

# AN15035

## UCODE X memory configuration setup for Zebra Printers with Nicelabel/Loftware

Rev. 1.0 — 15 June 2026

Application note

### Document information

Information	Content
Keywords	UCODE X, memory configuration, Zebra Printer, Nicelabel/Loftware
Abstract	This document explains how to setup UCODE X memory configuration on Zebra Printers, using Nicelabel/Loftware.



# 1 ZEBRA ZPL Printer commands for UCODE X memory configuration change

UCODE X has six different memory configurations that a user can choose from. Multiple memory options enable tag functionality to be tailored for specific use cases and applications. These options help users strike the right balance between EPC/Ull size and available user memory.

**Table 1. Memory configuration (1)**

Configuration	EPC memory	User memory	Access Password	Kill Password	Permalock	Lock	Untraceable
Default	128 bits	0 bits	Yes	Yes	Yes	Yes	Yes
Config 2	160 bits	0 bits	Yes	No	Yes	Yes	Yes
Config 3	208 bits	0 bits	No	No	Yes	No	No
Config 4	96 bits	32 bits	Yes	Yes	Yes	Yes	Yes
Config 5	128 bits	32 bits	Yes	No	Yes	Yes	Yes
Config 6	176 bits	32 bits	No	No	Yes	No	No

Memory configurations can be changed by writing into the chip config word, which is located in Memory Bank ‘10’ (TID memory), starting at bit address 0x70h (word count 7). In order to make a change in the config word, a standard “WRITE” command can be used.

**ZPL Command:**

The ZPL command line that supports memory configuration is as follows:

```
^RFW,H,7,2,2^FDXXXX^FS
```

Where RFW represents the write command for ZPL, H represents the Hex format and it is encoding two bytes of data at block number 7 in TID memory of the Tag. Refer to the table below which contains 6 different memory configurations to their corresponding ZPL command line.

**Table 2. Memory configuration (2)**

EPC	User memory	Access Password disabled	Kill Password disabled	User memory disabled	ZPL command line
128 bits	0 bits	0	0	1	^RFW,H,7,2,2^FD0001^FS
160 bits	0 bits	0	1	1	^RFW,H,7,2,2^FD0003^FS
208 bits	0 bits	1	1	1	^RFW,H,7,2,2^FD0007^FS
96 bits	32 bits	0	0	0	^RFW,H,7,2,2^FD0000^FS
128 bits	32 bits	0	1	0	^RFW,H,7,2,2^FD0002^FS
176 bits	32 bits	1	1	0	^RFW,H,7,2,2^FD0006^FS

## 2 How to change UCODE X configuration through Zebra Printer

This chapter provides a detailed, step-by-step procedure on how to change UCODE X configuration through Zebra Printer using Nicelabel/Loftware software.

1. Before beginning any testing, the user must ensure that a command font is created and properly loaded into the printer. This is accomplished by opening the Zebra Printer properties and selecting the “Driver settings” utility, from there select “Fonts”, which is used to add and manage downloadable fonts. Then select the command from the Add section drop-down. When performing this procedure on a ZT411 printer, the pop-up window appears similar to the example shown below.

