Zebra IMZ 320 Bluetooth / NFC Printer Guide

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iMZ 320 Printer description

The Zebra IMZ 320 is a mobile / portable printer that connects to mobile devices using Bluetooth and NFC technology. It supports Android and iOS devices.

The printer is using thermal printing technology. That means that the printer does not use a toner, rather using a laser to heat the paper which in terms turn black on the location where it was heated. That's also due to the special type of paper that is used in this printer, which is called thermal paper. The paper is treated with a special chemical, which, when exposed to heat, changes color. It's mostly used for adding machines, cash registers and credit card terminals.

Pros:

The printer is very small, and portable.
The printer can have backup batteries giving it extra life in environments with no power.
The printer can print out barcodes, type 128 and QR using parameters from iFormBuilder.
The special type of paper allows any devices using it to function without toner, making it much more financially viable than traditional inkjet and laserjet printers.
Less working parts means that there is less parts that can get broken.
So the only part that needs changing is the paper, when it runs out.

Cons:

Unlike traditional printers, thermal printers don't have a scale of black, meaning a pixel can either be white or black, no shade of gray in between. This makes them not very suitable to print images, and limited to their use for cash registers, ATM's and adding machines.
Another negative trait of the thermal printers is more to do with the paper it self. Unlike inkjet and laserjet printers, the printout fades after a period of time. Regardless if the paper is laminated or not, the printout will face after a period of 3 months, depending on the type of paper.

Recommended use

Even though the portability of this printer makes it an extremely appealing solution, the short life of the thermal paper limits it's use greatly.
We recommend using this printer in the following scenarios:

- Printing out barcoded vouchers
- Issuing beneficiary cards
- Emergency response

However, all of the above listed usage scenarios should not last more than 3 months, or the printouts will fade, rendering them useless.

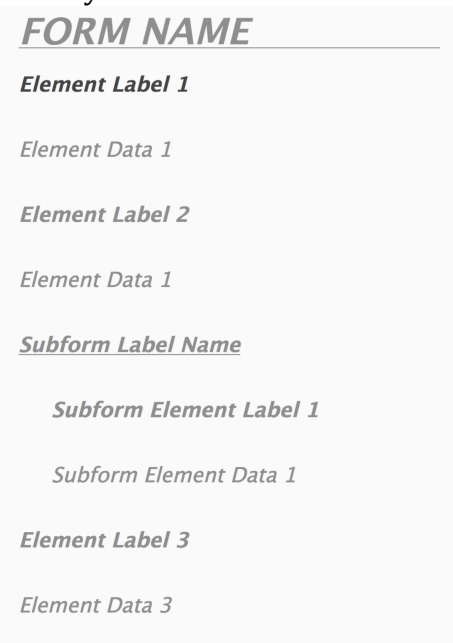
Printing from the iMZ printer

There are 2 types of printing options. One is the default, where there is no pre-defined template, and the other is from a defined template.

Normal printout

The default option prints out all of the elements in a form. It does not have options to skip any form elements, change the order, or the styling. It just prints it as if it were a document.

The layout of that would be as such:



To print out using default options, there is nothing special you have to do. Just press the print button in the iForm client, and you will get this output.

Defined template printout

The defined template is much more powerful.
Unlike the default printout where it prints everything in the form, in the defined template you define which elements you want to print out, what labels, images additional graphics or barcodes you want to print. You can fully customize the look to meet your needs.
We'll cover this method in a later section.

Installation – iOS

The Zebra iMZ 320 is a Bluetooth and NFC enabled printer, and can connect via either method.

Connecting via bluetooth

Power on your IMZ printer, and turn on Bluetooth on your iOS device.

To connect to it, we would connect as we would any other Bluetooth device. Under Settings > Bluetooth, locate your IMZ printer in the list of devices, and click Connect.

The iMZ printer will start to blink it's blue light.

Once connected, the light will turn constantly on.

You are now connected to the printer via Bluetooth, and from that point on you can start printing from iFormBuilder.

Printing from iFormBuilder

Note: To start printing from iFormBuilder, you have to have connected to the printer via Bluetooth, otherwise it will not work.

Select the form you want to print records from by clicking on it's icon

Note: In order to print your record, it has to be completed, not saved in draft mode. From the list of records you have collected, select the record you want to print by holding your finger over it for 3 seconds. A menu should appear with 2 options, Delete and Print.

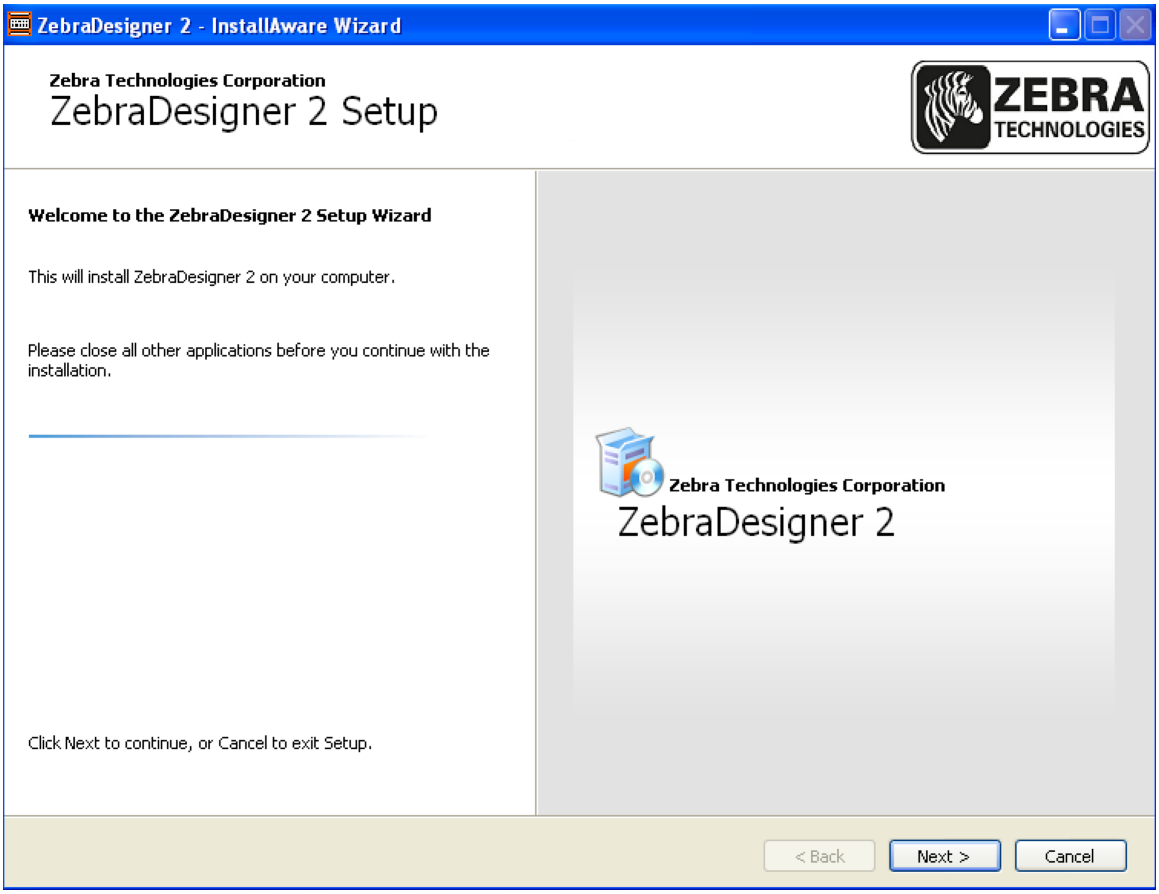
Select print by clicking on it.
The selection will print out.

Designing a custom template

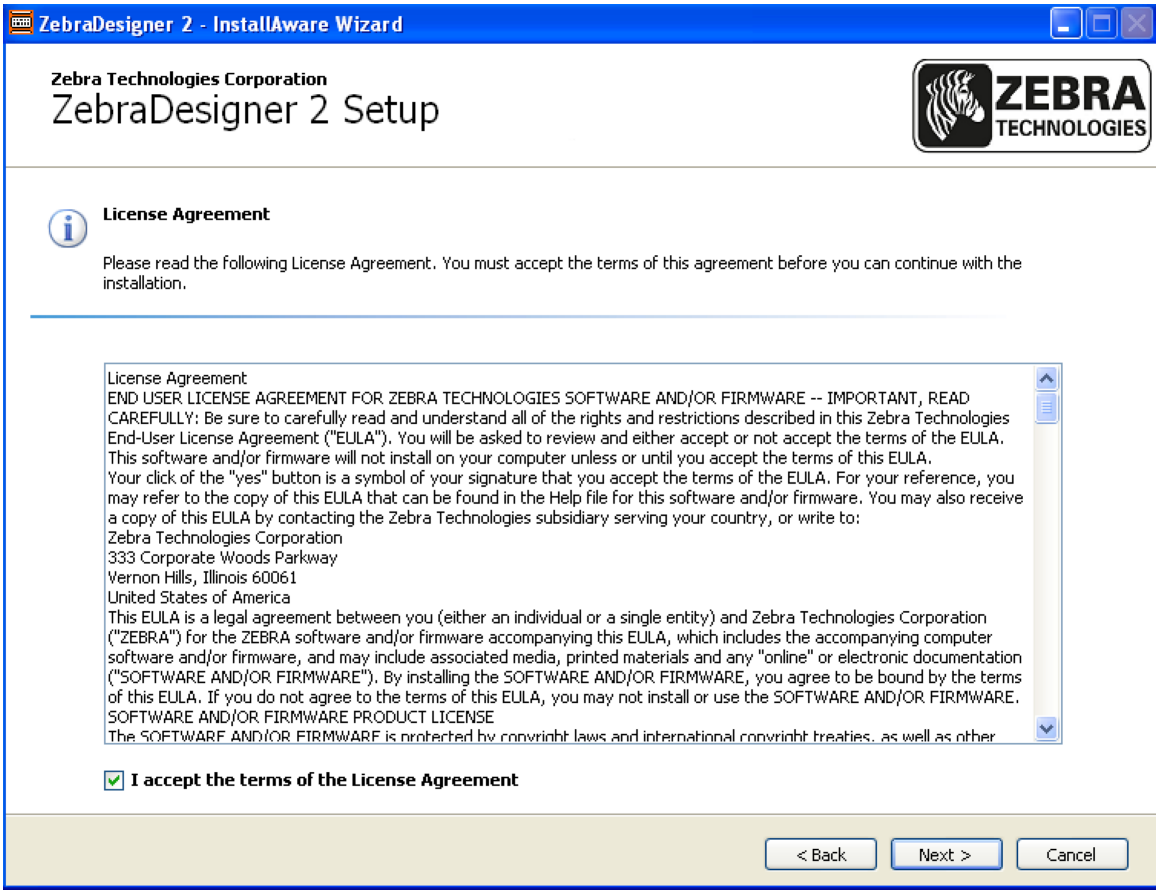
In order to design a template, we have to use a software provided by Zebra them selves. The software is called Zebra designer, and is available for download for free at this URL: http://www.zebra.com/us/en/products-services/software/zebralink/zebra-designer.html

Installing the software, and printer driver

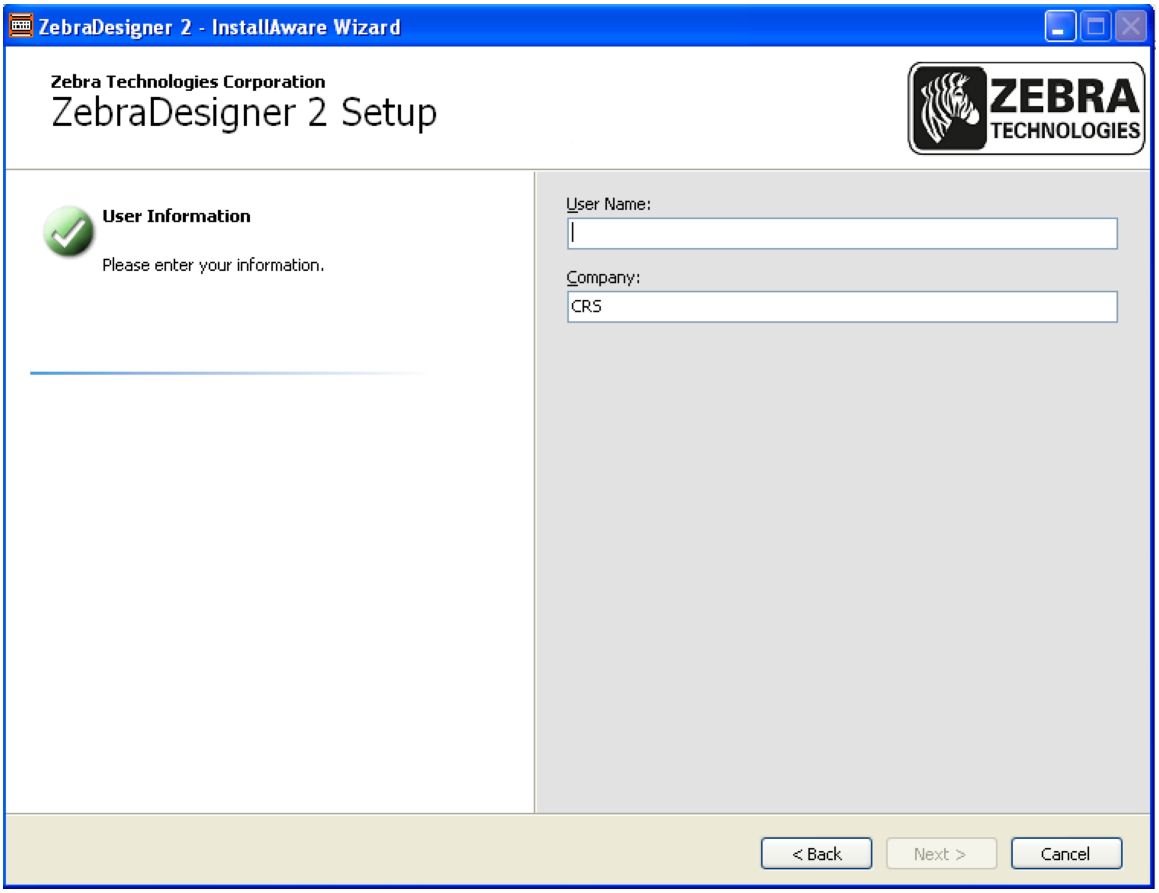
After downloading the file, execute it in order to install it.



