

# Zebra/bar One Label Printing through Scripts and Adjusting the Coordinates VAI a SAP-Script.



## Applies to:

ABAP. For more information, visit the [ABAP homepage](#).

## Summary:

This Article is intended for all those Abapers who are interested in Label Printing through Sap-Scripts. It explains how to use. The scripts, the software needed and all other relevant requirements in detail. The last part explains the major concern in a Label that is adjusting the coordinates.

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## **Overview:**

IF You as an Abaper want to print labels (shipping or bar code labels) on a special printer as per the client requirement. You can create a label using an external design program which is in an off format and then print it from a sap-script form..

## **Activities**

...

CREATE THE LABEL WITH A DESIGN PROGRAM:

Use The Design Program Bar-One Tool For Sap R/3 Label Printing Of The Manufacturer Zebra.

DEFINE THE R/3 FORM FIELDS:

Variable Fields Are Those From Which Data Is To Be Fetched On Later , Hard coding And Other Fields Are Constants

Download the Print File:

Export the File with the Print Command From The Design .

Program:

As Shown In the diagrams Below .

### **Select fonts for the text fields:**

Upload the Print File to the sap-script Form:

Upload the print file to a sap-script standard text.

Adjust the form:

You now need to adjust the label for most label printers, for example, you must increase the MAIN window to the full page size and close all other windows. The MAIN window should also only contain a single text element; that is, the imported print file.

Create an Output Device:

Define an output device for label printing. which depends on the configuration of client

## **Mandatory Installation**

### **I) Installation of SAP R/3 Zebra Device Types and Codepages**

#### **1.1) Install a Zebra Codepage (S9162.CPA)**

Program RSTXCPAG is used to upload the codepage file into the SAP printing system.

- a) Type in the codepage, i.e. 9162, for Character set number field
- b) Select the File system: GUI field
- c) Select Upload (file-> R/3) option
- d) Select the Update/delete when uploading

#### **1.2) Install the Zebra Driver (ZLB\_ZEB.PRI)**

Program RSTXSCRIP is used to upload the device type definition file into the SAP printing system.

- 1) Select the Device type option
- 2) Enter the device type, i.e. "ZLB\_ZEB" for Object name
- 3) Type in "IMPORT" for Mode (EXPORT/IMPORT)
- 4) Select From/on frontend (or File system: GUI on older releases)

The screenshot shows a SAP dialog box with three main sections:

- Object selection and session ctrl:** Contains radio buttons for 'Form', 'Style', and 'Standard text'. Below these are input fields for 'Text ID' (value: ST), 'Language' (value: EN), and 'Device Type' (value: ZLB\_ZEB). The 'Mode (EXPORT/IMPORT)' is set to 'IMPORT'.
- Ctrl parameters for file operation:** Contains radio buttons for 'From/on frontend' (selected) and 'From/on application server'. Below are input fields for 'Dataset name' (value: C:\templ\\*\*\*\*\*&&&&), and checkboxes for 'Binary file format' and 'Display dataset contents'.
- Control of language versions:** Contains an input field for 'Language vector' and a checkbox for 'Only export original language'.

The dialog box has a standard SAP window title bar with a green arrow icon and an information icon. At the bottom, there is a scroll bar.

The pop-up dialog text box labeled “Import from a Local File” prompts for the device type definition file and its location.

## 2) Using the SAP R/3 Zebra Device Types with Output devices / Print Queues

- a) Initiate the Spool Administration program, SPAD. Select the Output DeviceOption.
- b) Press the Change icon.
- c) Allocate the Output Device name. You may also allocate a short name
- d) Select the Device Type, i.e. ZLB\_ZEB
- e) Enter Location and Message if required
- f) Ensure Host spool access method is set as option F
- g) Type in \_\_DEFAULT for Host printer
- h) Press the save icon