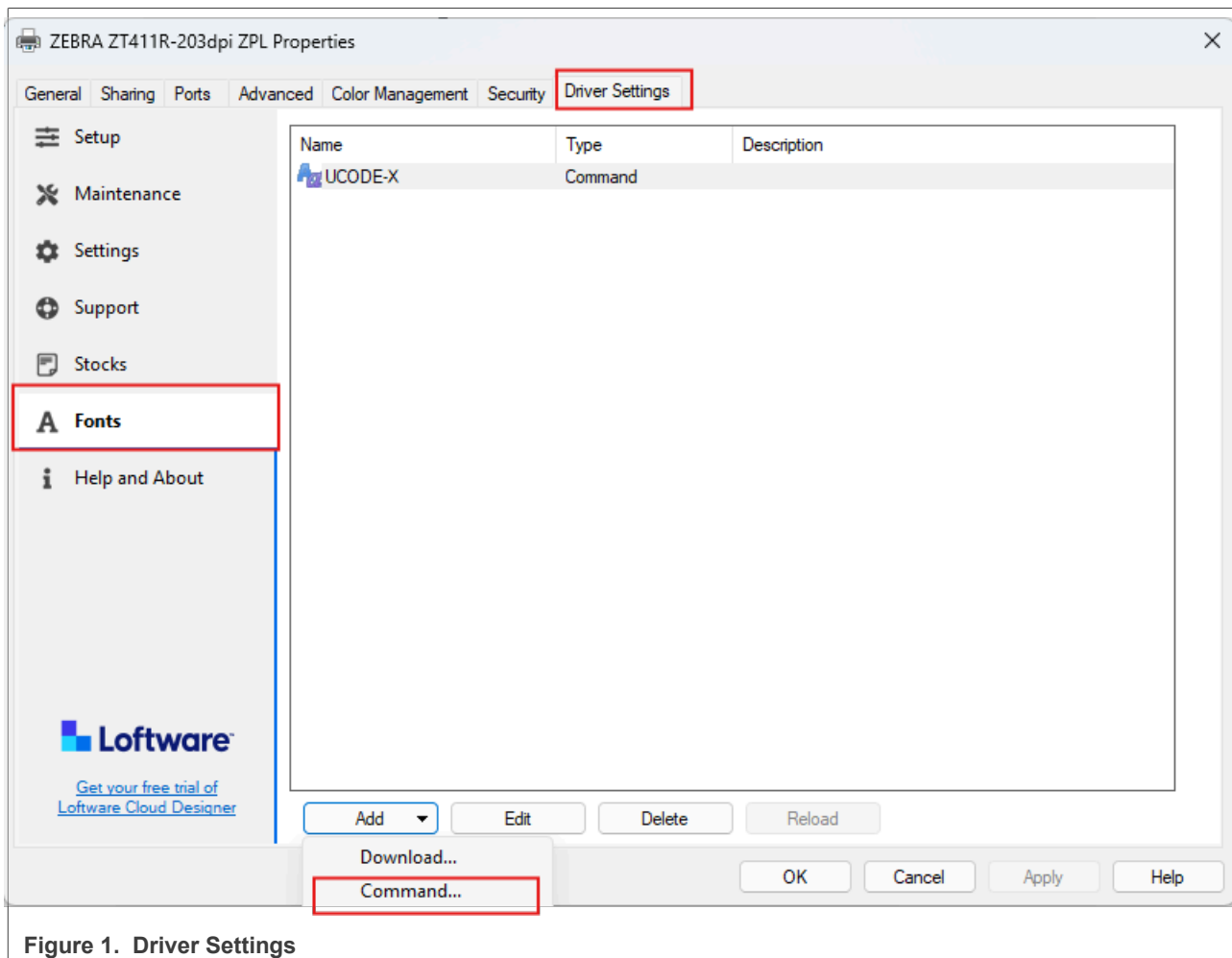


Figure 1. Driver Settings

2. Then, assign a name to the command font. In the example below, we have named it **UCODE X**. If the user wants the text stream to start on a new line, set the **Suffix** to **Parsed Text** and enter the appropriate data value. If additional assistance is needed, the user can click the **Help** button located in the bottom-right corner.