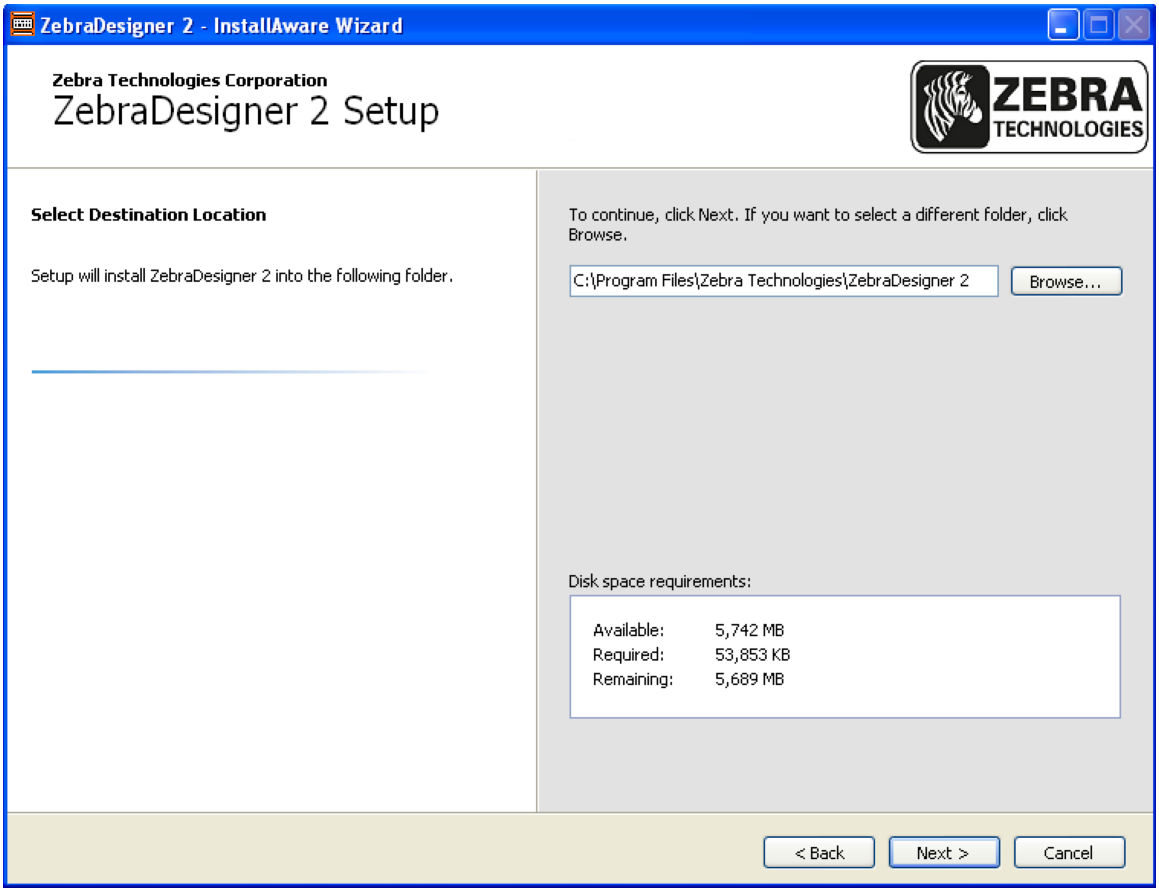
After the initial screen click the Next button.



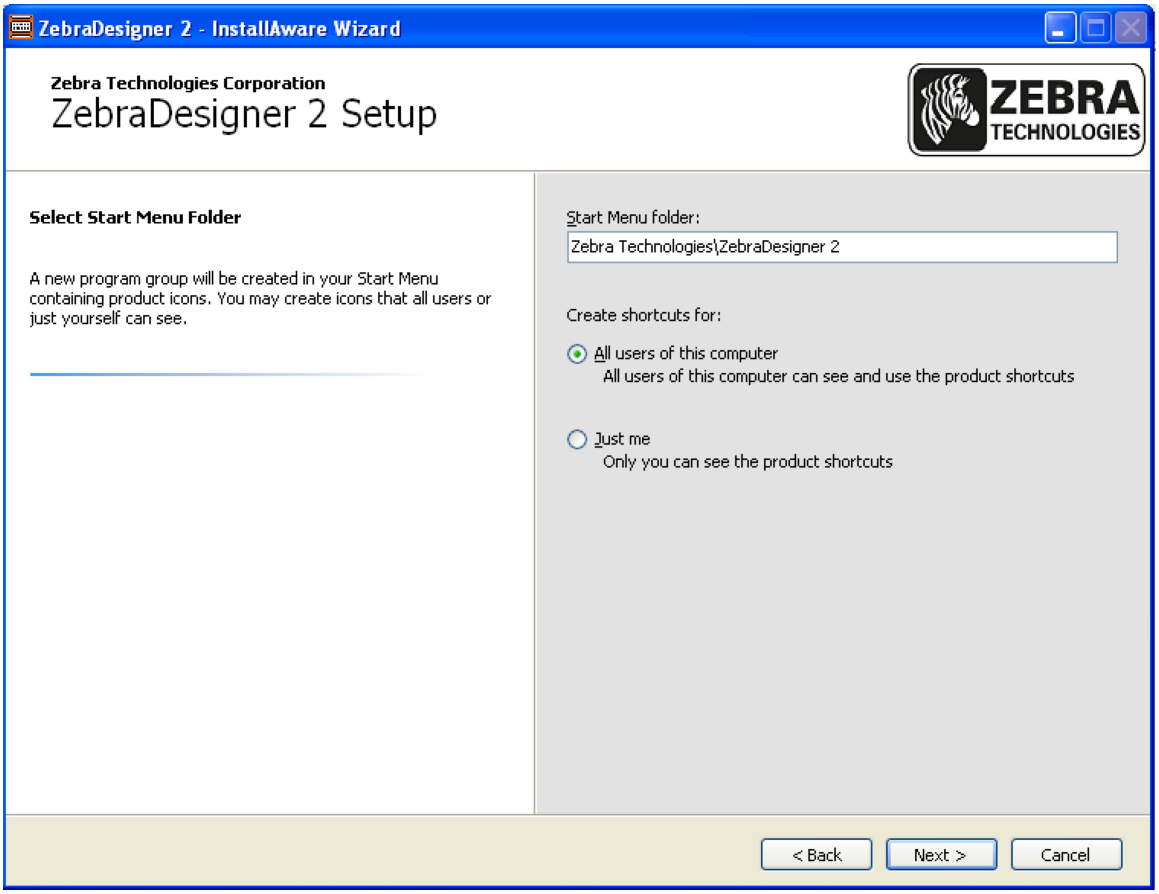
Accept the license agreement and click Next



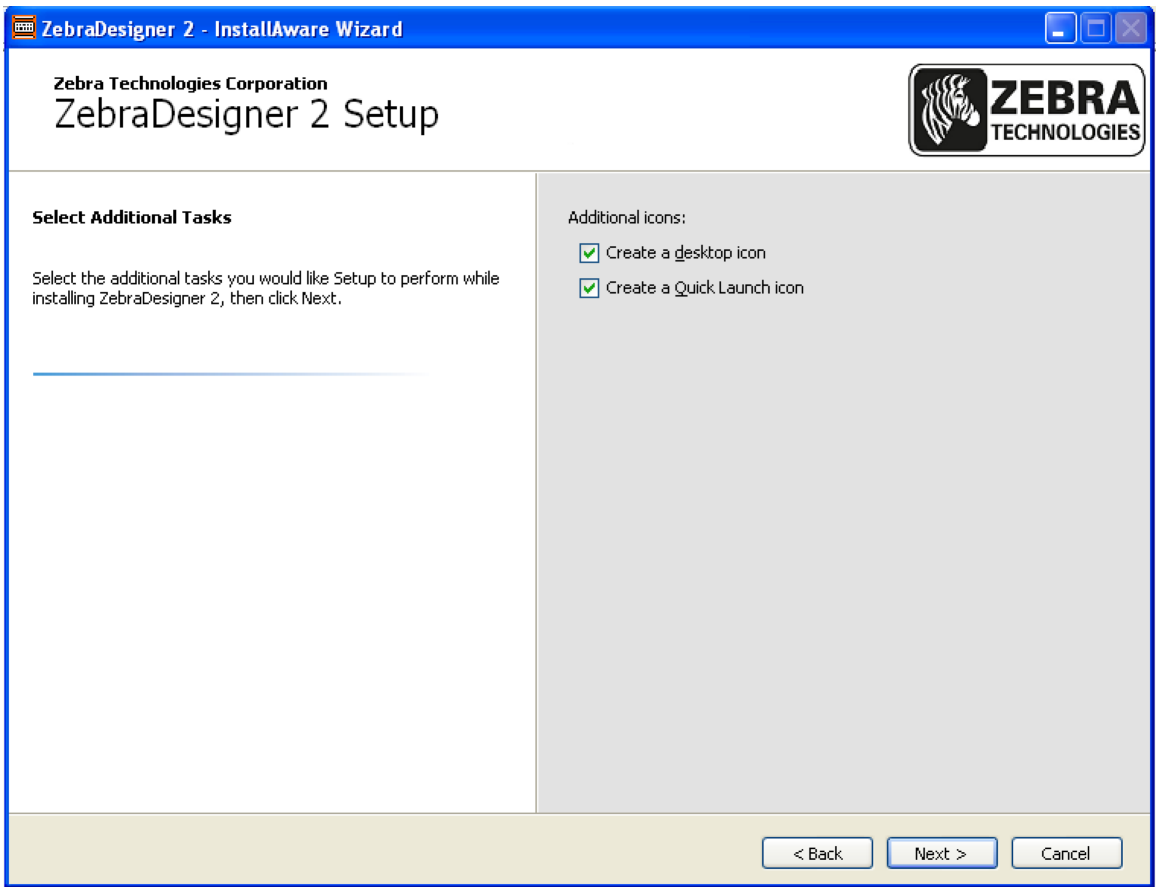
Provide the username and company, and click Next.



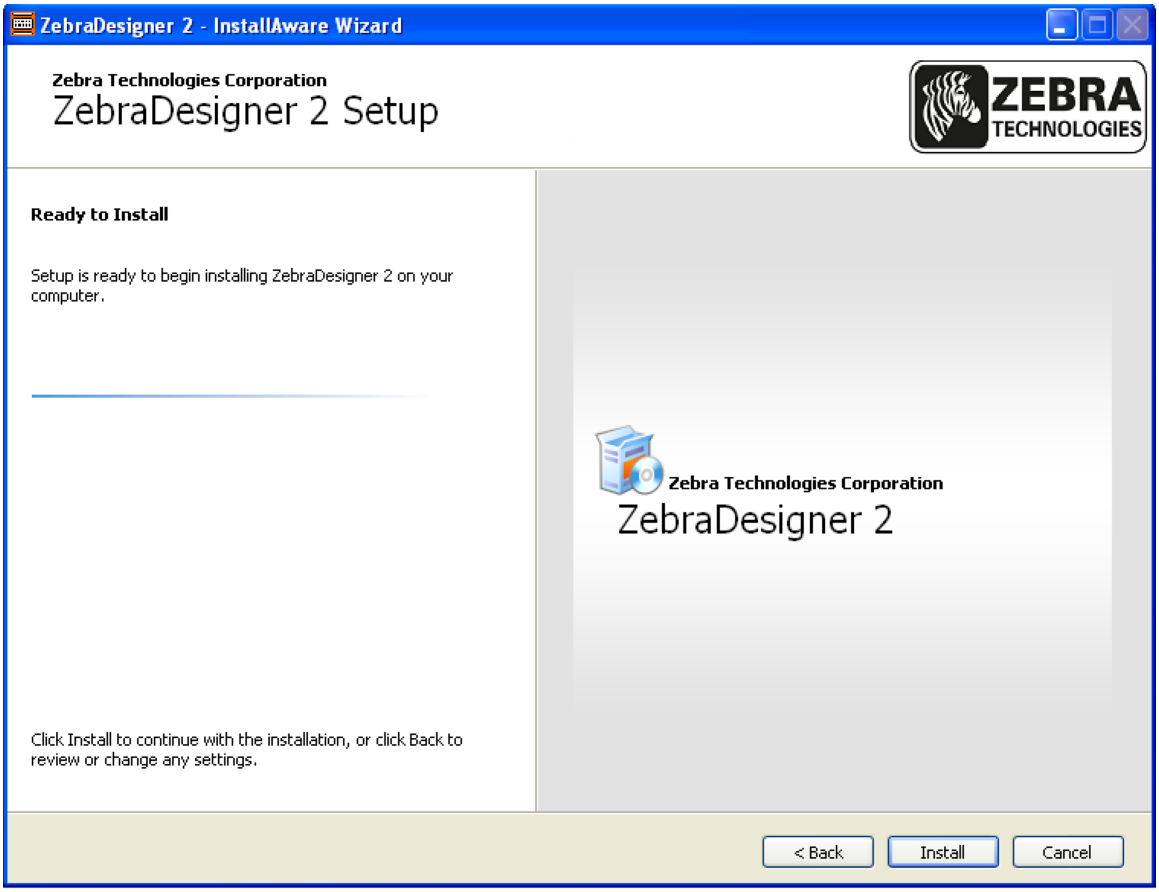
Choose a directory to install the software and click Next



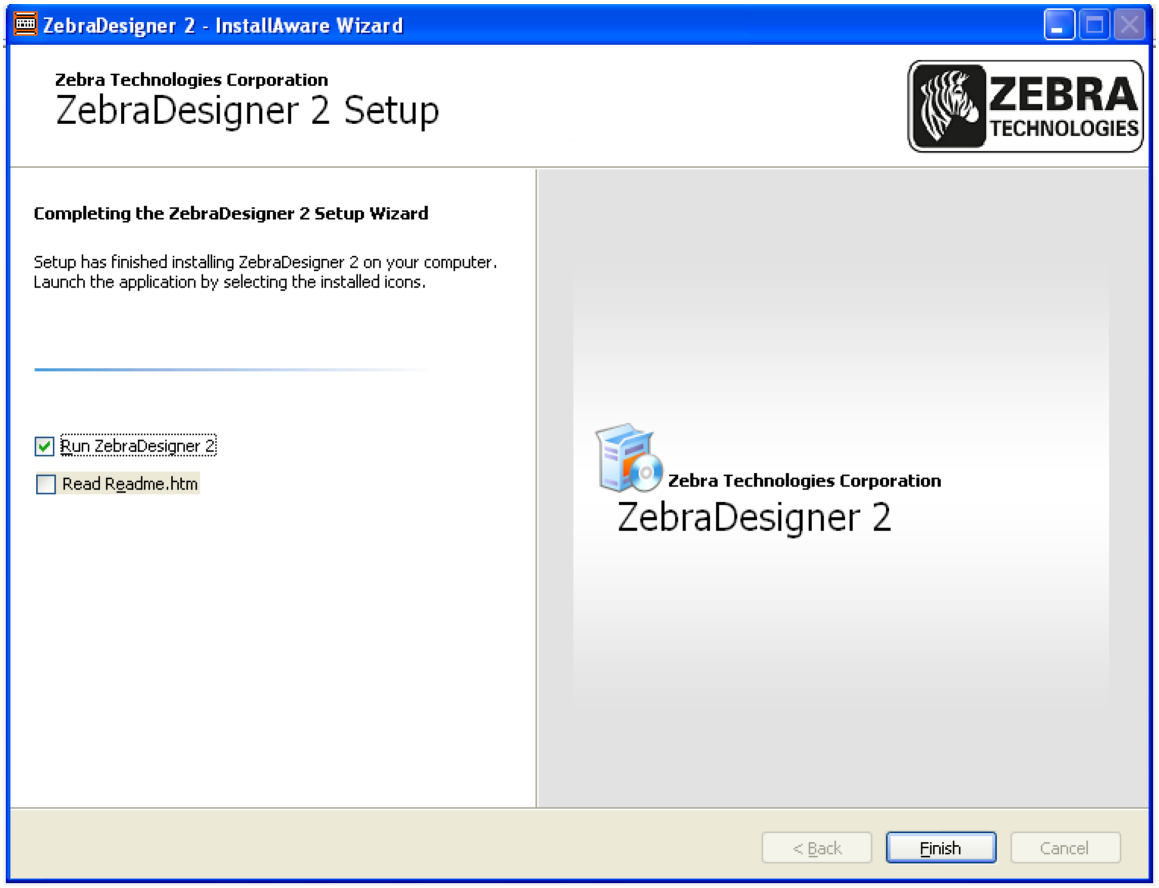
Choose where shortcuts will be created and click Next