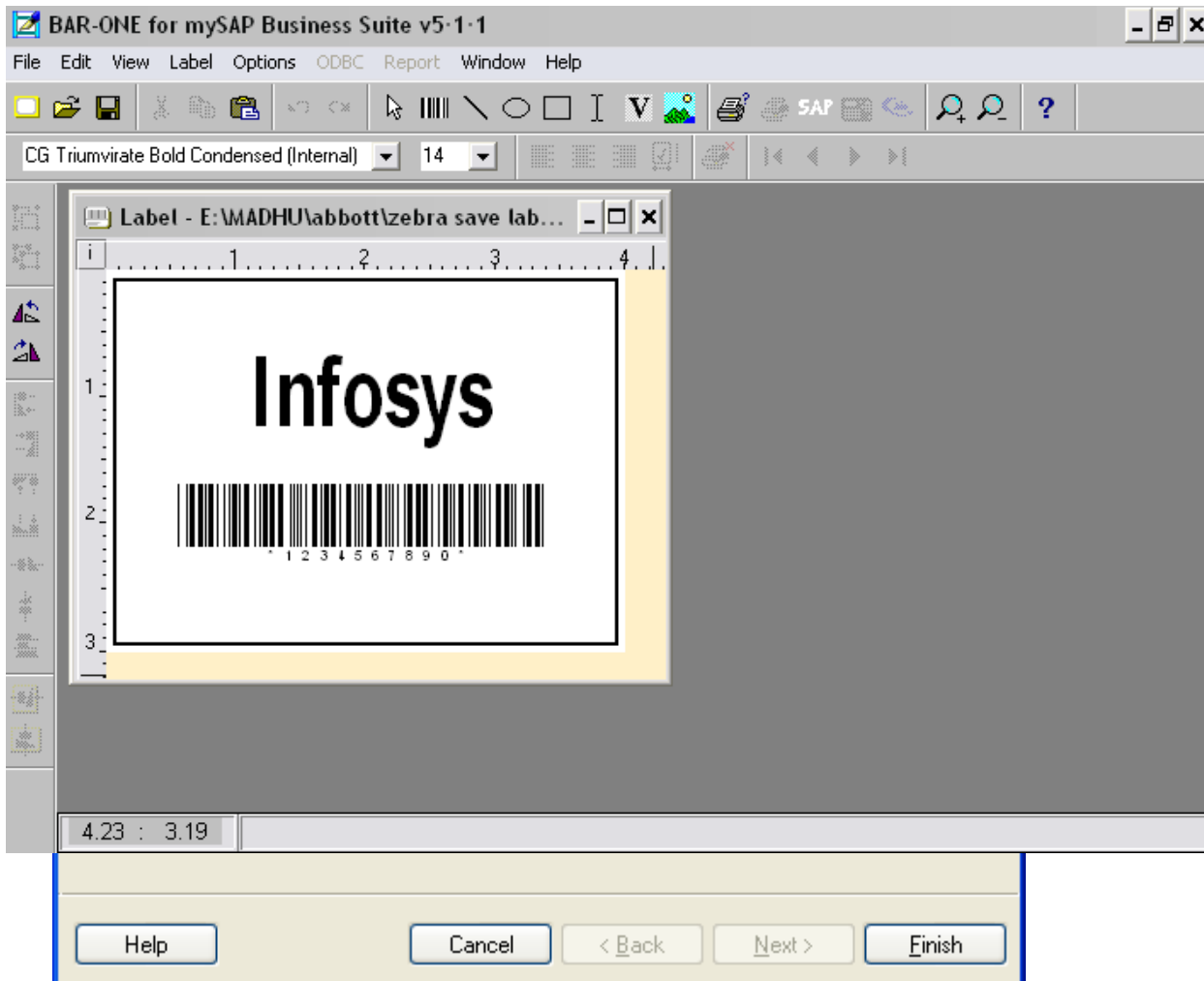
The screenshot shows the 'Spool Administration: Create Output Device' dialog box in SAP. The 'Output device' field is set to 'Zebra 140 Shipping Labels' and the 'Short name' is 'ZKM1'. Below this, there are four tabs: 'DeviceAttributes', 'HostSpoolAccMethod', 'Output attributes', and 'Tray info'. The 'DeviceAttributes' tab is active, showing the following fields: 'Device type' is 'ZLB\_ZEB : Zebra label printer IBM850', 'Device class' is 'Standard printer', 'Authorization group' is empty, 'Model' is '140 Xilli', 'Location' is 'Shipping Bay', and 'Message' is '6 \* 4 Thermal Transfer Labels'. There is also a checkbox for 'Lock printer in SAP System' which is unchecked.

Now SAP is ready to send print to your Zebra Label Printer.

## Barone

'BAR-ONE for R/3' is Label designing software, supplied by Zebra which supports variable text, barcode and graphics fields.

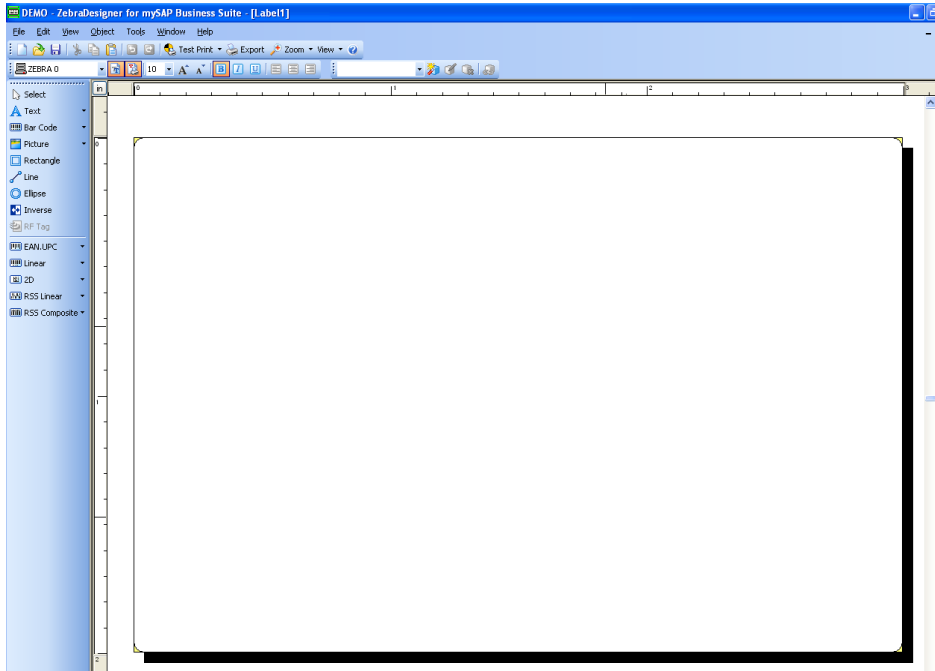
The available data types are; Time, Date, Linked Field and R/3® Variable Field, are listed when creating any new field or editing any existing field.



After opening the bar one/zebra printer suit for my sap

Click on create a new label.

Then click on finish button.

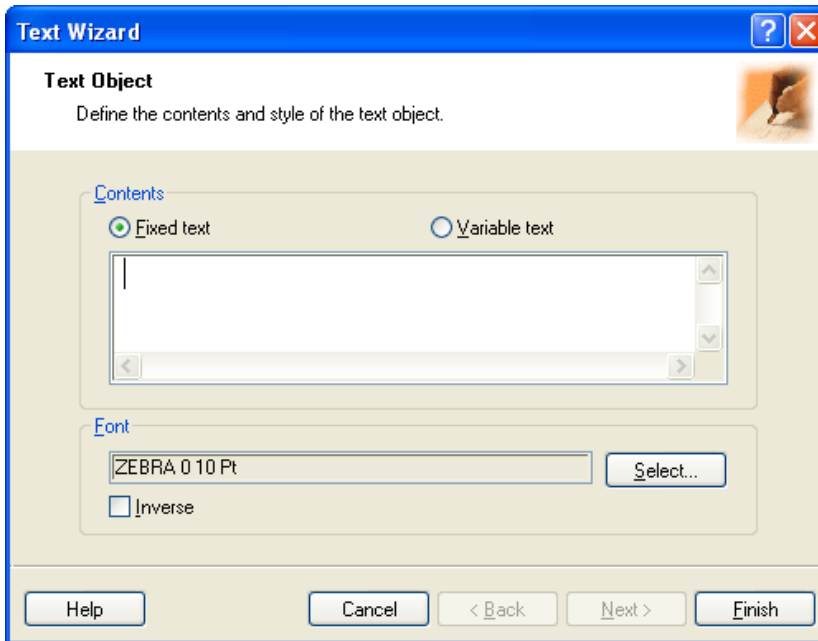


We Get a Blank screen for creating a Label.