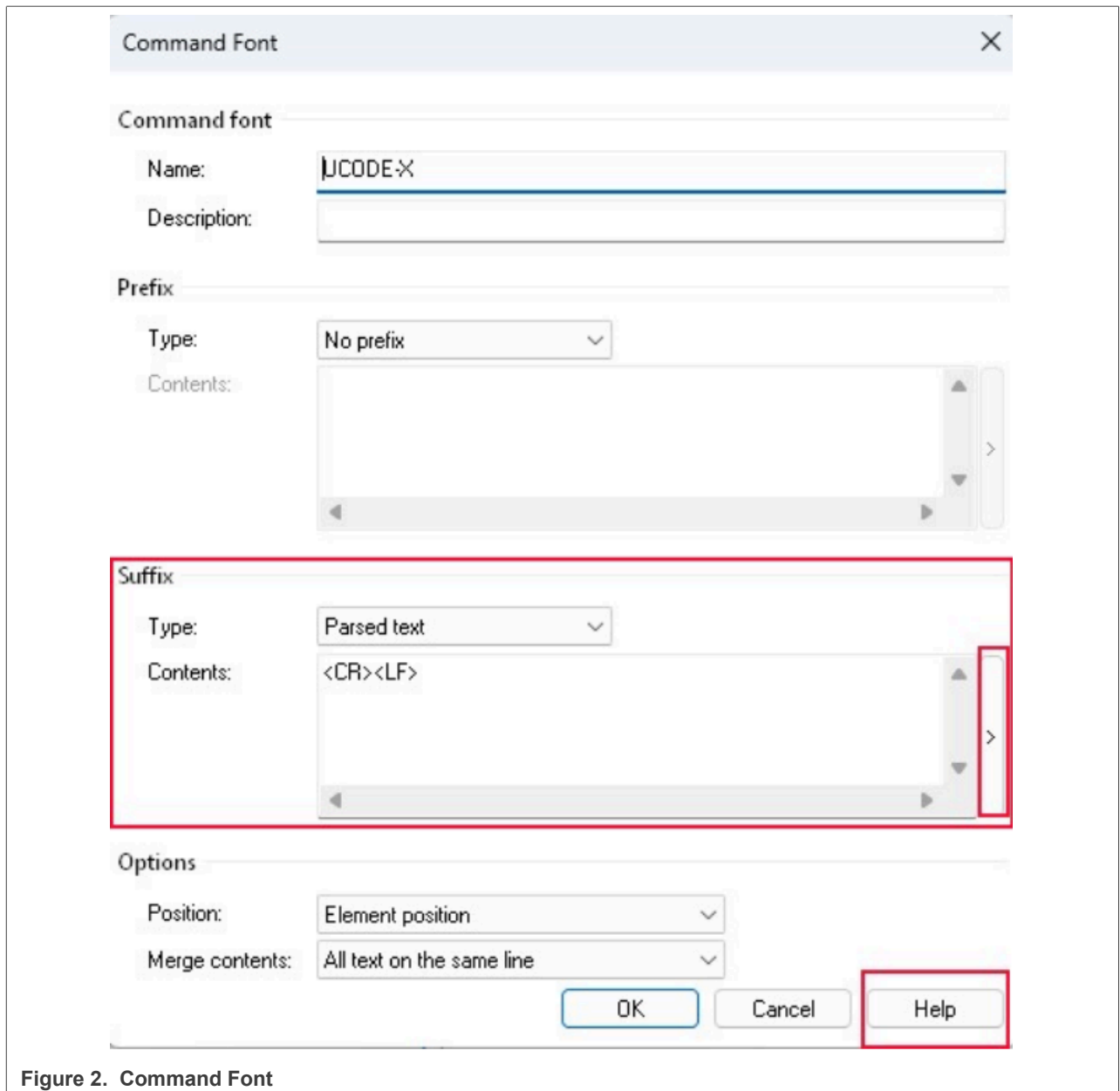


Figure 2. Command Font

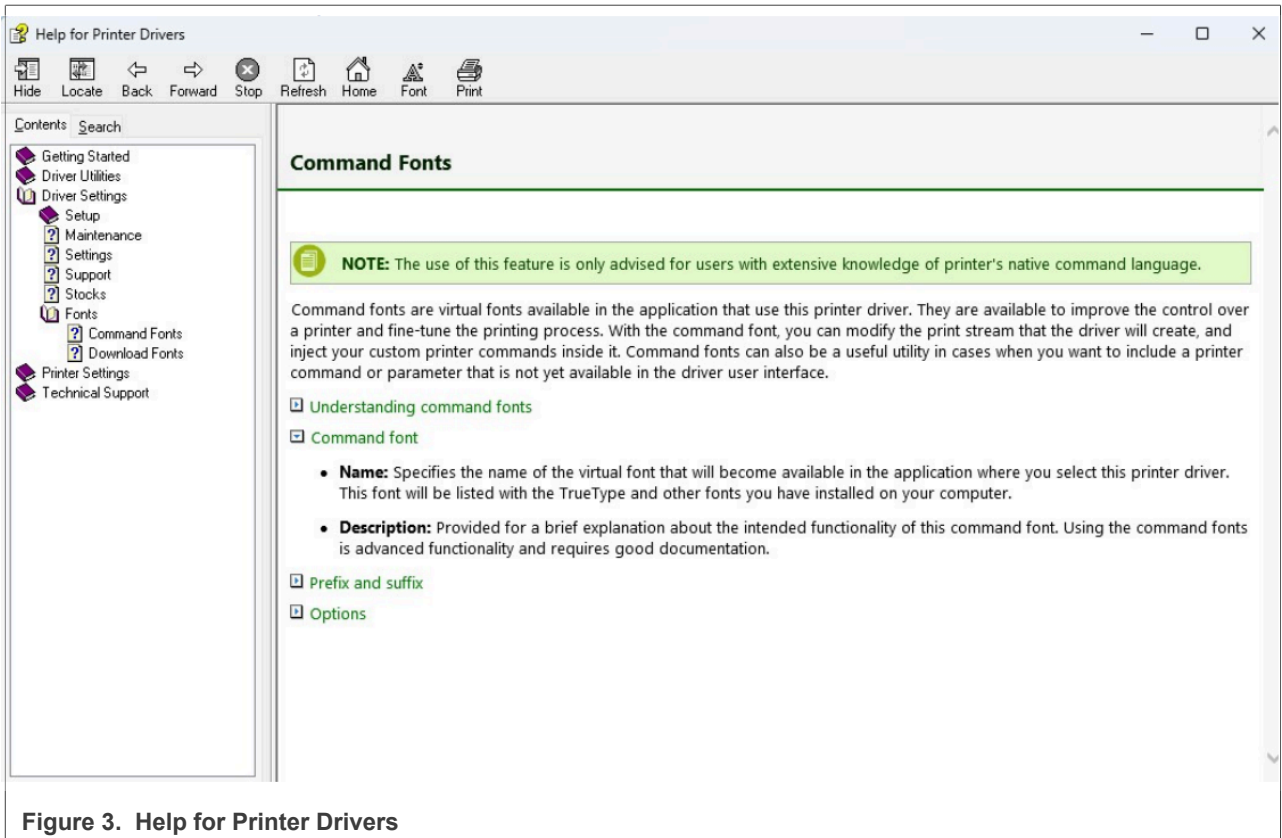


Figure 3. Help for Printer Drivers

- When designing a label in **Software Designer**, the custom command font appears in the font dropdown list for **Internal Printer Fonts** (top-left corner). In the custom command that the user creates, only the **TID** value is defined using the command font, while the **EPC** data is encoded from a variable. For correct behavior, the **TID** field in the RFID definition must remain empty.

