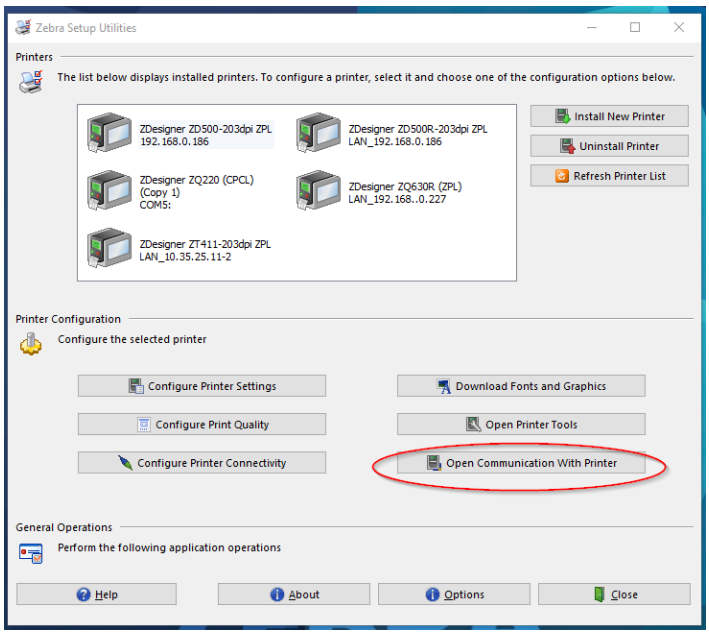
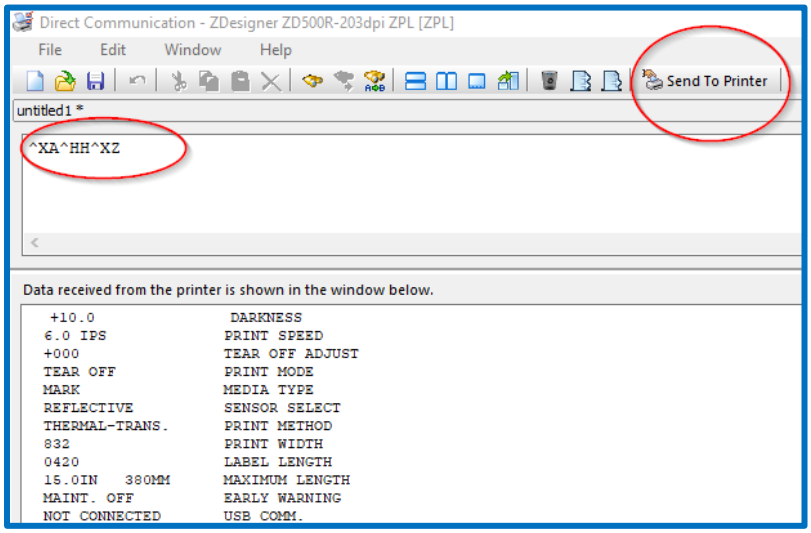
RFID Printing Best Practices

Scenario: VOID Labels, No Tag Found.

Use Zebra Setup Utilities for Windows(download here: https://www.zebra.com/us/en/support-downloads/printer-software/printer-setup-utilities.html) Once installed, confirmed you have communication to the printer by requesting the configuration label; select the Open Communication with Printer Option and send the following command: ^XA^HH^XZ





Follow these steps one by one in order

1.) Ensure firmware is up to date.
2.) Ensure media is loaded correctly in printer.
Identify the print width and label length (size).
Identify mark, gap or notched media in use.
Use the correct media sensor for the media in use
Adjust if necessary.
3.) Factory Default printer.
4.) Configure settings for the media in use.
5.) Run full ribbon and media manual calibration
6.) Send ^XA^HH^XZ using the Zebra Setup Utility.
7.) Save the results of the configuration file and send it over email
8.) Identify print width and label length values and compare to actual size (use a ruler)
If necessary, set the correct size of tag using the Configure Printer Settings Wizard
9.) Run RFID tag calibration – send ^XA^HR^XZ or through the Printer's display > RFID menu
10.) Save this file and send it over email
11.) Send RFID test ZPL formats.
12.) Get pictures/videos of before and after the procedure

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ZPL Formats for testing

Quick read/write test format

This format is a quick way to verify the printer is able to read and write the tag without errors. This will only return data back to the host; the labels will come out blank.

```
^XA
^RFW,H^FD123456789012^FS
^RFR,H^FN11^FS
^FH^HV11,,EPC:[,]_0D_0A,L
^XZ
```

Serialization format

This format will print 5 serialized tags with 100000000001 to 100000000005 encoded to the EPC bank memory and printed for verification purposes. This test is useful for verifying the correct tag is encoded.

```
^XA
^FT50,30^A0N,30,30^FDOld EPC:^FS
^FT50,50^A0N,30,30^FN12^FS
^FT50,70^A0N,30,30^FDNew EPC:^FS
^FT50,90^A0N,30,30^FN11^FS
^RFR,H^FN12^FS
^RFW,H^SN100000000001,1,Y^FS
^RFR,H^FN11^FS
^FH_^HV11,,New EPC[,]_0D_0A,L^FS
^FH_^HV12,,Old EPC:[,]_0D_0A,L^FS
^PQ5
^XZ
```

RFID Printing Best Practices

Useful commands

! U1 setvar "rfid.adaptive_antenna" “neighbors”

! U1 setvar “"rfid.antenna_sweep" "on"

! U1 setvar "rfid.log.enabled" "yes”

! U1 getvar "rfid.log.entries"

! U1 setvar "rfid.reader_1.power.read" "25"

! U1 setvar "rfid.reader_1.power.write" "25"

^XA^RW25,25,^JUS^XZ

https://www.zebra.com/us/en/support-downloads/knowledge-articles/ait/RFID-Programming-Guide-for-Zebra-Printers.html