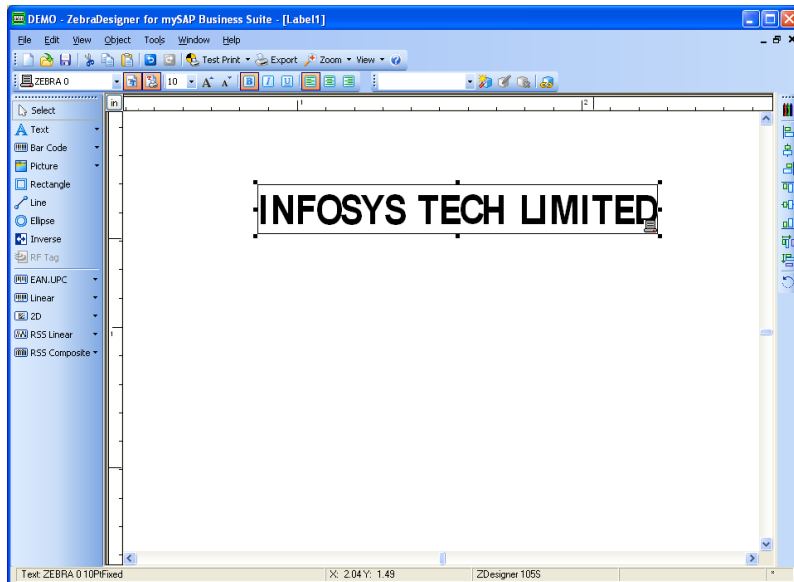
Where we have options for text, barcode, rectangle, pictures etc.....

1).Text contains: fixed text, variable text, date and time fields.

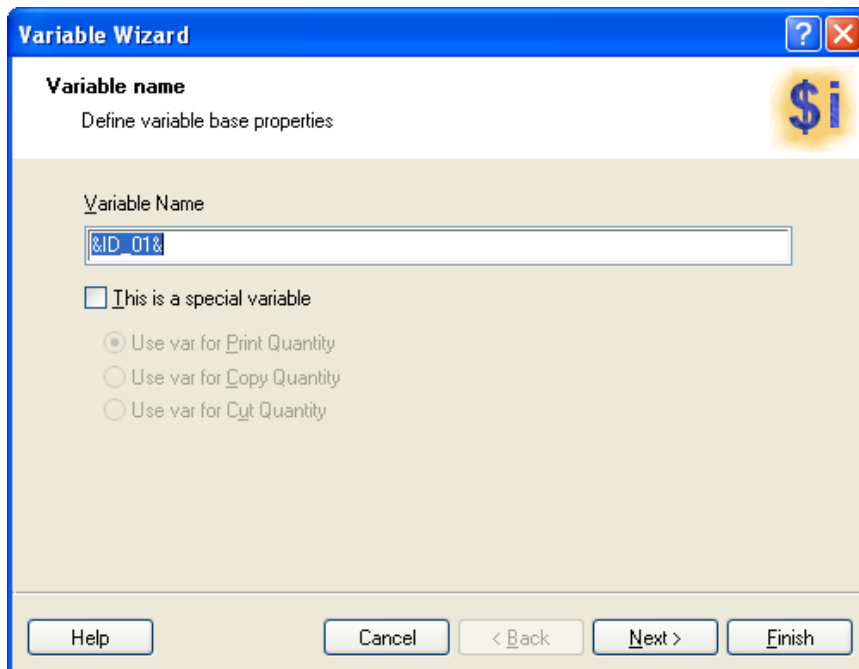
On clicking FIXED TEXT



And writing any fixed text like.....we get.

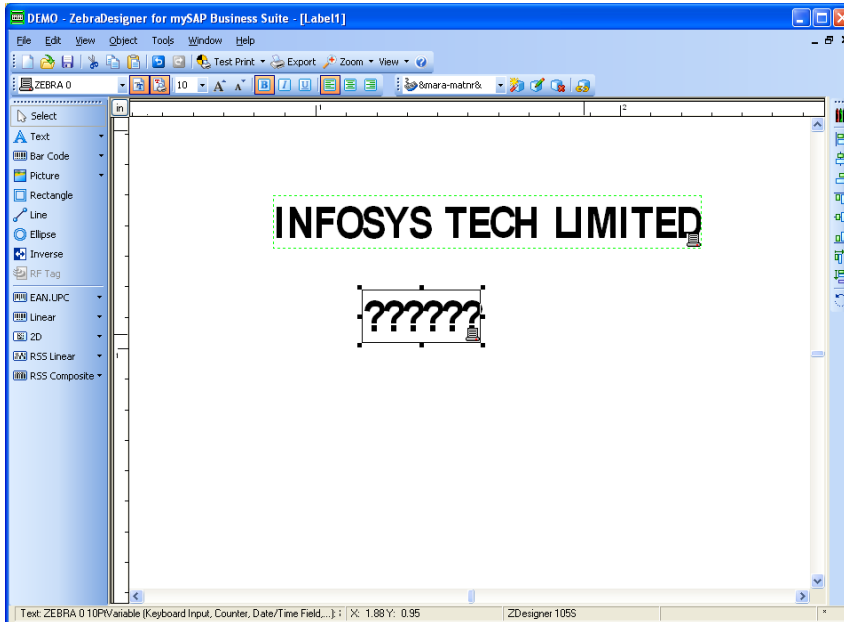


And writing any Variable Text like..... we get.