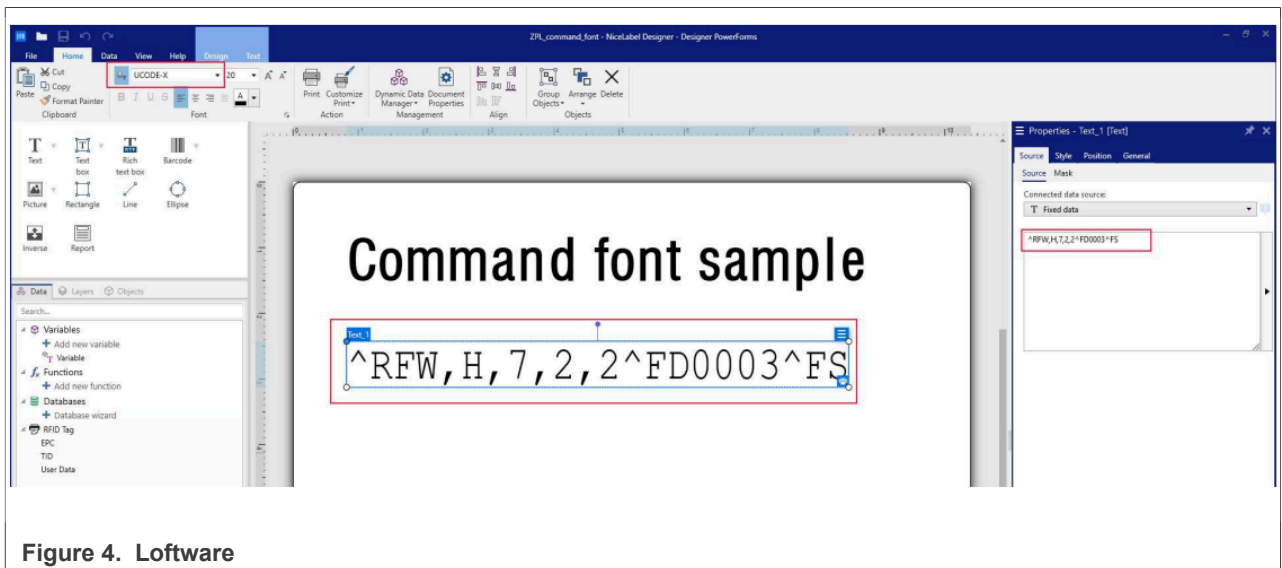


Figure 4. Software

- Select the RFID tag type according to the required data that must be inserted

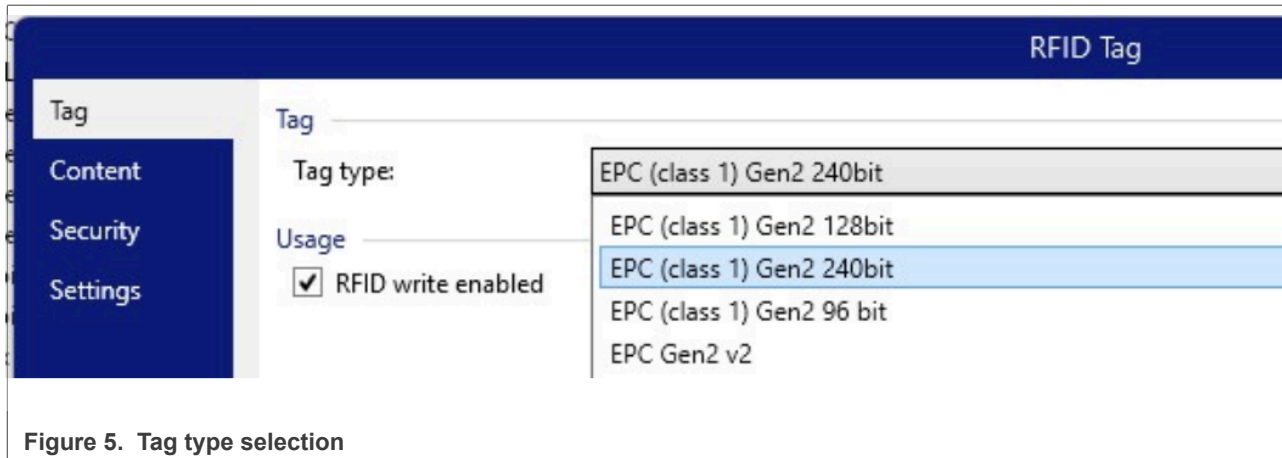


Figure 5. Tag type selection

5. User's print to file after encoding should look as follows:



Figure 6. Print to file example

### 3 Contact

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For questions, reach out to: <https://community.nxp.com/>.

## 4 Revision history

Table 3. Revision history

Document ID	Release date	Description
AN15035 v.1.0	15 June 2026	Initial version

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