Choose additional icons and click Next



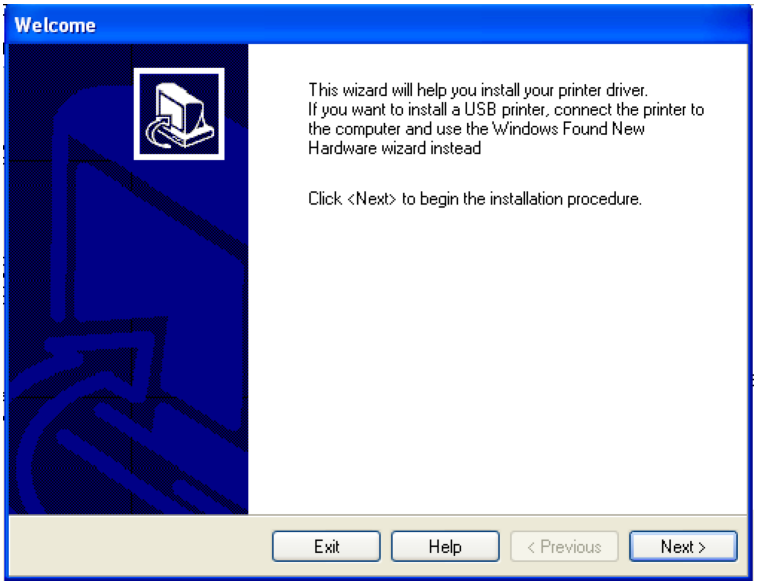
Click Install to begin the installation



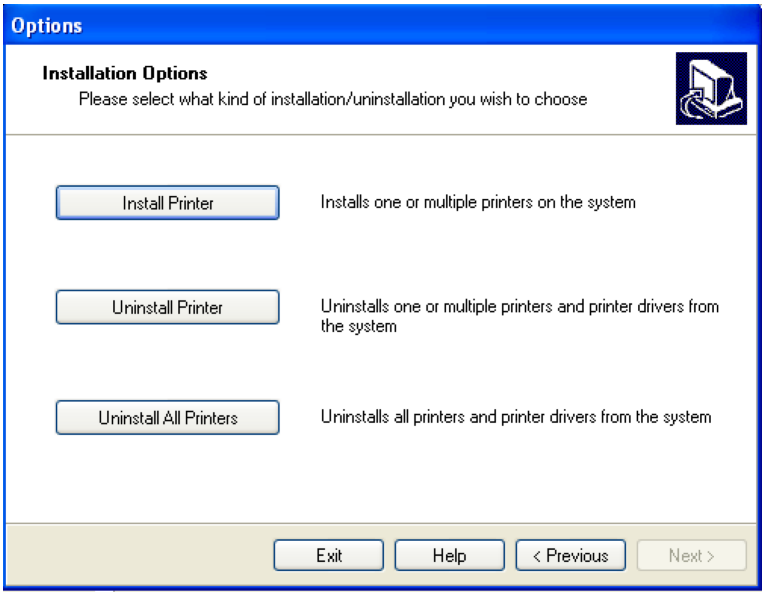
Click Finish to complete the installation and to Run Zebra Designer.

After running for the first time it will ask you to install the printer driver.

Click Add printer

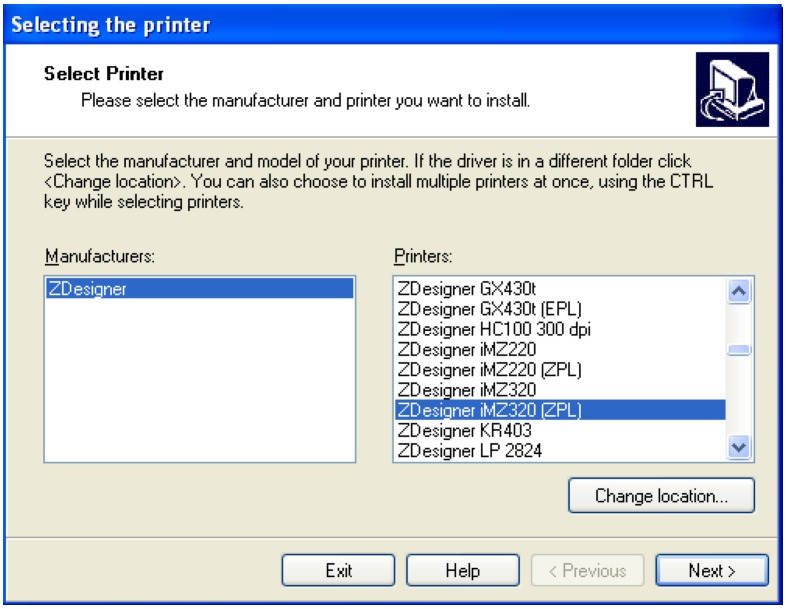


On the welcome screen click Next

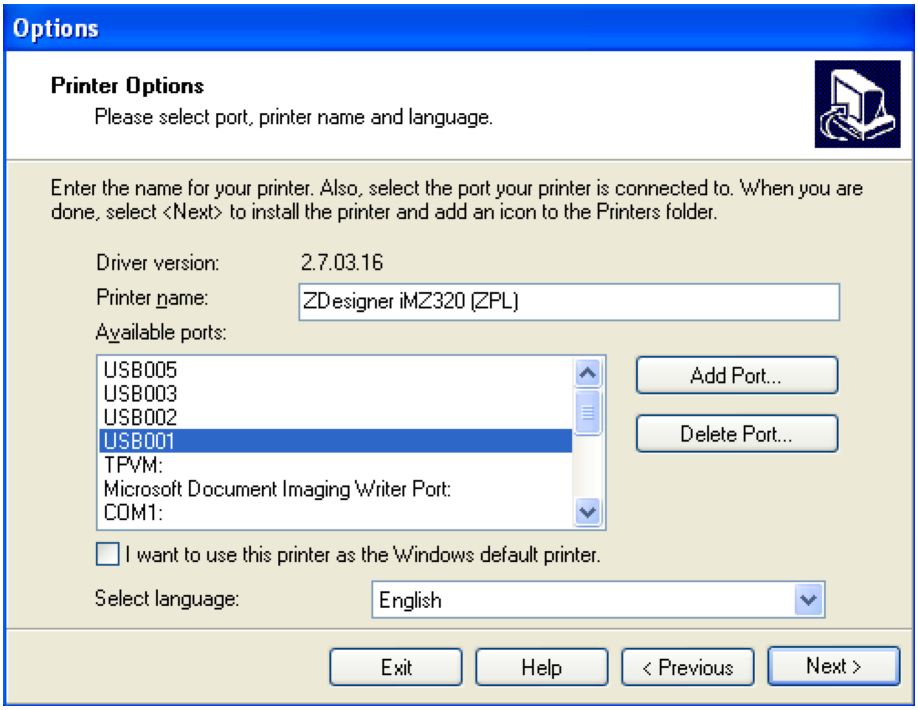


Click Install Printer

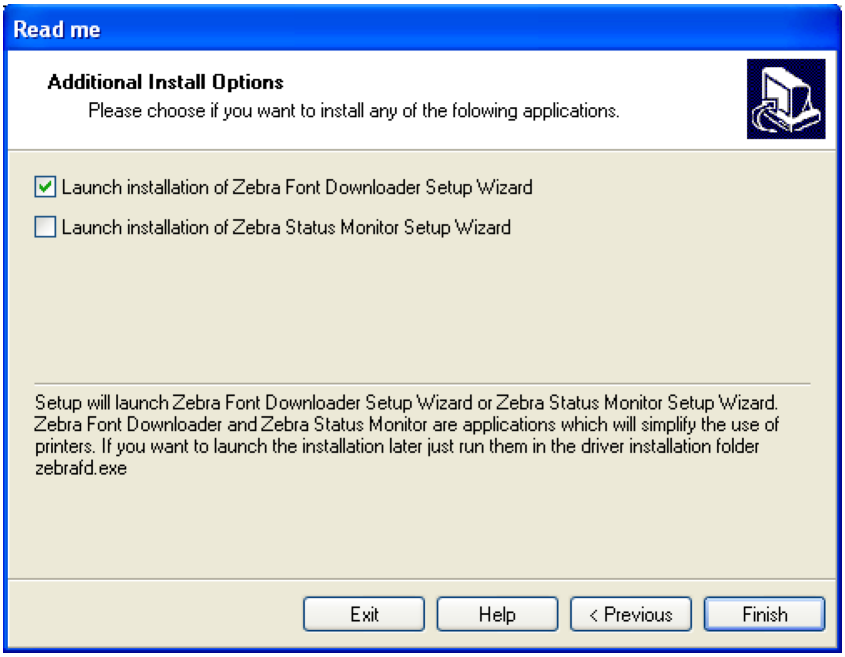
Note: At this point in time you want to plug in your iZM printer to the PC using the cable that came with it to the USB port



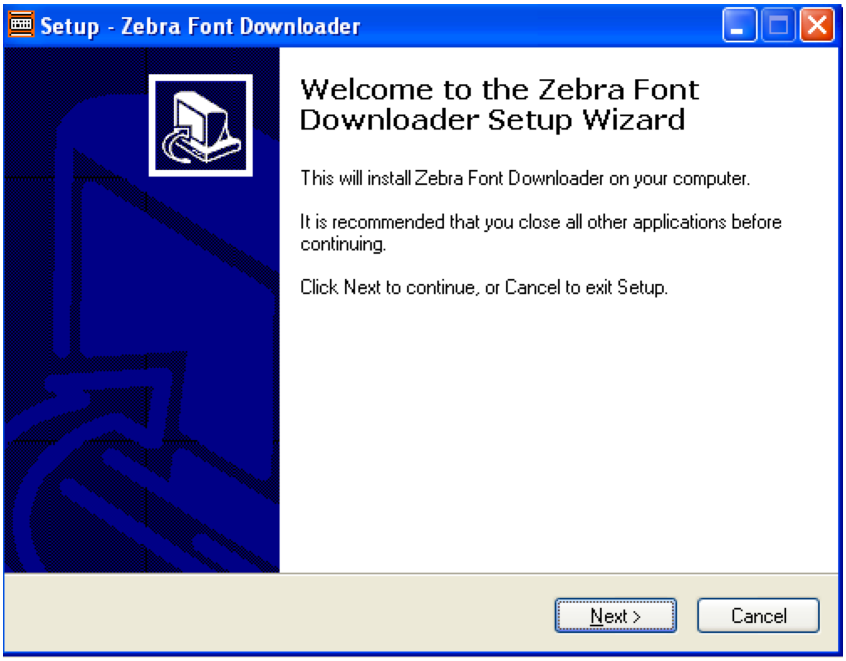
Select ZDesigner as the manufacturer.
Select ZDesigner iMZ320 (ZPL) as the printer.
Note: Make sure you select the ZPL version of the printer, or it you will have issues getting the design to work.



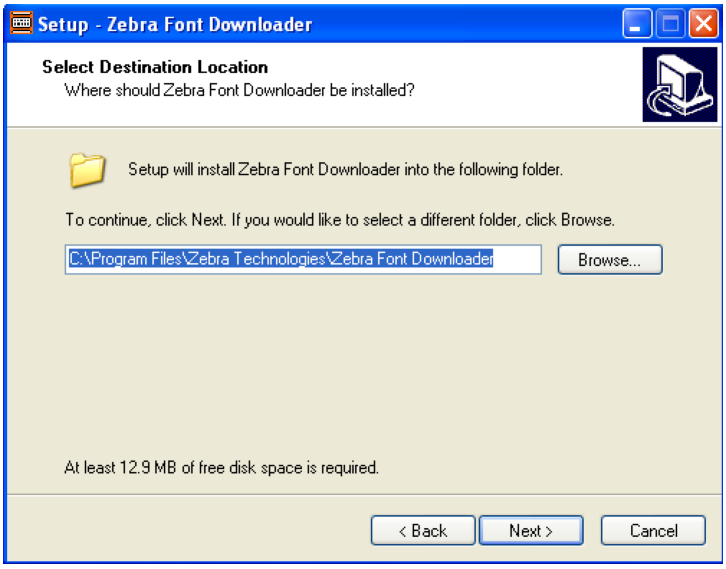
Select a USB port (if it's not already selected). Click Next



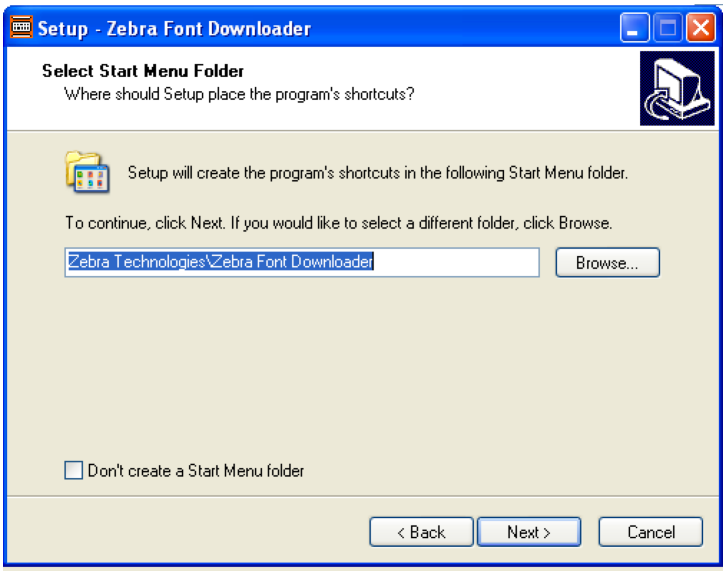
Click Finish



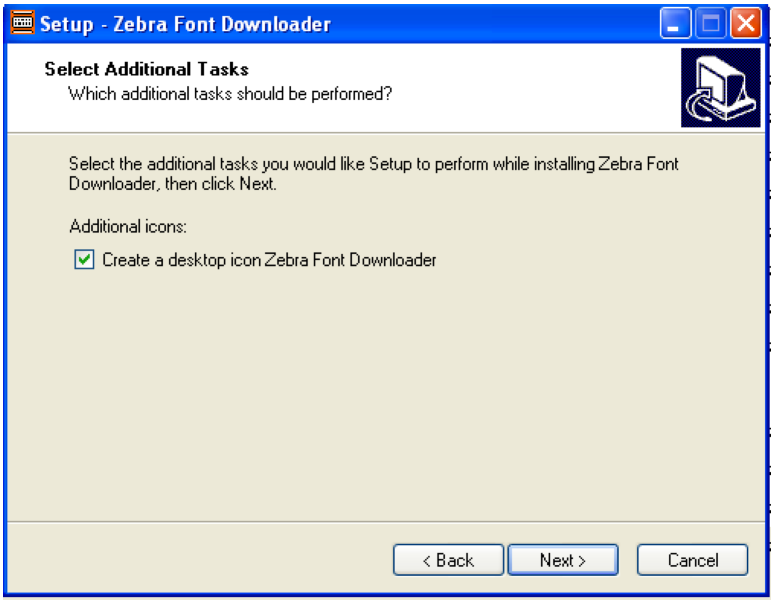
Click Next to install the Zebra font downloader (optional)