The variable is to be coded between &....&





This is what we get after inserting any variable text..

2).Barcode contains all the same field as above.

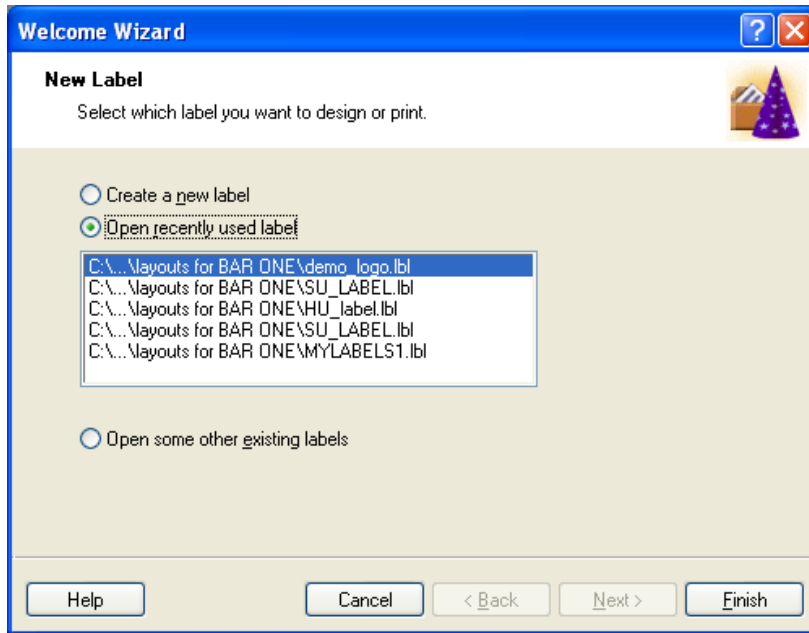
On clicking on fixed text we get Barcodes of Fixed Text.



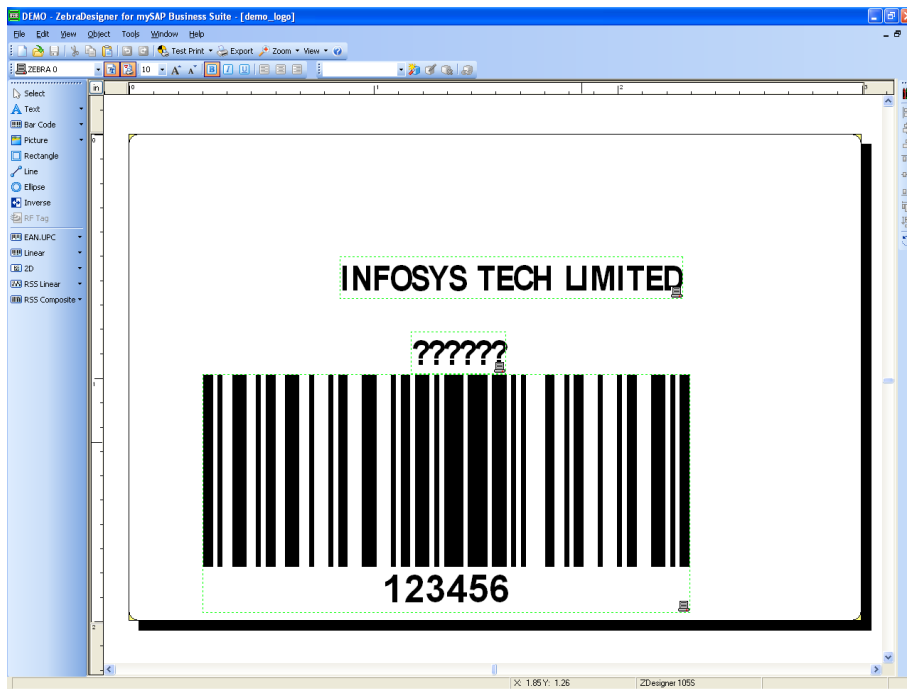
Similarly, we can do for the variable BARCODE.

The above file is saved in an lbl format.

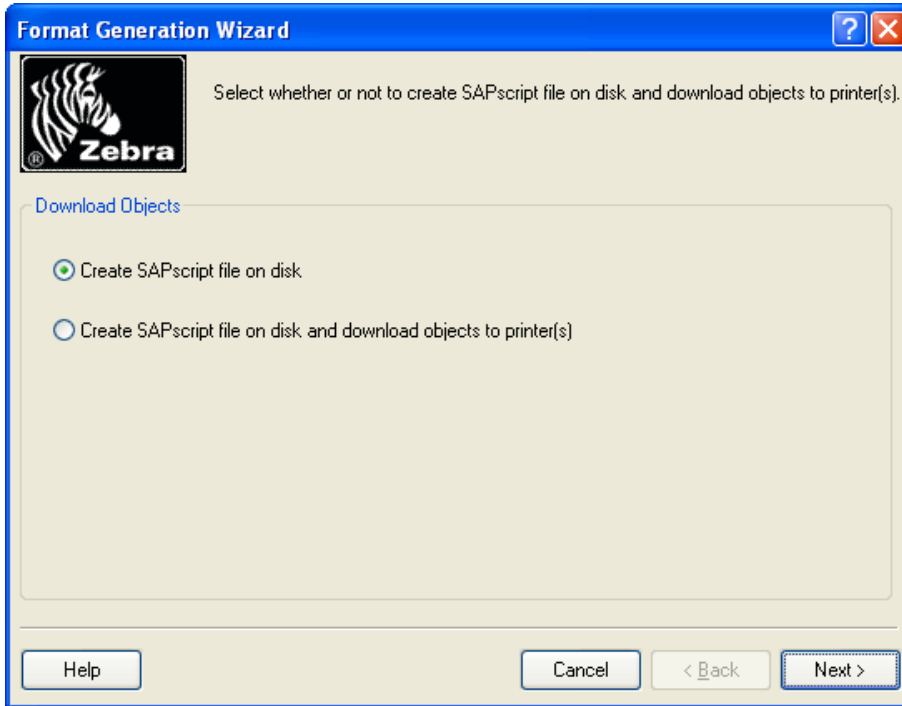
## Converting the File of .LBL Format to .ITF Format



