of the dimensioning of sheet labels.

Figure 4 illustrates each of the dimensions that need to be defined for an A4 sheet of Labels. The measurements are expressed in centimetres.



**Figure 4 - A4 Sheet Label Dimensions**

The number of labels across and down the sheet is defined by `LabelAcross` and `LabelDown` respectively.

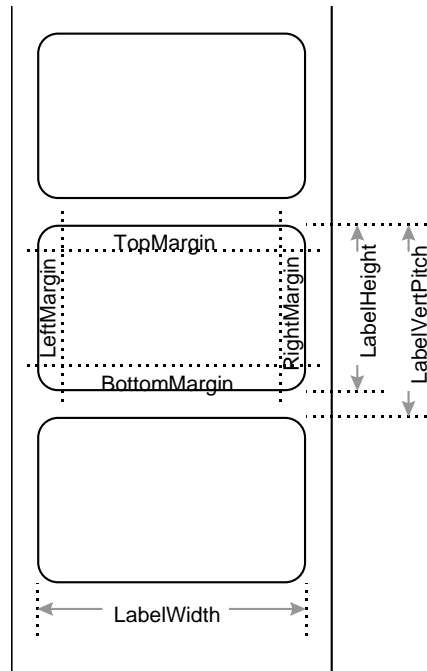
The type of label is defined by `LabelType$ = "sheet"`.

Refer to section 7.2, *Modifying the Standard Avery L7160 Label Layout*, for examples of each of these measurements.

## 9. Continuous Label Dimensions

This section provides an overview of the dimensioning of continuous labels.

Figure 5 illustrates each of the dimensions that need to be defined. The measurements are expressed in centimetres.



**Figure 5 - Continuous Label Dimensions**

The type of label is defined by `LabelType$ = "continuous"`.

## 10. Barcode Tutorial

This section is provided for those people who need to know more details about the formation and use of the barcode formats. It is not normally necessary to worry about this section.

There are numerous barcoding standards employed throughout the world in many industries. Some common standards that will be seen in Barcode documentation include:

- Code 39
- Interleaved 2 of 5
- UPC A
- UPC E
- EAN 13
- EAN 8
- Codabar
- Code 128
- Code 11
- MSI Code
- Code 93

Retail package identification in Australia is almost exclusively either EAN 8 or EAN 13. The EAN package identification standards are by far the most widely used world wide being adopted in around 80 countries in Europe, Africa, Asia and Oceania.

The UPC E and UPC A codes are 12 and 6 digit codes respectively which are used primarily in the USA and Japan.

The EAN Codes encode either 13 or 8 characters. The 13 character version is a super-set of the UPC A code. The 8 character version is for printing on smaller packages.

Most of the other barcode standards are employed in specific applications within organisations which do not conform to any particular industry format. These may include applications such as item tracking within a production line, document tracking, or employee badge identification.

This tutorial will cover the construction of the EAN 8 and 13 codes.

### 10.1 EAN 13 Overview

EAN 13 is used to encode thirteen characters. The first two characters are the flag characters that identify the country of origin, the next ten characters are the data characters, and the last character is the check character.

The flag characters which identify Australia are 93 and New Zealand is identified by 94.

Typically, the ten data characters are divided in to five digits which identify the company and five digits which identify a product within the company. The company

number is issued for a fee by the governing body of each country which uses EAN numbering. The five digit product codes are allocated at the discretion of the company.

If barcodes are for in-house use on products which do not need to be scanned by external parties then there is no need to have a Company identification number allocated.

Barcodes can be created entirely for in-house by using the country codes of 20 through to 29. Use of these codes ensures that there will be no confusion with any products from other suppliers.

The physical structure of the EAN-13 is as follows:

- Left hand guard bars, encoded 101
- Second flag character, encoded as in the following tables
- First five data characters, encoded as in the following tables
- Center guard pattern, encoded 01010
- Last five data characters, encoded as right hand characters
- Check character, encoded as a right hand character
- Right hand guard bars, encoded 101

The thirteenth digit is encoded in the pattern of parity in the second flag character and the first five data characters. The left hand A and the left hand B character sets are used.

Data	Left Hand A	Left Hand B	Right Hand
0	0001101	0100111	1110010
1	0011001	0110011	1100110
2	0010011	0011011	1101100
3	0111101	0100001	1000010
4	0100011	0011101	1011100
5	0110001	0111001	1001110
6	0101111	0000101	1010000
7	0111011	0010001	1000100
8	0110111	0001001	1001000
9	0001011	0010111	1110100

**Table 1 - EAN Barcode Patterns**

First Flag Character	Second Flag Character	Data Characters				
		1	2	3	4	5
0	A	A	A	A	A	A
1	A	A	B	A	B	B
2	A	A	B	B	A	B
3	A	A	B	B	B	A
4	A	B	A	A	B	B
5	A	B	B	A	A	B
6	A	B	B	B	A	A
7	A	B	A	B	A	B
8	A	B	A	B	B	A
9	A	B	B	A	B	A

**Table 2 - Flag Character Encoding**

Note: The UPC-A symbol is a subset of the EAN 13 symbols.

A UPC-A symbol is an EAN 13 symbol with the first flag character set to zero. Hence, it is effectively a 12 digit code.

## 10.2 EAN 8 Overview

The EAN 8 symbol encodes two flag characters, five data characters, and a check character. The physical structure of EAN 8 is as follows:

- Left hand guard bars, encoded 101
- Two flag characters, encoded as left hand A characters
- First two data characters, encoded as left hand A characters
- Center guard pattern, encoded 01010
- Last three data characters, encoded as right hand characters
- Check character, encoded as a right hand character
- Right hand guard bars, encoded 101

## 10.3 Check Digit Calculation

The check character for the UPC/EAN codes is generated by the following method:

1. Designate the right-most character as odd.
2. Sum all of the characters in the odd positions and multiply the result by three.
3. Sum all of the characters in the even positions
4. Add the odd and even totals from steps 2 and 3.
5. Add a number to the result from step 4, to round up to the nearest multiple of 10. The added number is the check character.

Refer to the following examples on the calculation of EAN 8 and EAN 13 check digits.

**EAN 13 Check Digit Example**

Flag characters = 20  
Message characters = 0123456789  
Position = EOEOEOEOEOEO  
Sum of odd positions =  $0 + 1 + 3 + 5 + 7 + 9 = 25$   
Odd positions X 3 =  $25 \times 3 = 75$   
Sum of even positions =  $2 + 0 + 2 + 4 + 6 + 8 = 22$   
Sum of even and odd =  $75 + 22 = 97$   
Check character = 3  
Tag to be encoded = 2001234567893

**EAN 8 Check Digit Example**

Flag characters = 20  
Message characters = 12345  
Position = OEOEOEO  
Sum of odd positions =  $2 + 1 + 3 + 5 = 11$   
Odd positions x 3 =  $11 \times 3 = 33$   
Sum of even positions =  $0 + 2 + 4 = 6$   
Sum of even and odd =  $33 + 6 = 39$   
Check character = 1  
Tag to be encoded = 20123451