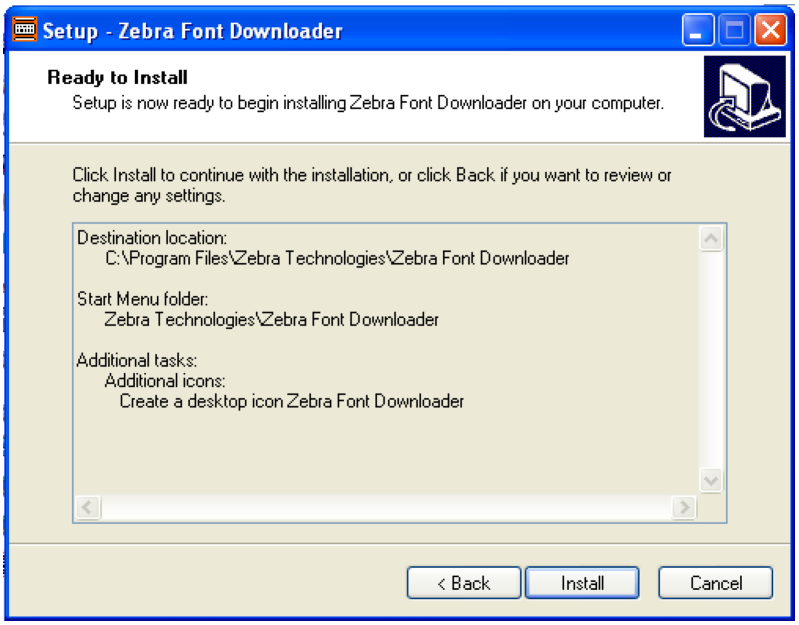
Click Next



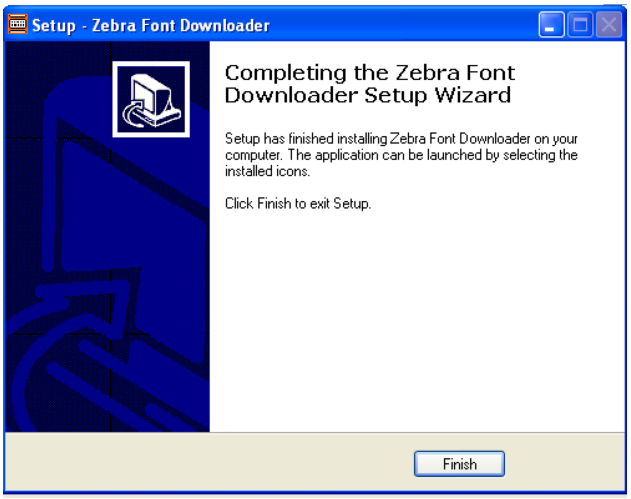
Click Next



Click Next



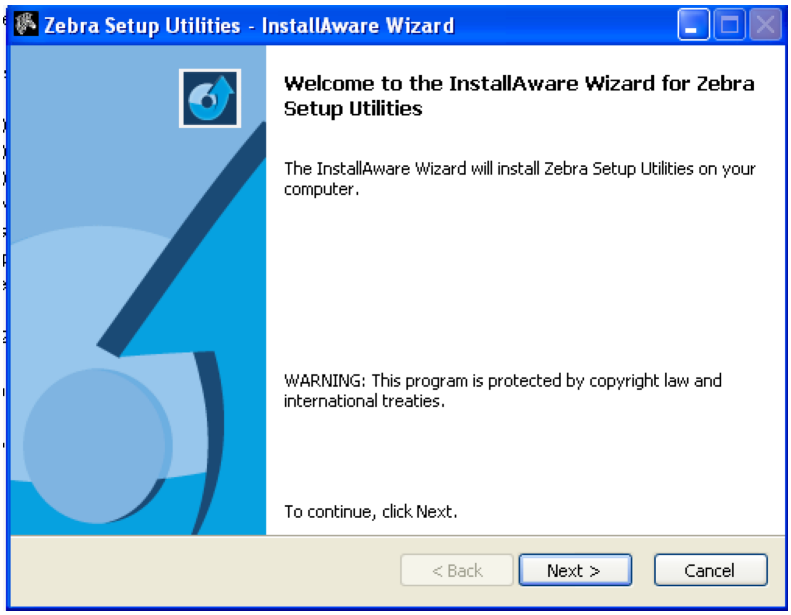
Click Install



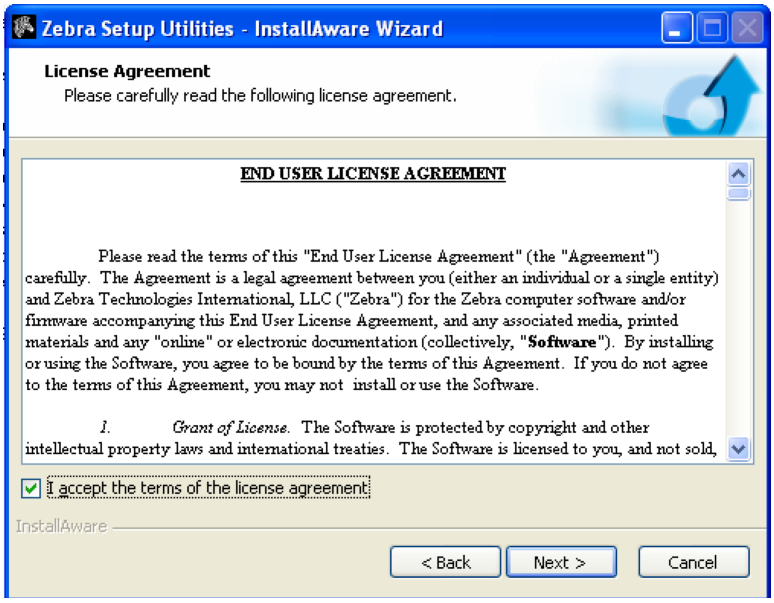
Click Finish

Download and install Zebra Setup utilities

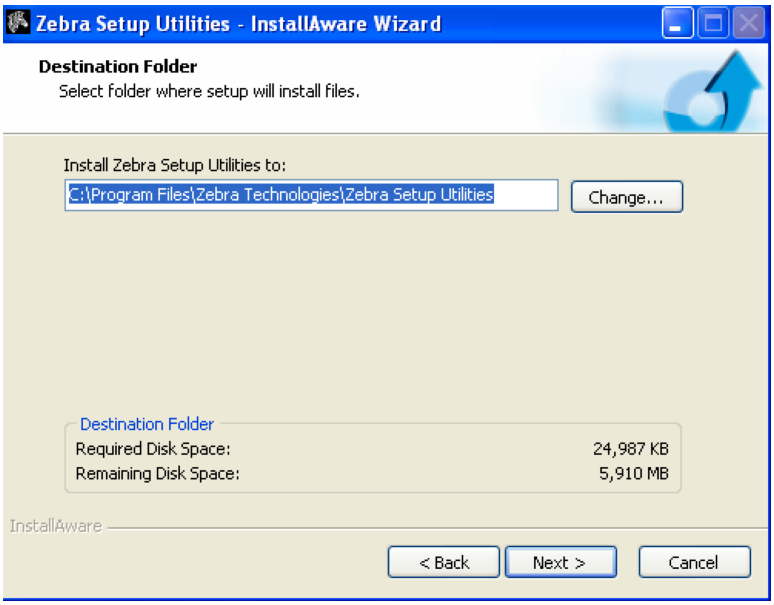
The last software we need is the Zebra Setup utilities.
You can download them from here: http://www.zebra.com/us/en/products-services/software/zebralink/zebra-setup-utility.html



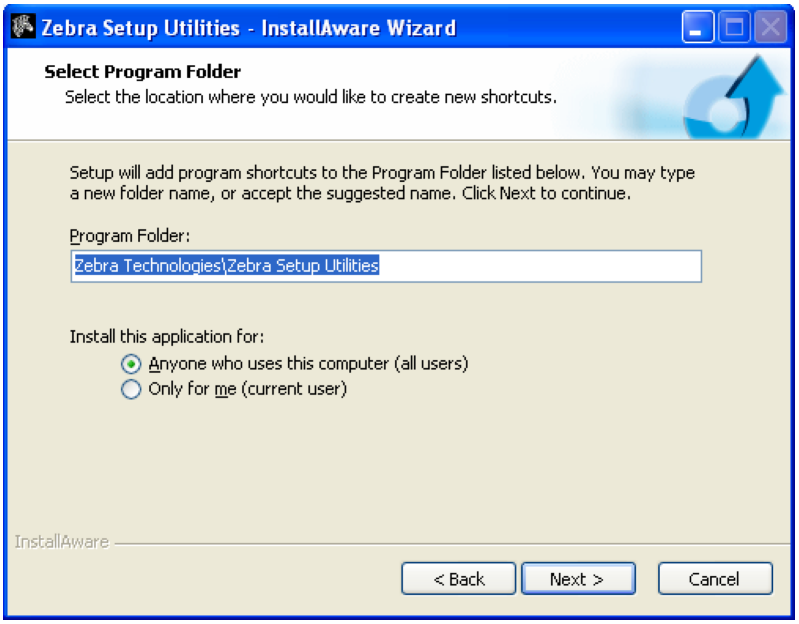
On the welcome screen click Next



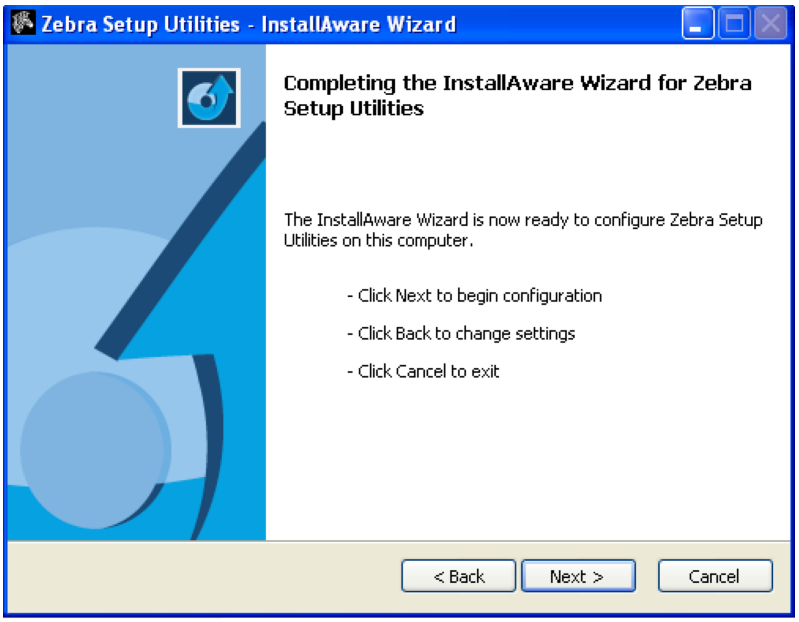
Tick the “I accept the terms of the license agreement” box and click the Next button



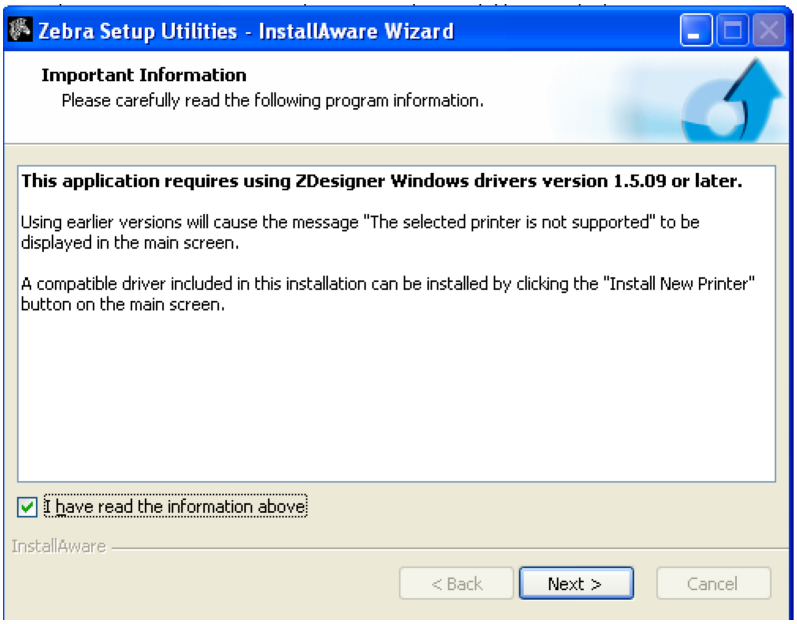
Choose where you want to install the files