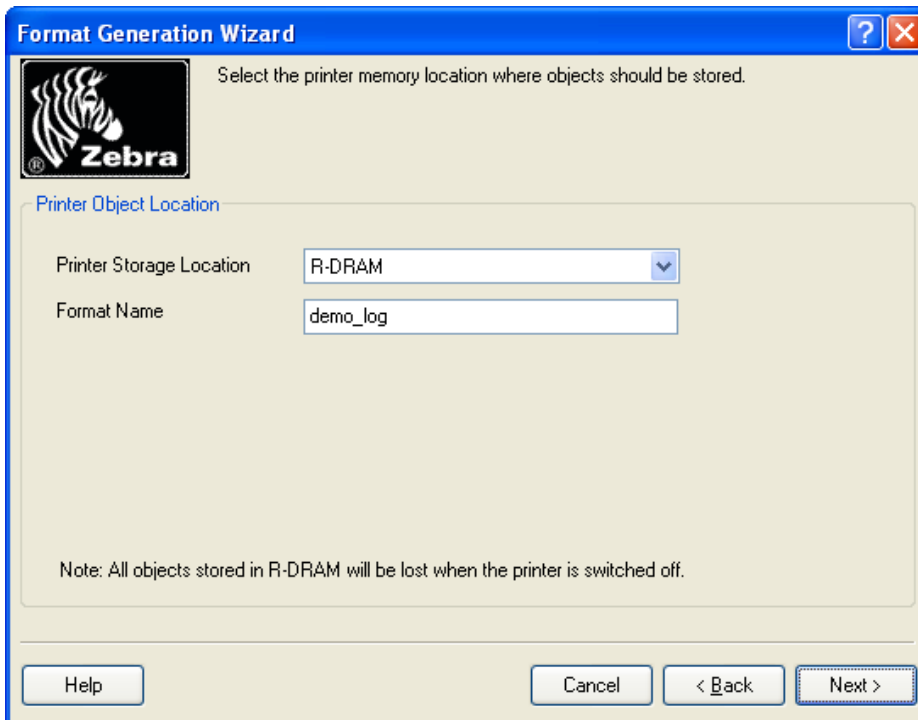
Click on open recently used labels-->select your label--->finish.



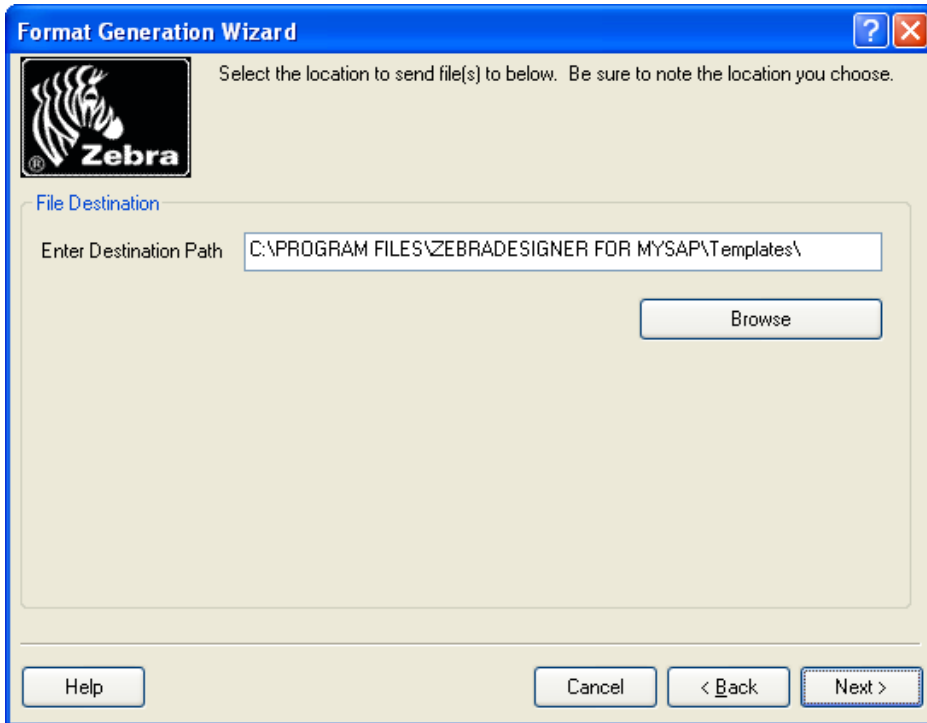
You get your previously created label,  
Click on export above and let the label get exported.



Click on NEXT.

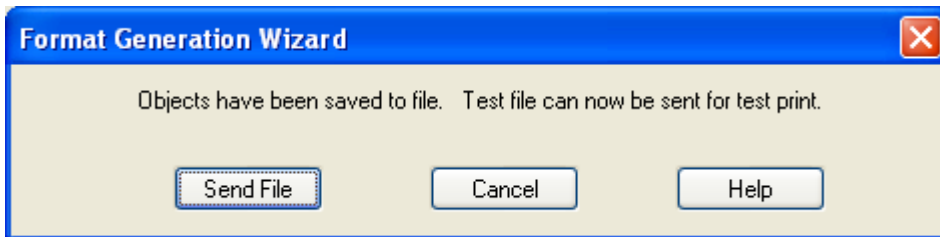


Next again.....



Give your location for saving it in itf format.

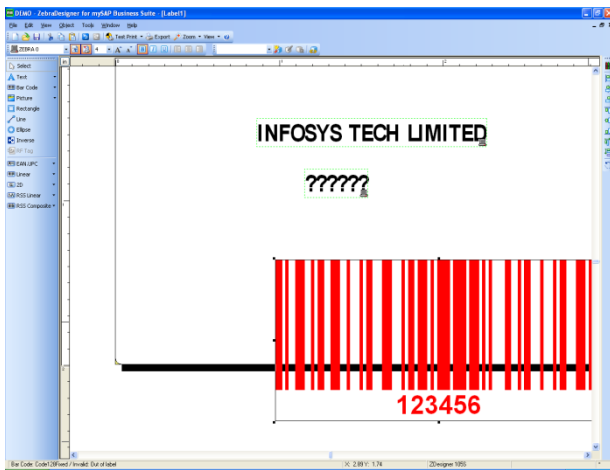
Click on next



and now click on cancel, You will get an ITF format layout.

NOTE: Whenever you see the barcode and anything colored in red. That is an error.

It says in most of the times that the variable has eluded from the given Area. Please Adjust it and it will be fine.



And others like rectangle and pictures etc..... are there.

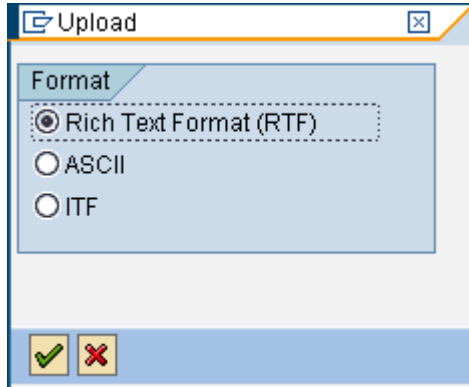
Which can be used.....as explained above.

## Uploading labels from BAR-ONE into SAP R/3 Layout sets / forms

- 1) Create a standard text with transaction so10.
- 2) At the "Change Standard Text: Request", select Text->Upload from the main menu.
- 3) Select the ITF and press the Transfer button.
- 4) A pop-up dialog text box labeled "Import ITF file" prompts for ITF File and its location.
- 5) Then press select icon 3 times and copy the text to the internal SAP clipboard.

GOTO SO10 Transaction--->create a new text--->Text-->Upload

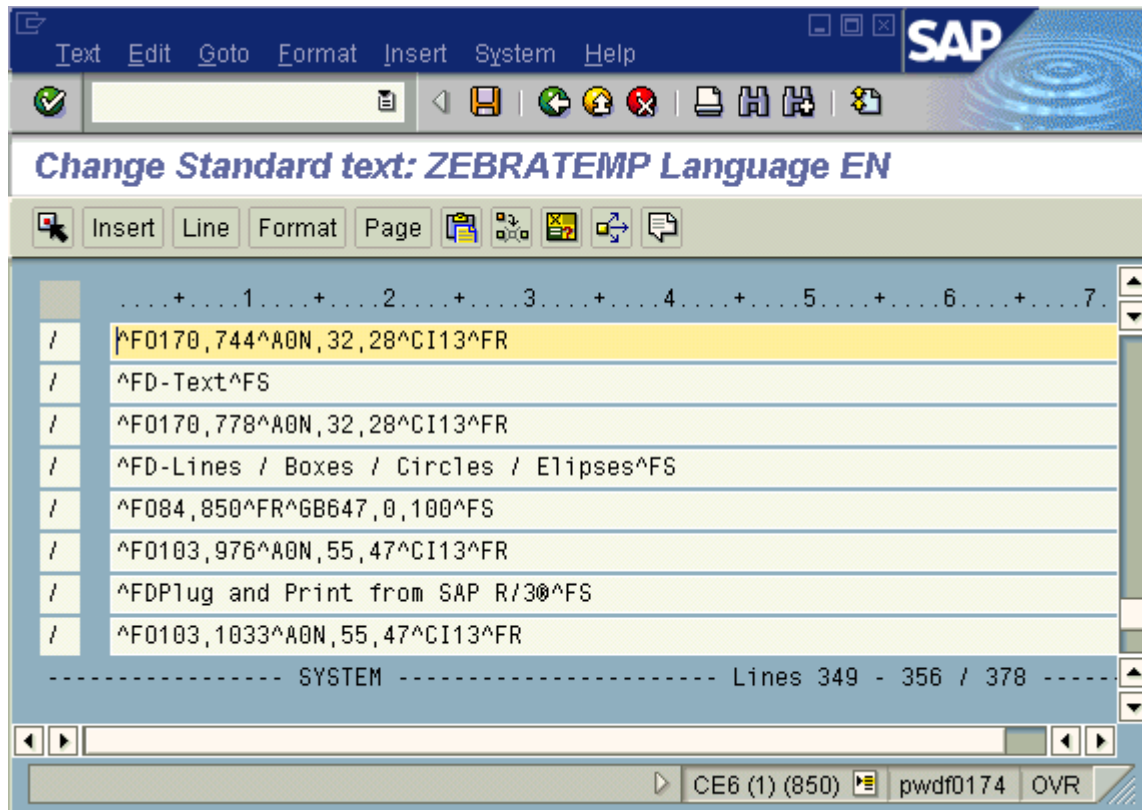
You will get the below screen.....



Select ITF from it, and click on OK.

You will get a Pop-Up for selecting the location of your itf file format, which is your BAR ONE Layout.

Once you are done with this your code in SO10 looks something like this.