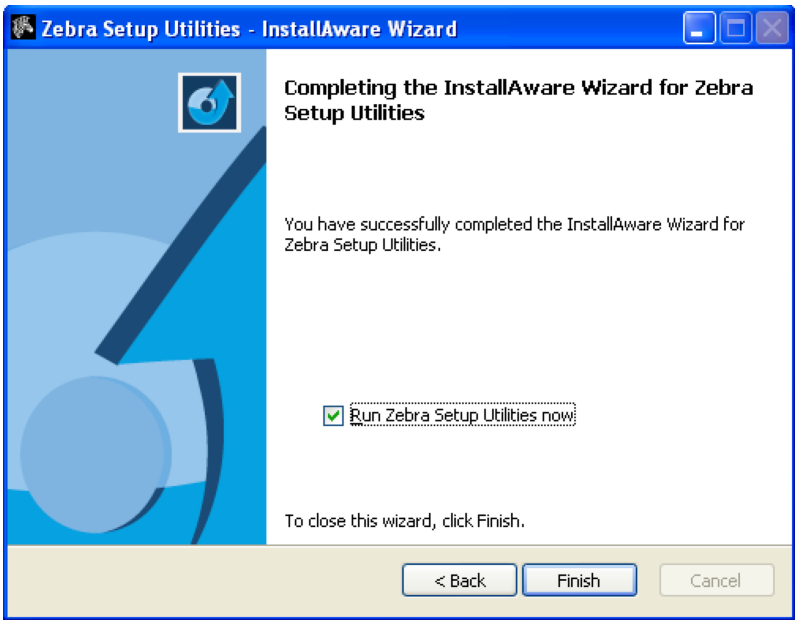
Same on the next screen, click Next



Click Next to begin installation

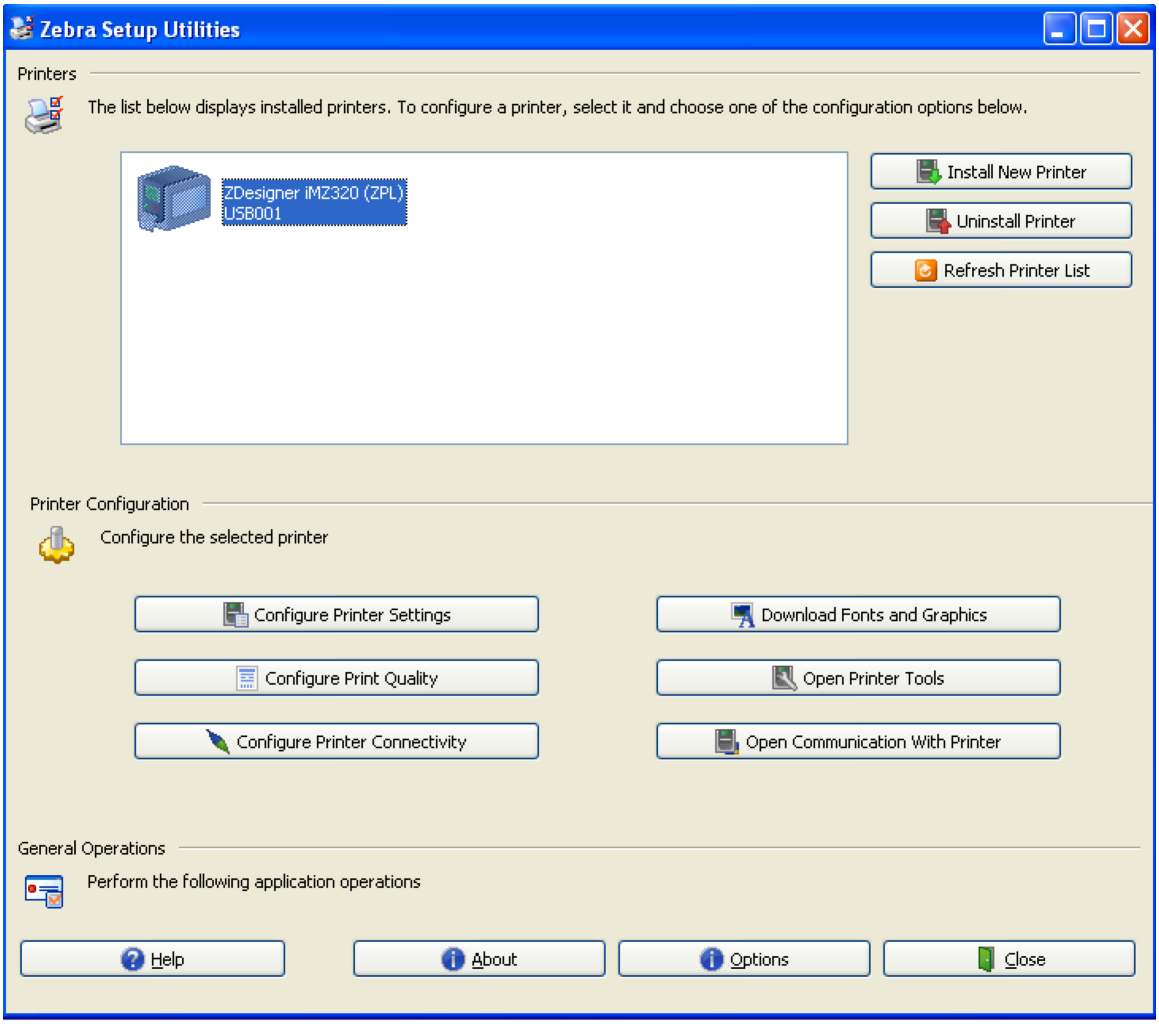


Click the “I have read the information above” and click Next



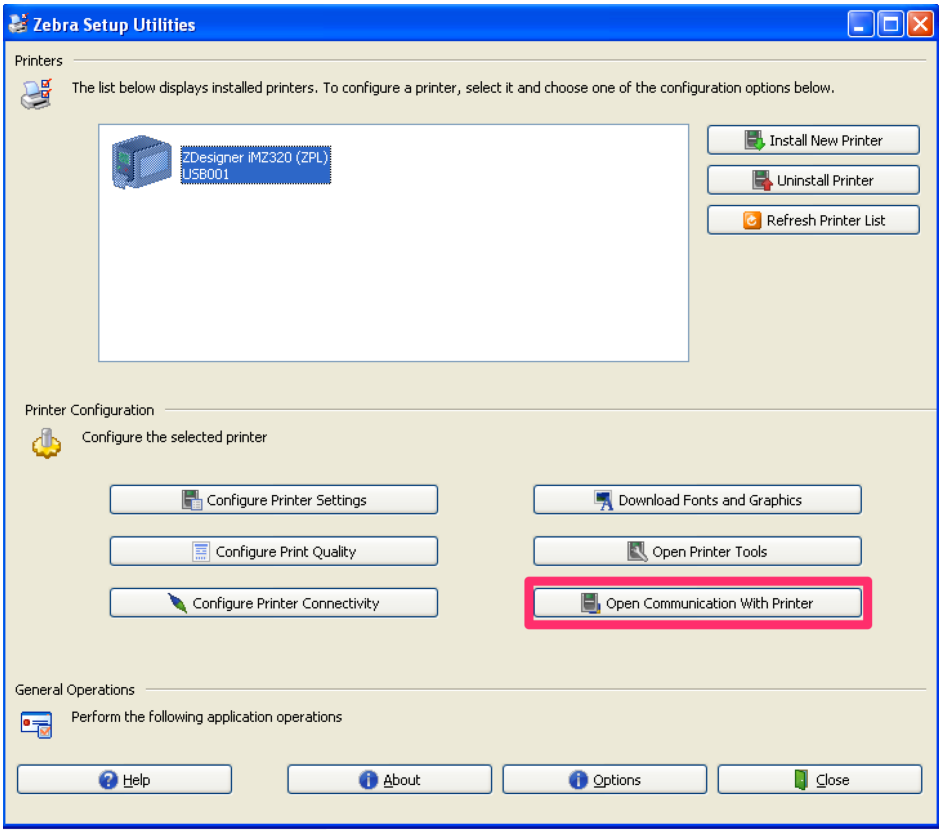
Click Finish to complete the installation

If you completed everything, you should be looking at this screen:

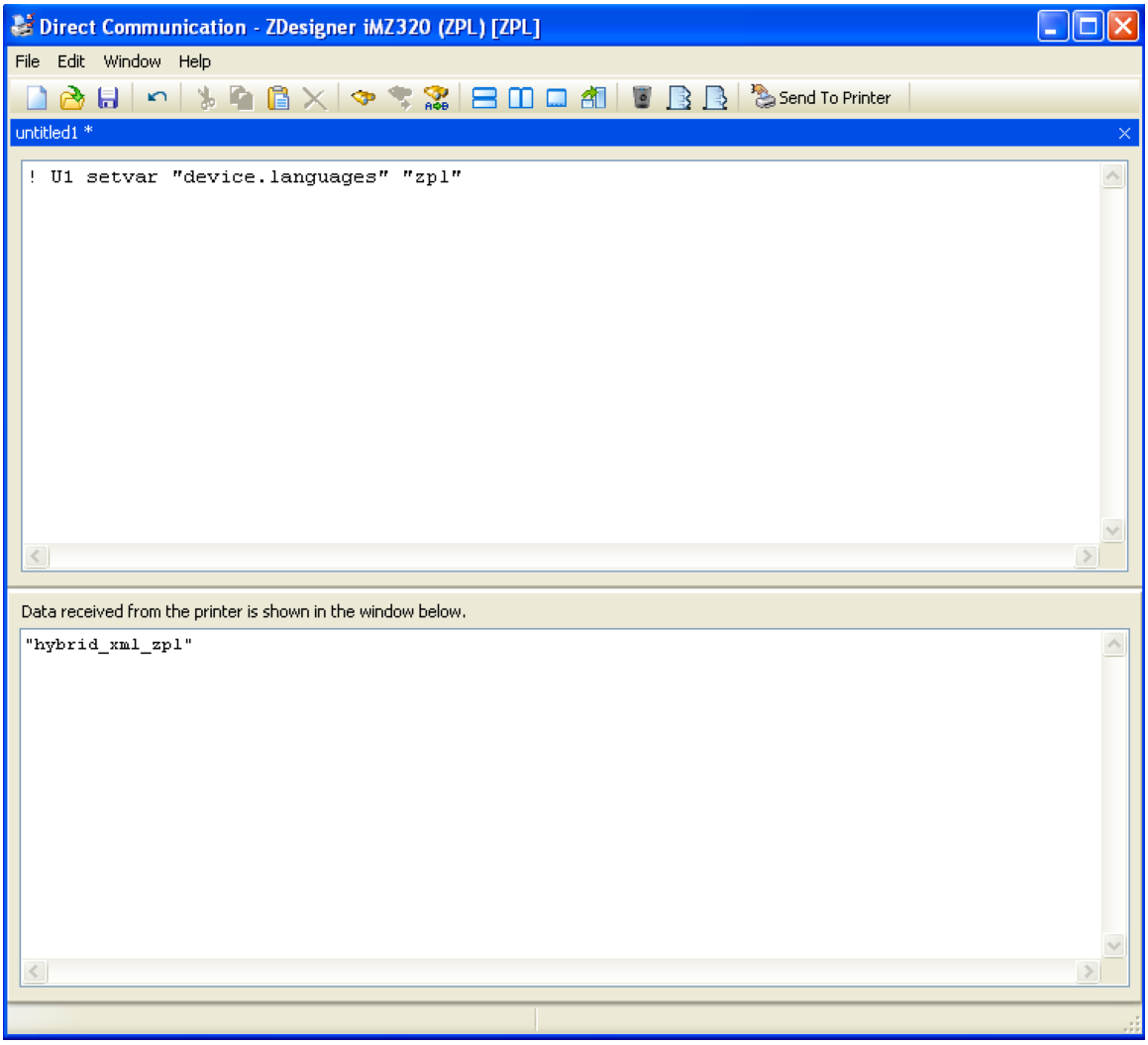


Configuring the printer for first time use

We're slowly getting to the point where we can design our printed label. Before we do that, we have to configure a few more settings.



Click the Open communication with Printer button.



In this screen, on the upper half, type in:
! U1 setvar "device.languages" "zpl"

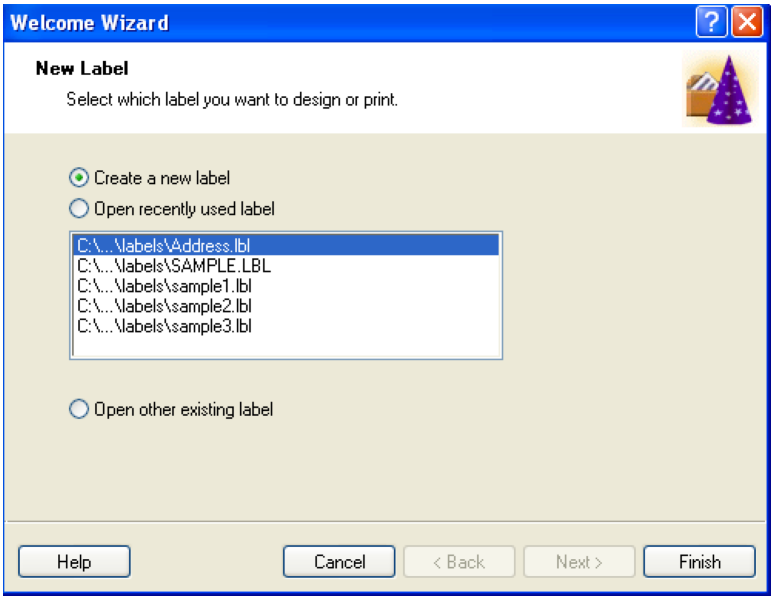
Click the Send to printer button.

Keep pressing the Send to printer button until the lower half of the screen returns a response “hybrid_xml_zpl”.

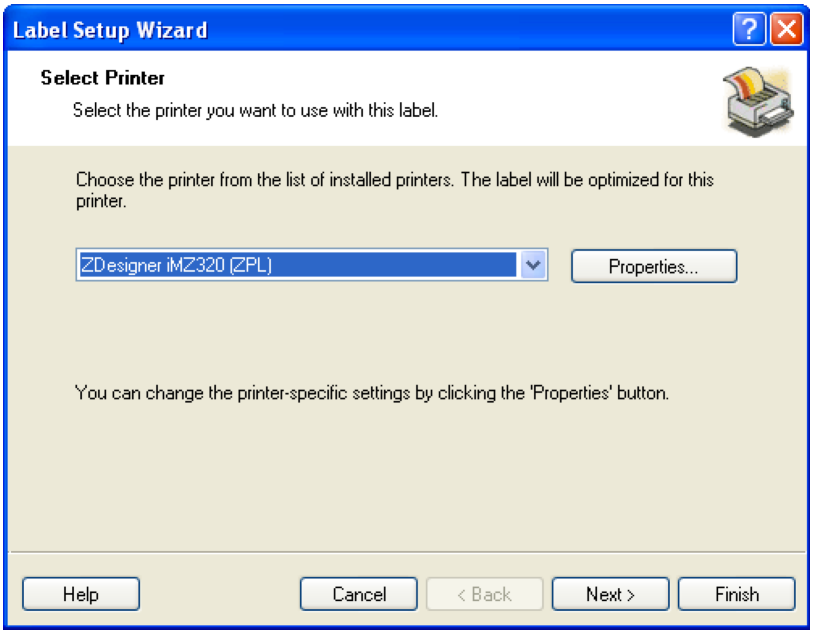
If this doesn’t work after 10 times, close the utilities and try again.

Designing the print label

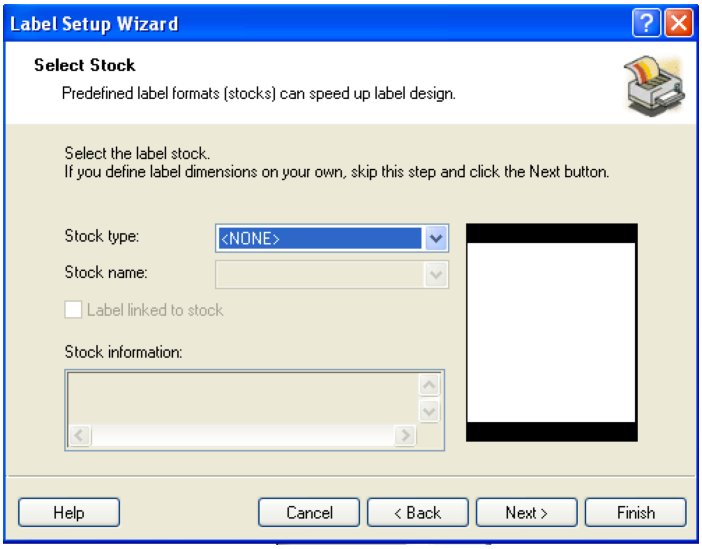
Now that our printer is configured, we can design the print label itself.
Open Zebra designer from the start menu



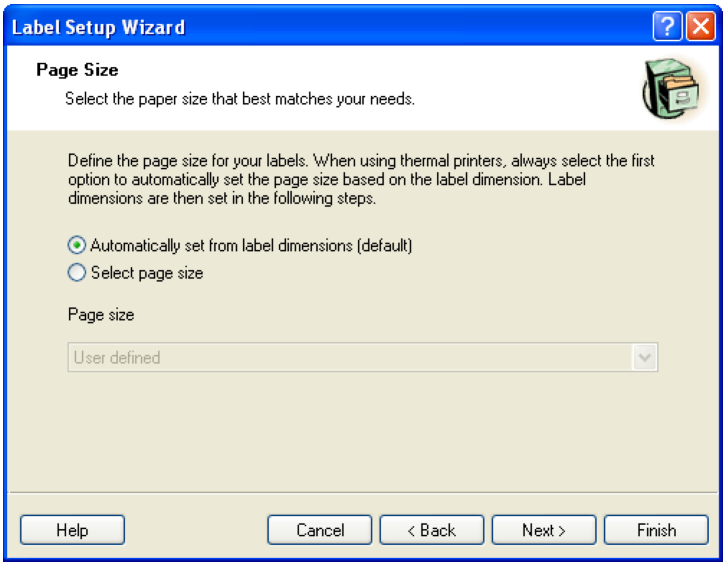
From the Wizard, select Create new label and then Finish.



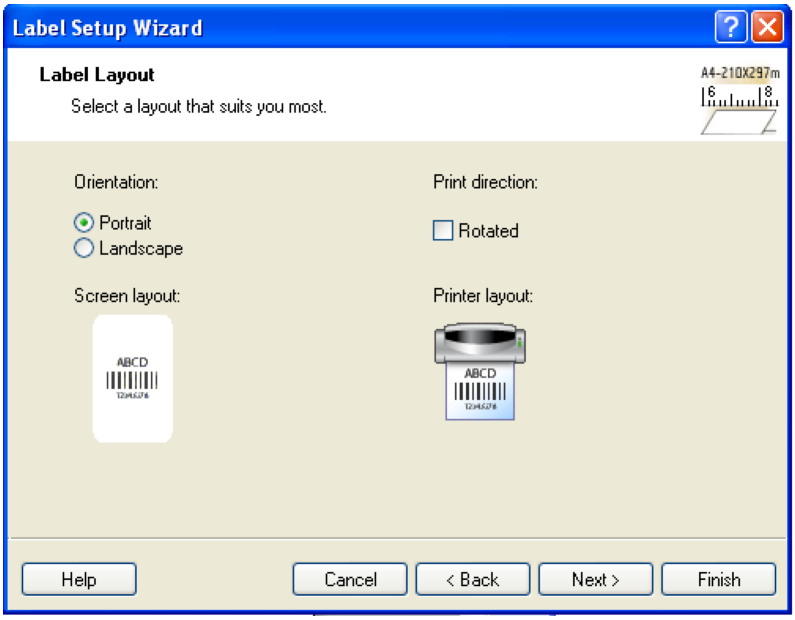
Select your iMZ printer from the list and click Next.