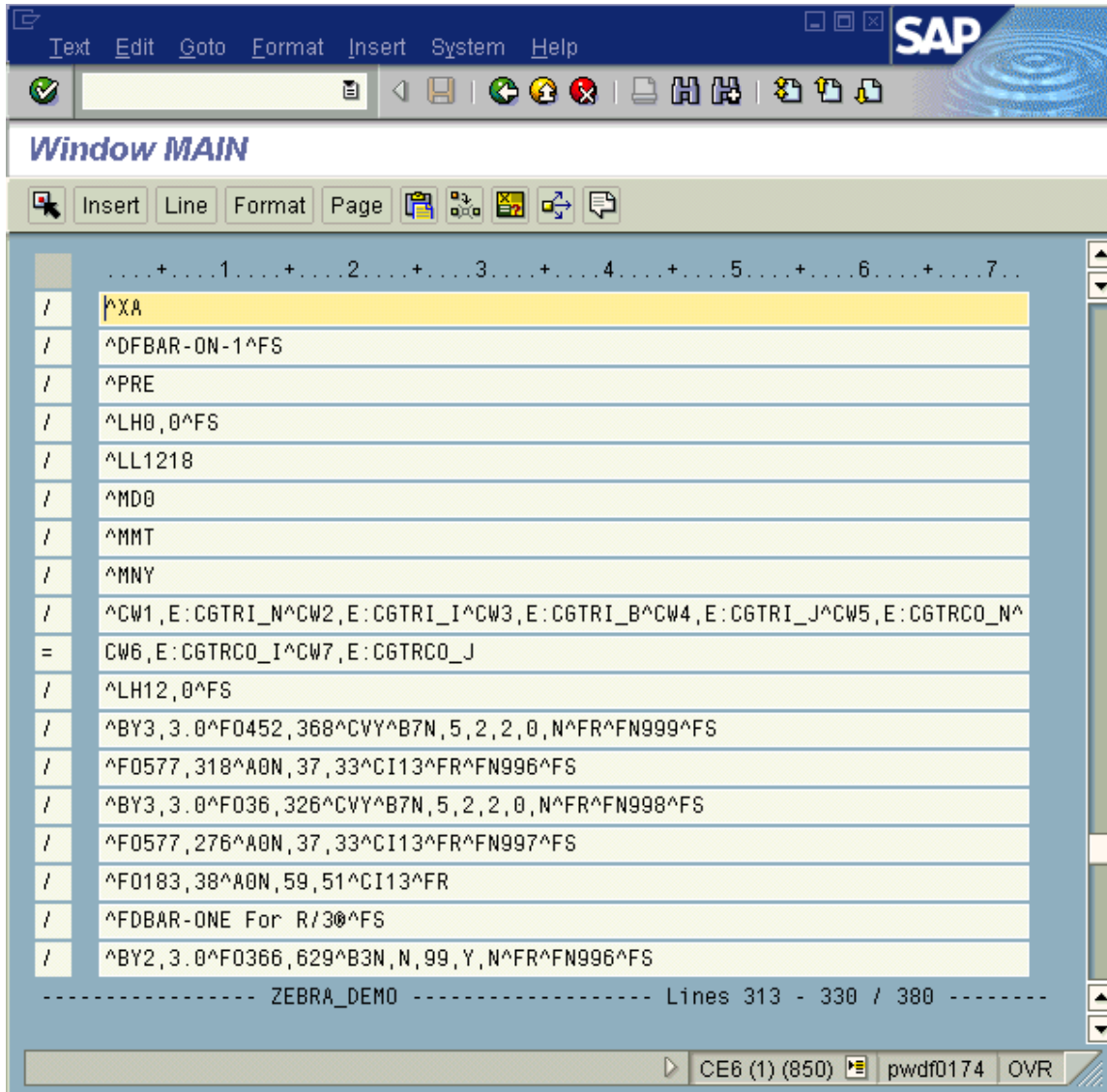


## Creating the SAP-Script

Important: While creating a new script, ensure that your margins are 0, Paper is DIN A3. You may have problems with page breaks being inserted automatically and corrupt graphics if you do not use these settings.

Note: Zebra printers do not need multiple windows. They only need a single "Main Window".

Now paste the copied clipboard in the main window text elements.



Note: Do Not Use Any Other Sap-Script Commands Along With The ZPL Codes.

Once the forms are activated, the labels are ready for printing.

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## Learning ZPL Programming

- 1). ZPL ii commands sent to a zebra printer helps you in creating a variety of labels from the simple to the very complex ones.
- 2).The Labels can be a Combination of Text, Variables Constants Bar Codes and Graphics.
- 3). Through Zpl-2 Commands, We Can Print Fields in Horizontal Orientation and Can Be Rotated 90,180,270 Degree Clock-Wise

### Features

As ZPL contains two-character mnemonic code and printable characters, it can be programmed in printable ascii characters as well.

The use of escape sequences or control codes is not permitted types of instruction in ZPL

Format Instructions

Control Instructions

### Format Instructions

Format instructions are the blueprint of a label. These instructions define label length, field origin, type of field, field data, and other information. Format instructions are always preceded by the caret (^) character.

E.g. ) ^LH (Label Home)                      ^LL (Label Length)

^LR (Label Reverse)                      ^LS (Label Shift)

^JM (Set Dots/Millimeter)              ^PM (Mirror Image)

^PO (Print Orientation) ^PF (Slew Dot Rows)

Control Instructions

Control instructions are usually preceded by a tilde (~) character. In most cases, they cause the printer to take a specific action immediately, such as clearing the memory or feeding a blank label.

E.g. ) ~WC – is used to print a configuration label.

### Bar Codes:

Zebra printers can print the following kinds of bar codes:

ANSI Codabar	CODABLOCK
Data Matrix	Code 11
Code 39	Code 49
Code 93	Code 128 (subsets A, B, and C)
EAN-8	EAN-13
Industrial 2 of 5	Interleaved 2 of 5
LOGMARS	MSI
PDF417	UPS Maxi code
Plessey	Post Net
Standard 2 of 5	UPC-A
UPC-E	UPC/EAN Extensions
Micro-PDF417	QR Code
ZPL II Object Names and Extensions	

Zebra printer can store objects in the following format and can refer to it later,

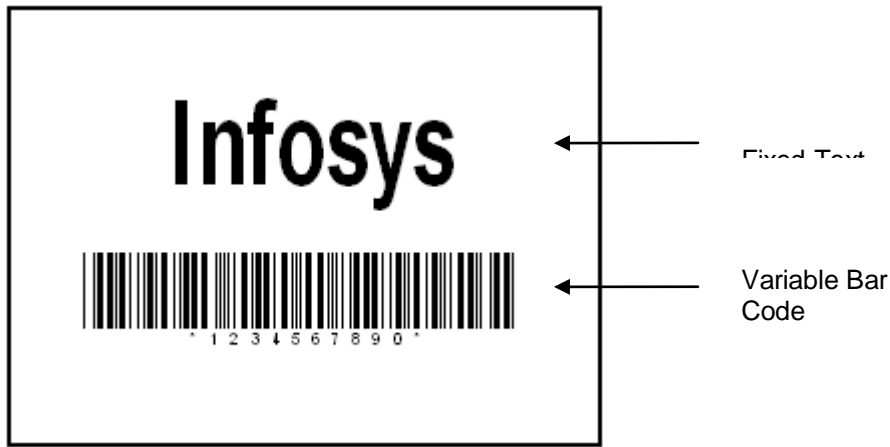
- .ZPL ZPL II label format (^DF or ^XF)
- .FNT fonts in Zebra format (~DB, ~DS, or ^XA)
- .GRF Zebra bitmap format (~DG, ^IS, ^IL, ^XG or ^IM)

Referring to an object

- ~DG Download Graphic Image
- ^XG Recall Graphic Image
- ^IS Store format as a graphic image
- ^IL Load Image
- ^IM Move Image
- ^DF Store ZPL II format as text
- ^XF Recall ZPL II format
- ^ID Image Delete
- ^HW Host Directory List
- ^WD Print Directory
- ~DB Download Bitmap
- ~DS Download Scalable Font

#### Sample ZPL explanation:

The below code will give u a picture of interpretation of ZPL code for





**Code Generated from Bar-One software:**

^XA  
 ^DFBOK^FS  
 ^PRC  
 ^LH0,0^FS  
 ^LL609  
 ^BY3,3.0^FO99,344  
 ^B3N,N,100,Y,N^FR^FN999^FS  
 ^FO192,129^A0N,147,129^CI13^FR  
 ^FDInfosys^FS  
 ^FO11,13^GB791,586,4^FS  
 ^XZ  
 ^XA  
 ^XFBOK.ZPL  
 ^FN999^FD&ITB-BAR&^FS  
 ^PQ1,0,1,N  
 ^XZ  
 ^FX End of job

**Interpretation of Code**

^XA  
 [^XA - Indicates start of label format.]  
 ^DFBOK^FS  
 [^DF – Download a format ]  
 [BOK – actual name of .ZPL file]  
 [^FS - End of field data.]  
 ^PRC  
 [^PR – print at rate of C (101.6 mm/sec) ]  
 ^LH0,0^FS  
 [^LH - Sets label home position at the upper left corner of the label.]  
 [^FS - End of field data.]  
 ^LL609  
 [^LL - Sets label length to 609 dots rows along the Y-axis.]  
 ^BY3,3.0^FO99,344^B3N,N,100,Y,N^FR^FN999^FS  
 [^BY – Barcode field with ratio 3 and height 3.0 ]  
 [^FO - Set field origin relative to label home.]  
 [^B3 – Barcode type Code39 with normal orientation and readable value below]  
 [^FR - Set field (box for serial numbers) to be reverse print as black.]

[^FN - Number the data fields]

[999 – referring BOK.ZPL's variable from SAP R/3 ITAB-BAR]

[^FS - End of field data.]

^FO192,129^A0N,147^CI13^FDInfosys^FS FOR 147^CL13 USE 23,45^FH\

[^FO - Set field origin relative to label home.]

[^A0 - Select default font .0., normal orientation, character height of 147 dots, standard width.]

[^CI – Change to International Font 13]

[^FD - Start of field data.]

[Infosys – actual data]

[^FS - End of field data.]

^FO11,13^GB791,586,4^FS

[^FO - Set field origin relative to label home.]

[^GB – Draw a box with 791 as width and 586 as depth with 4 as width.]

[^FS - End of field data.]

^XZ

[^XZ - Indicates end of label format.]

^XA

[^XA - Indicates start of label format.]

^XF BOK.ZPL^FN999^FD&ITB-BAR&^FS

[^XF – Stored format to merge with variable data.]

[BOK.ZPL – name of stored format.]

[^FN - Number the data fields]

[^FD - Start of field data.]

[&ITB-BAR& - variable from SAP R/3]

[^FS - End of field data.]

^PQ1

[^PQ1 - Set print quantity of 1 label.]

^XZ

[^XZ - Indicates end of label format.]

## How to Manage the Coordinates

Consider the variable ^FN this represents the field number or the number of data field.

Now, consider the line statement:

```
^FT16,84^AON,16,24^FH^FN2^FS.
```

- FT : Represents field positions
- 16 : x coordinate of field number 2
- 84 : y coordinate of field number 2
- A : Represents The Font Size Of The Character.
- ON : Default Zero And Normal.
- 16 : Hieght Of Character
- 84 : Width Of The Character.

Similarly, for any text field we will have the line statement as:

```
^FT17,121^AON12,31^FH^FDINFOSYS^FS
```

- FT :Represents field positions
- A :Represents the font size of the character.

INFOSYS is the hardcoded text

For creating BOXES we have a command ^GB which means GRAPHICAL BOXES.

```
^FO0,3^GB606,209,1^FS
```

- FO :Represents field origin position
- 0,3 :Represents x and y postions respectively.
- GB :Represents Graphical Boxes.With Dimensions Width Hieght And thickness.

\*\*\*\*\*

## Related Content

<http://www.servopack.de/Files/HB/ZPLcommands.pdf>

<http://www.servopack.de/Files/HB/ZPLbasics.pdf>

<http://www.zebra.com>

### OSS Notes

179534 - Label printing with Zebra printers (SAPscript)

315894 - Label printing on thermal (transfer) printers

43423 - Modifying a device type for printing labels

8929 - List of supported printers/device types

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