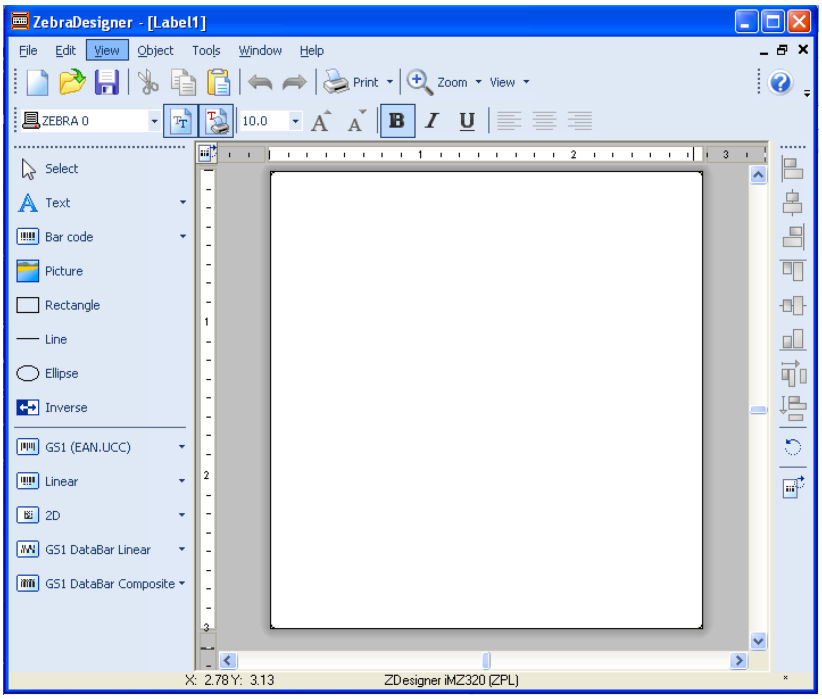
Under stock, select NONE and click Next.
Note: If you have specific type of stock that is in the list, select it before clicking next.



Leave settings as they are and click Next

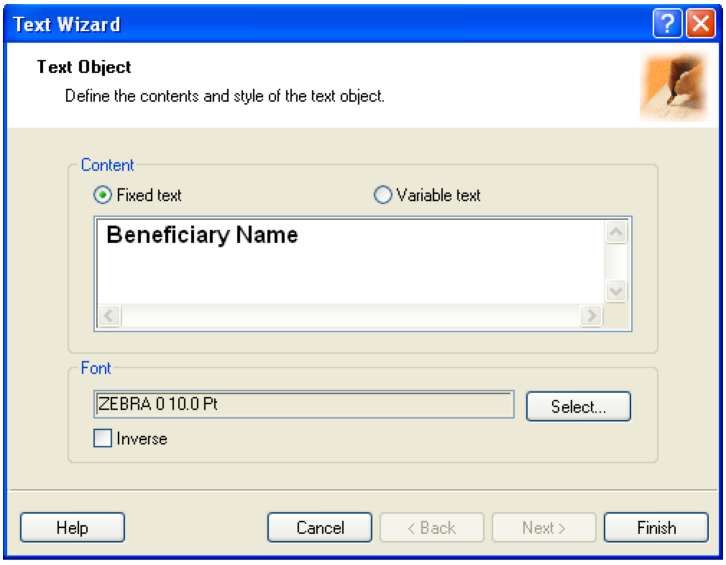


Select the type of output you want from your label, and click Finish.



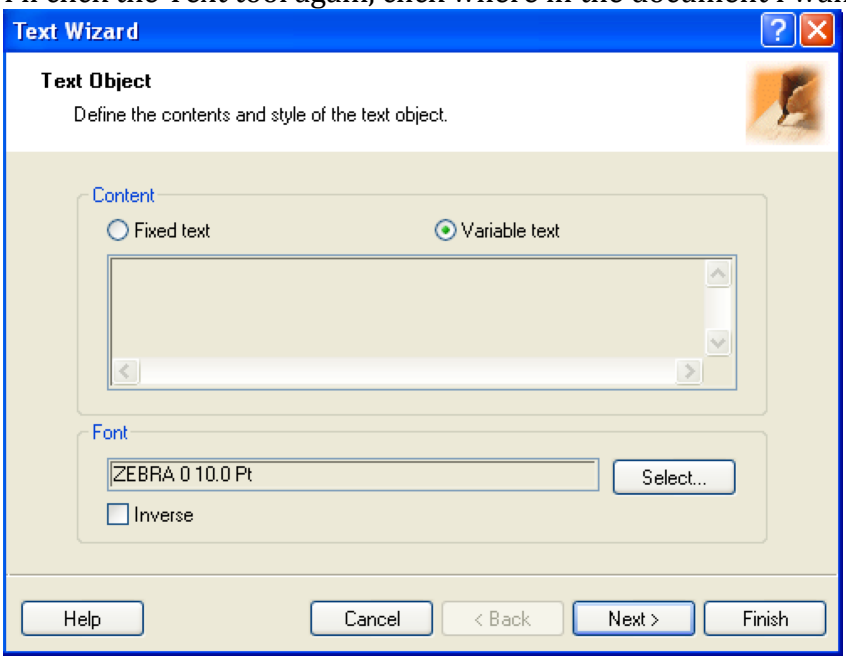
We start off with an empty document. We can add elements by clicking on the type of element we want to add.

We'll start off with a text label.
Click on the Text object in the menu on the left, and click on the document where you would like the text to appear.

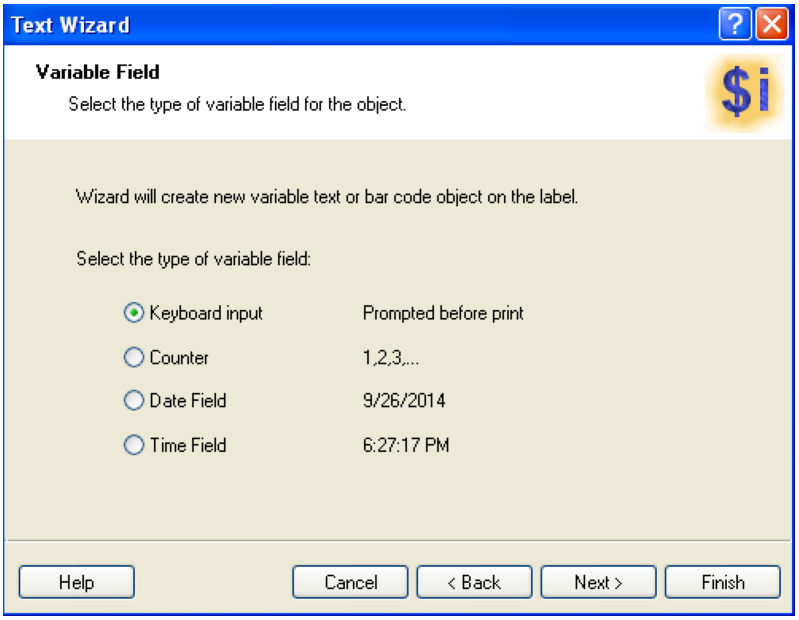


The Text wizard will appear. Enter the text label that you would like to display on that location. In my example, I'm entering beneficiary name.
Note: Do not change the font. The fonts have to be uploaded to the printer, and if absolutely not required, there is no need to do so.
Click Finish.

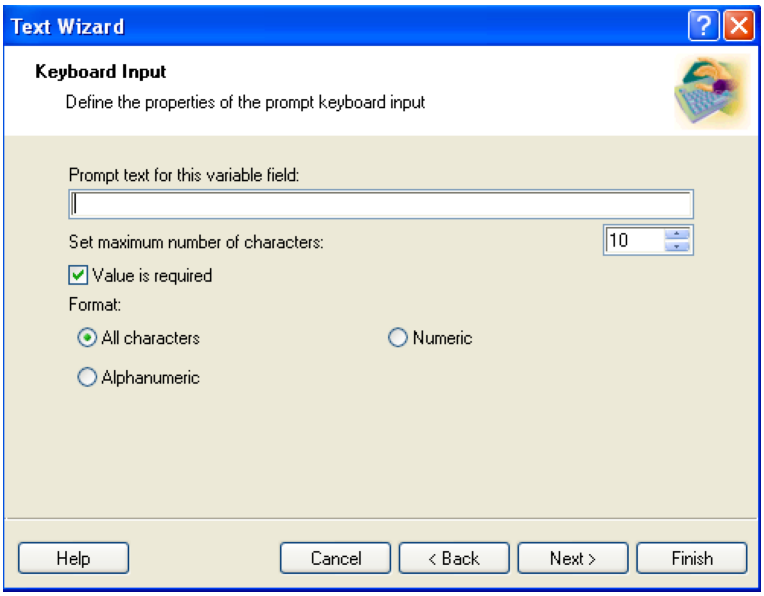
Next, I'm going to add the actual value that will contain the beneficiary name, so when it prints, I have the label "Beneficiary Name" and the name of the beneficiary from the iForm data printed underneath.
I'll click the Text tool again, click where in the document I want the data placed:



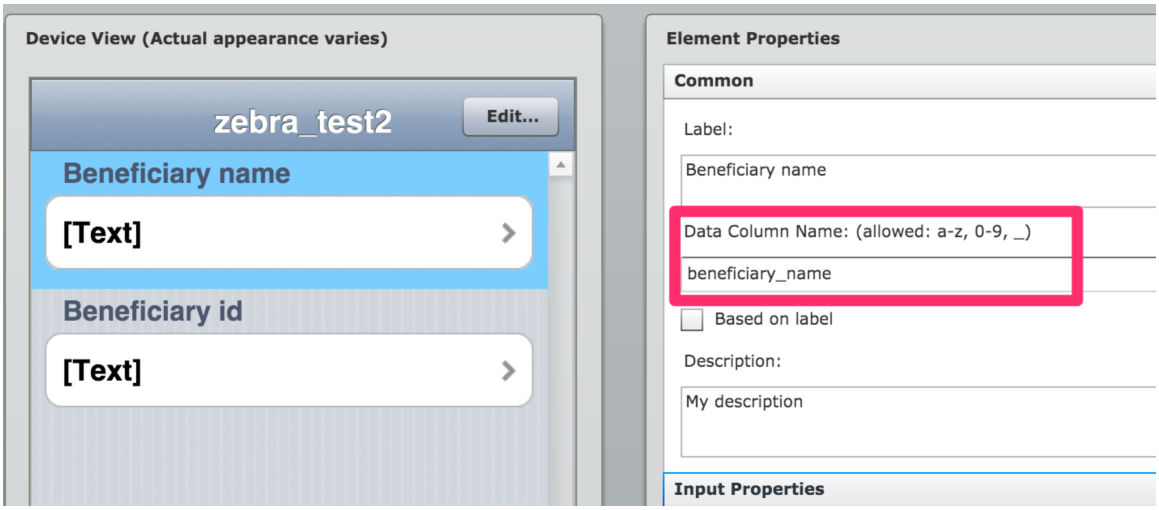
In the text wizard, this time I select Variable text. Click Next.



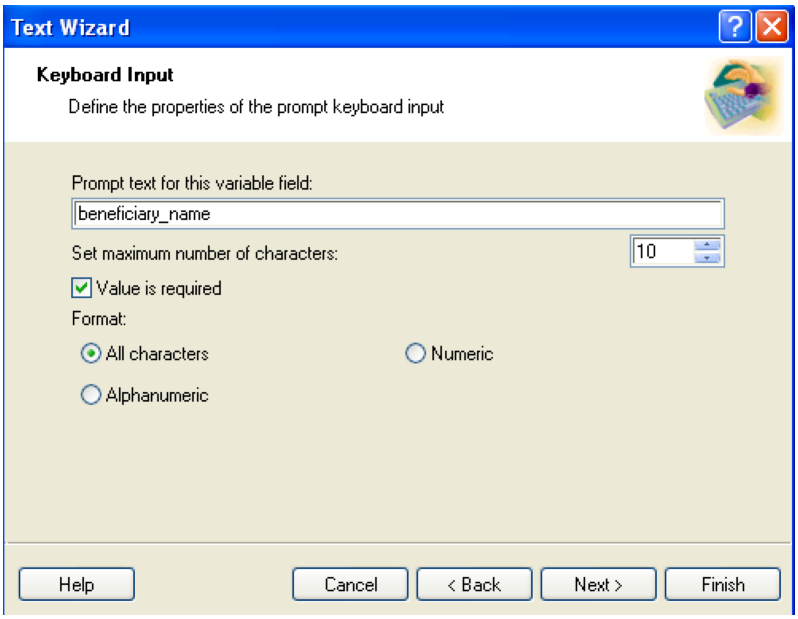
Select Keyboard input and click Next



In the Keyboard input screen, we input the data column name of the iForm element we want to print out.

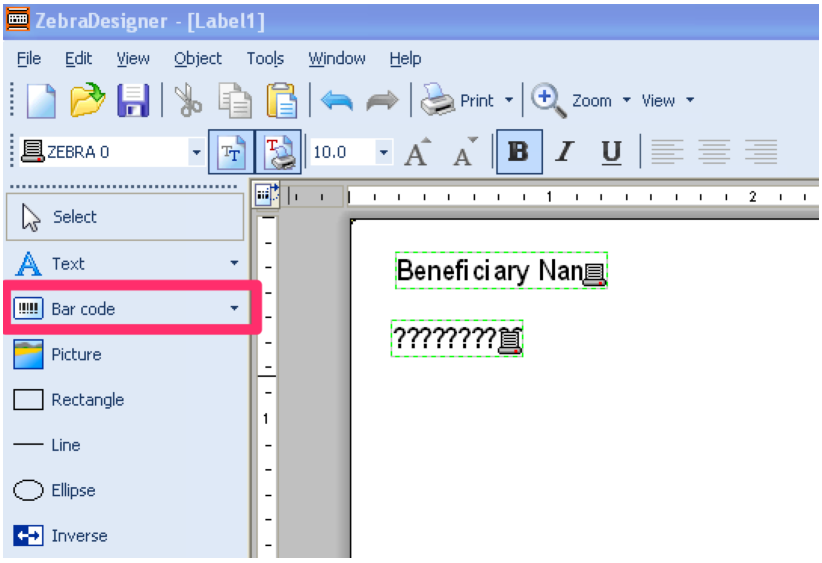


In my example, the data column name for the element I want to print is "beneficiary_name". So that is what I'll type in the text wizard.

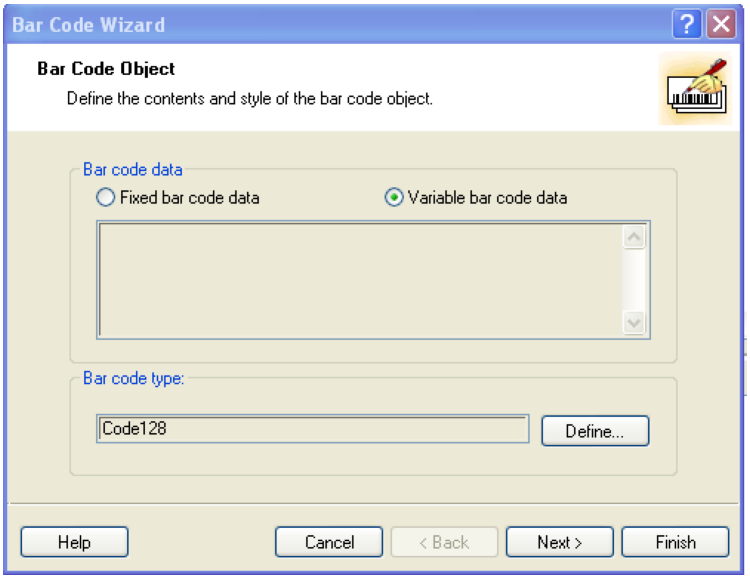


Click Finish.

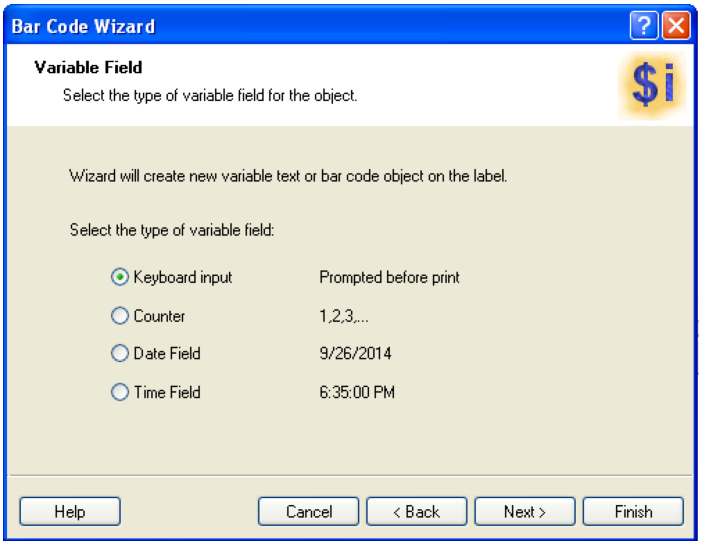
To generate a barcode, click the Barcode icon in the left menu.



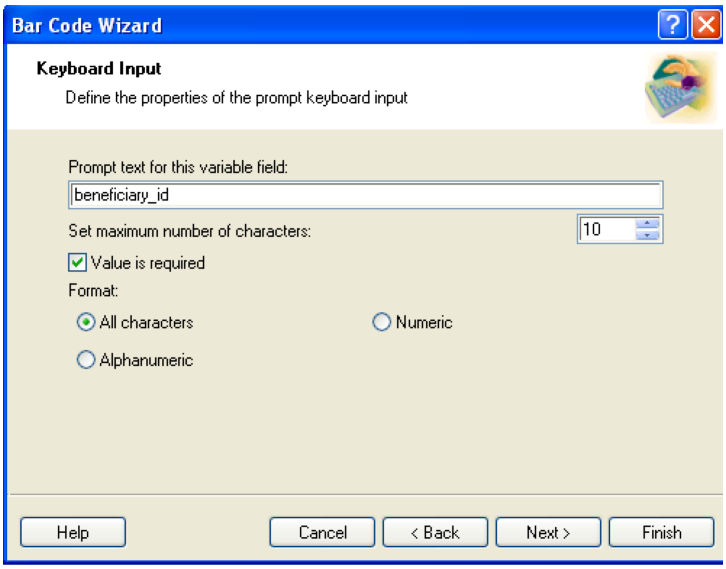
That will start the Barcode wizard.



Select Variable bar code data.
Choose the type of barcode you want to generate under Barcode Type.
Note: Manatee widget supports Code 128 and QR code. If you print out something else, the iFormBuilder Manatee widget will not be able to scan it.
Click Next

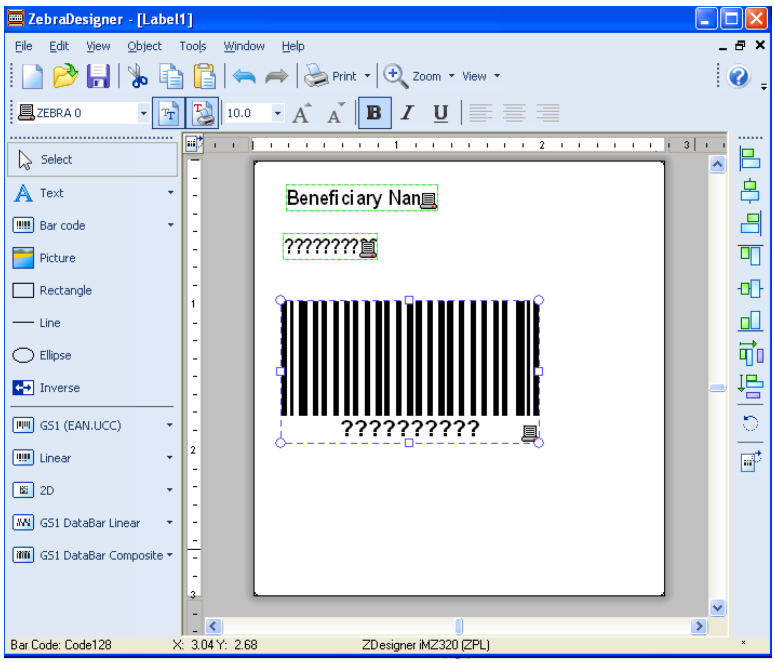


Select Keyboard input, click Next



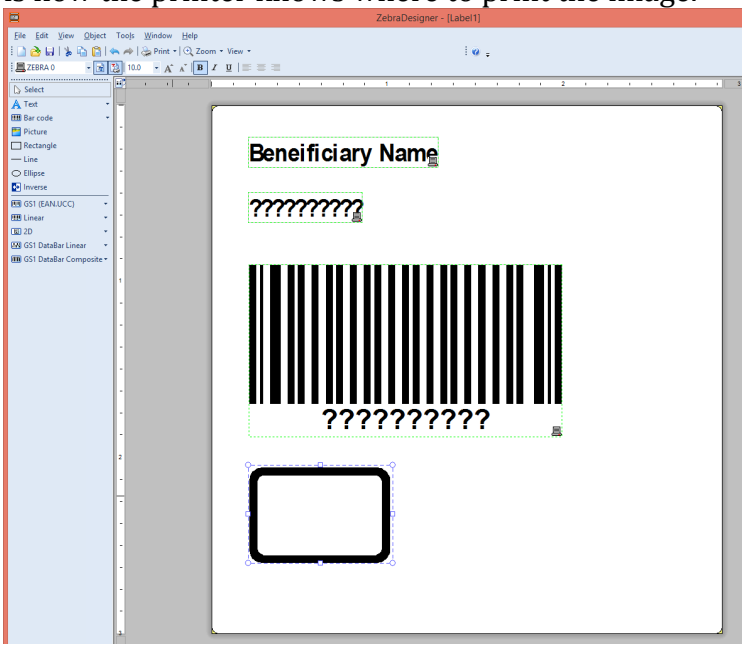
Type in the data column name of the field whose data will generate the barcode. In my example that's the "beneficiary_id" field. Click Finish.

After I've done that, my label looks like this:


ZebraDesigner - [Label1]
File Edit View Object Tools Window Help
Print Zoom View
ZEBRA 0
10.0
Select
Text
Bar code
Picture
Rectangle
Line
Ellipse
Inverse
GS1 (EAN.UCC)
Linear
2D
GS1 DataBar Linear
GS1 DataBar Composite
Beneficiary Nan
???????
??????????
Bar Code: Code128
X: 3.04 Y: 2.68
ZDesigner iMZ320 (ZPL)

Adding Images to Zebra Label

To print images from iForm, you will need to first put an image in the label as a placeholder. Choose one of the sample .BMP images that zebra provides. Choosing the rectangle one will give you a good idea on where the image border will be. This is how the printer knows where to print the image.



In the Reference ID 3, you will need to add another parameter.
ZEBRA_IMAGE_INFO=column_name, image_file_name, image_width, image_height
This part can be a little confusing. I will break it down.

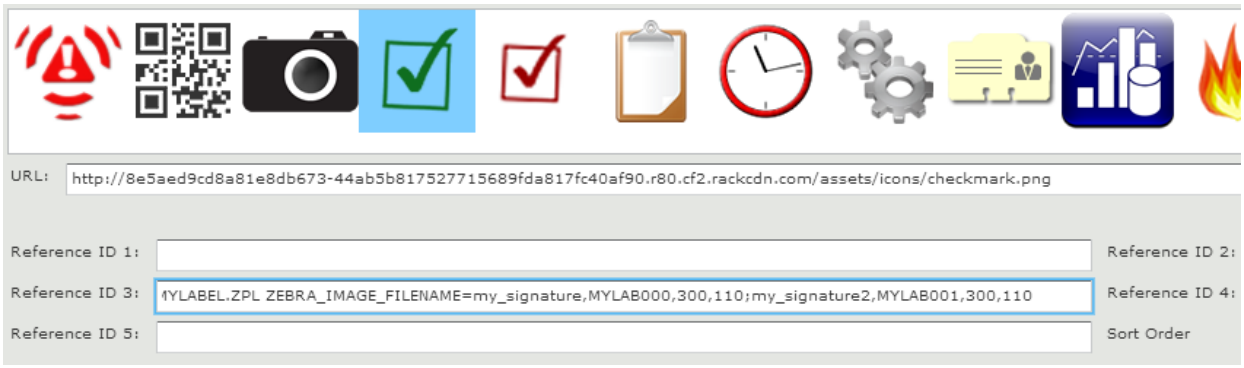
column_name: The actual data column name of the image you want to print from the form, for example 'my_signature'.

image_file_name: This the file name that zebra designer gave the file when it sends it to the printer. The file name will be up to the first 5 characters of the ZPL filename followed by 3 numbers representing the image number. For example, if my ZPL file was called MYLABEL.ZPL, the image would be MYLAB000. If you had two image, you would have MYLAB000 and MYLAB001

image_width: The width of the image in pixels

image_height: The height of the image in pixels.

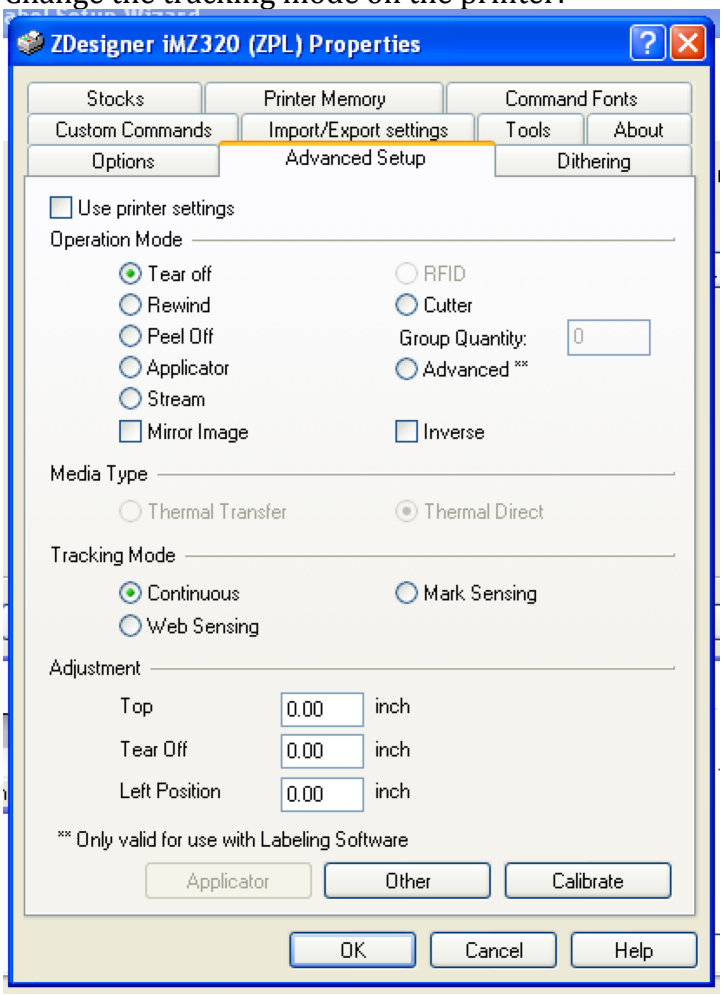
A sample size for a signature would be 300 by 110 pixels.



To put it all together, it will look like:
ZEBRA_FORMAT_FILENAME=MYLABEL.ZPL
ZEBRA_IMAGE_INFO=my_signature,MYLAB000,300,110;my_signature2,MYLAB001,
300,110

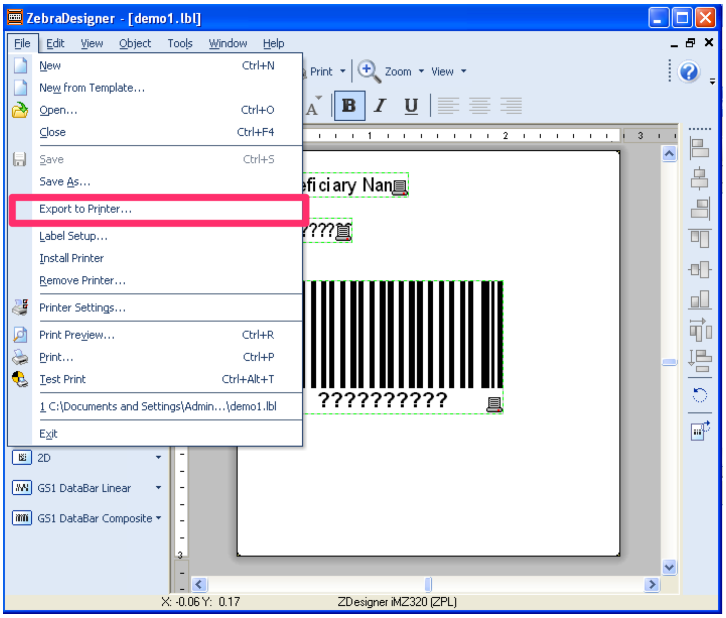
When the image actually prints, it can be off a couple pixels. Adjust the image accordingly on the label. It will take some trial and error to get exactly the right coordinates.

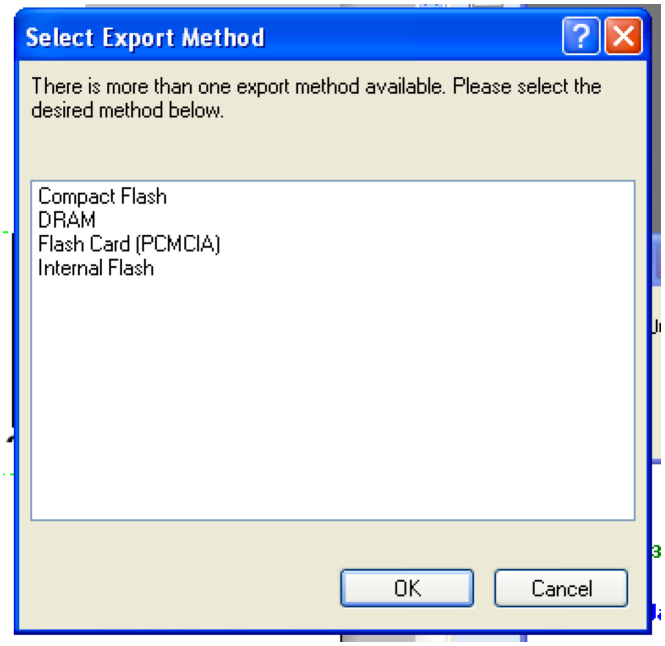
Change the tracking mode on the printer:



I'm going to save the label, by clicking File > Save

Once saved, do File > Export to printer to send the file to the printer



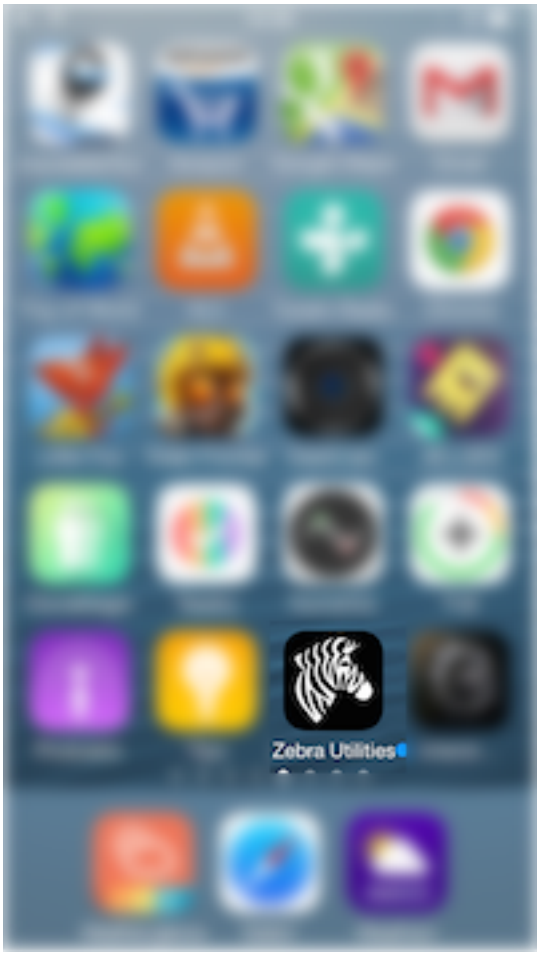


When asked for export method select Internal Flash

Now your file should be on the device, and ready to print.

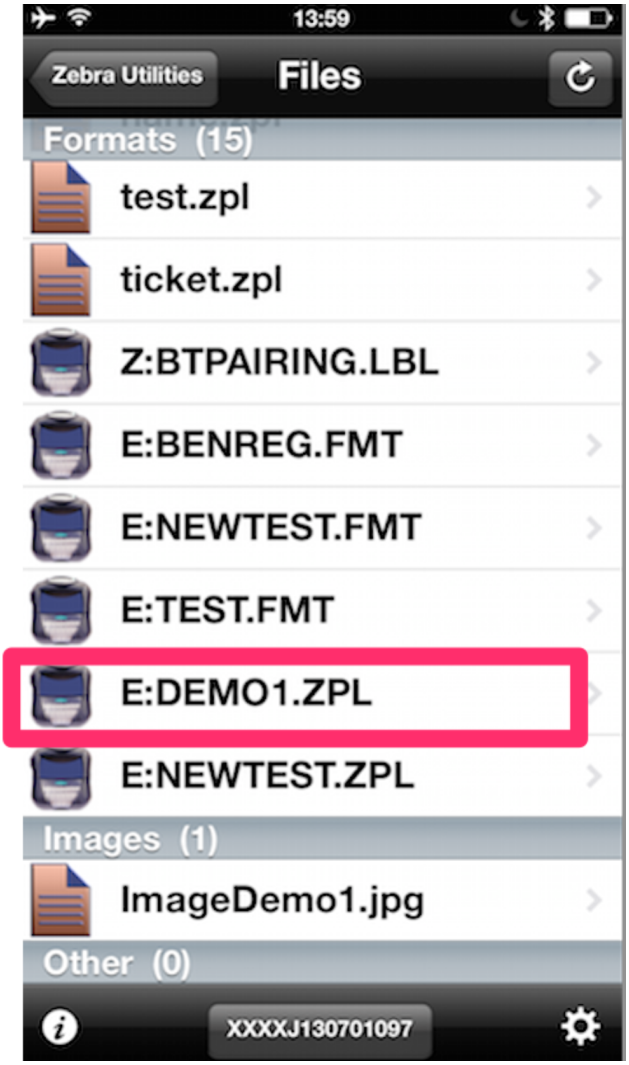
Checking for successful upload

To check whether the upload was successful, open the Zebra utilities software, which we installed earlier.


Zebra Utilities

Click on Files

If the setup was successful, you should be able to see the file in the list of files.



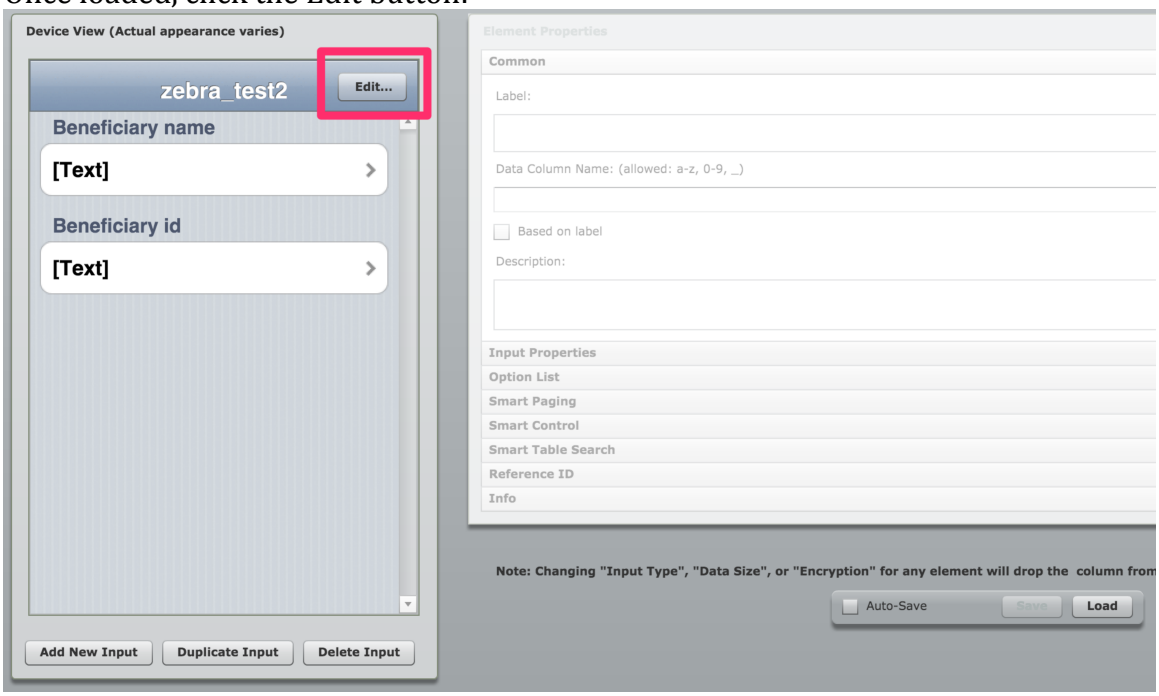
If you don't see your file, or if it does not have the ZPL extension, repeat steps in [first time setup]

Modifying the iFormBuilder form for custom labels

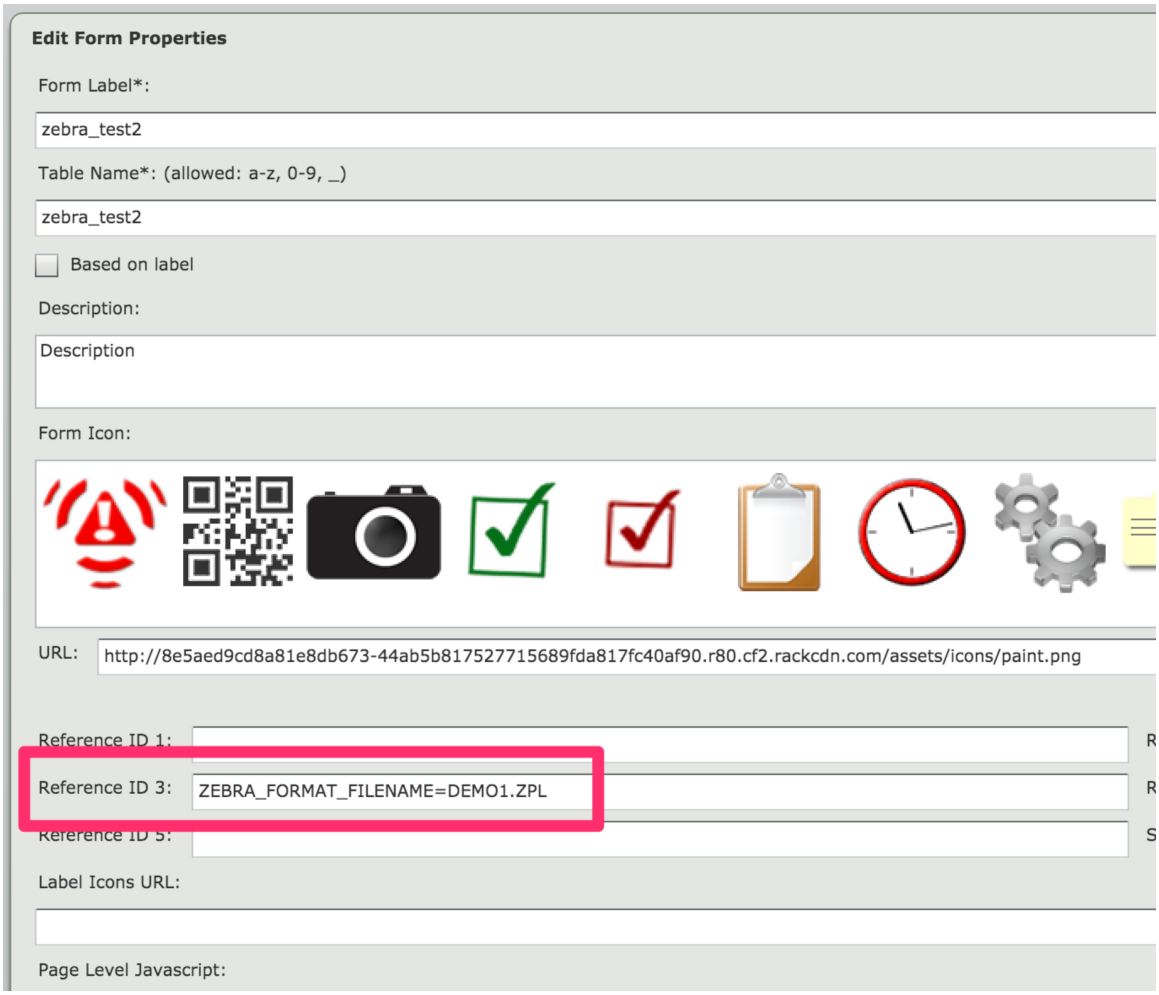
Now that our printer is set up, we need to setup our form so it can use the label we just created.

Load your form in iFormBuilder if you have not done so already.

Once loaded, click the Edit button:



Next, under reference 3 type in the following:



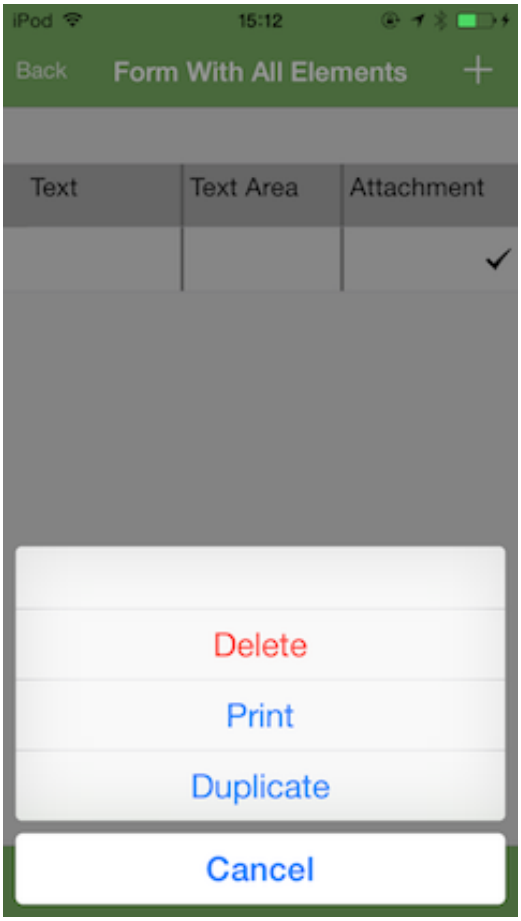
ZEBRA_FORMAT_FILENAME=YOURFILENAME
Replace YOURFILENAME with the name of the ZPL file you just uploaded.
In my case, the filename is DEMO1.ZPL

Save the form, sync your device and try printing.

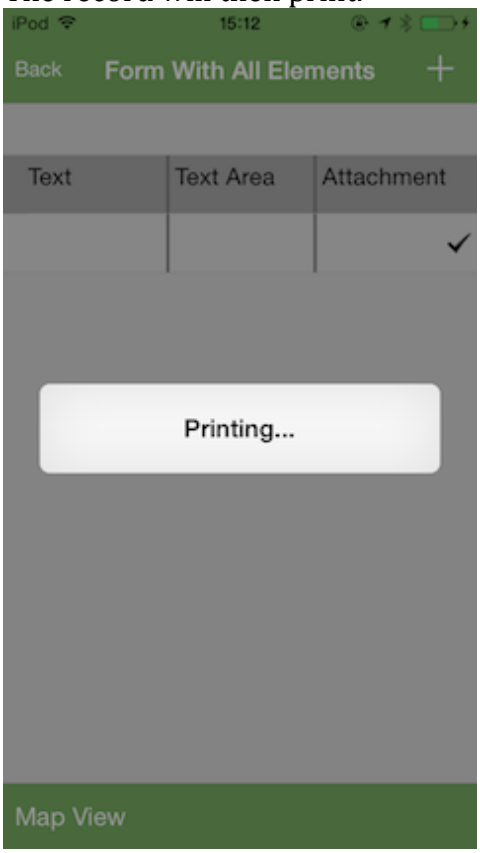
Printing the record

Open the form you want to print from. Select the record you want to print by pressing your finger over the record, and holding it (do not release) until the menu appears. If you enter the record view, go back to the main form view and try again.

After holding the finger over the record for 3 seconds, the menu appears.
Select print from the menu.

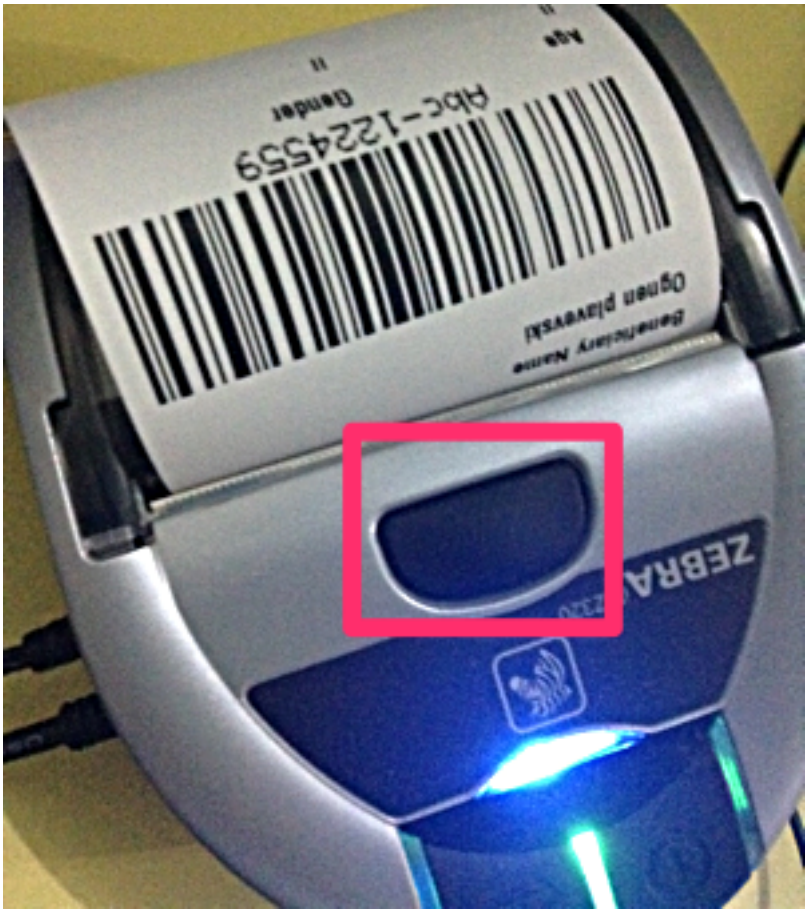

iPod
15:12
Back
Form With All Elements
Text
Text Area
Attachment
Delete
Print
Duplicate
Cancel

The record will then print.



Replacing paper

To replace paper, click the paper button:



The paper bay will open, and you can replace the paper. Be mindful how you put the paper to be the right side up, otherwise it wont print anything.

Troubleshooting the device

Device does not connect via Bluetooth

Check the following things:

1. Make sure device is turned on
2. Make sure device is not connected to other device (blue light is not on)
3. Make sure Bluetooth is turned ON from the device you're connecting from

If you've checked all items, and you still cannot connect to the device, please contact Zebra support.

I cannot see my custom designed label in the list of files

Make sure you set the printer to the ZPL language in this section: Configuring the printer for first time use

My custom label is uploaded but it's printing a normal label

Two possible issues:

1. Check your ZPL filename to make sure it's correct. Use uppercase letters, as that's how it treats the filename.
2. Make sure your ZPL file does not contain any numbers in the filename.