



Dual Frequency RFID Device Configuring Prefixes and Postfixes

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1 Introduction

1.1 Important Note

The function to add prefixes and postfixes to the HID output of the dual frequency RFID devices may not be possible with every firmware version.

1.2 Reference Documents

HID Usage Tables 1.50 (2024-01-29).pdf, see chapter “10 Keyboard/Keypad Page (0x07)” starting page 89.
You can get the latest version here: <https://www.usb.org/documents>

2 Configuration Software HID Setting

Prefix

Prefix1

No Prefix

Postfix

Postfix1

No Prefix

Protocol Screen

Prefix2

No Prefix

Prefix3

No Prefix

Postfix2

No Postfix

Postfix3

No Postfix

SET

CLEAR

| | | | | | | |
|----------------|----------|--------------------------|----------|------------------|----------|--------------------|
| Prefix | Prefix1 | Keyboard [ENTER-LEFT] ▾ | Prefix2 | Keyboard [TAB] ▾ | Prefix3 | Keyboard [SPACE] ▾ |
| Postfix | Postfix1 | Keyboard [ENTER-RIGHT] ▾ | Postfix2 | Keyboard # ▾ | Postfix3 | No Postfix ▾ |

Protocol Screen

```

>> AA 00 01 83 82 BB
<< AA 00 0A 00 00 20 20 05 20 03 18 44 01 71 BB
>> AA 00 01 86 87 BB
<< AA 00 26 00 52 38 35 35 2D 53 45 54 2D 48 46 5F 4C 46 5F 4C 45 47 49 43 20 32 30 32 32 2D 30 39 2D 31
33 20 31 36 3A 31 30 7B BB
>> AA 00 07 FE 28 28 2C 58 32 00 BC BB
<< AA 00 02 00 80 82 BB

```

Version: RB55-SET-HF_LF_LEGIC 2022-09-13 16:10 / SN: 2020052003184401

3 Configuration Command Description

If you need more flexibility, you can compose your control command manually. The BCC checksum is calculated after the Start of Telegram as XOR over all bytes from the Device Address to Postfix3

3.1 Command from PC to RFID device

AA 00 07 FE 00 00 00 00 00 00 ED BB

The Bytes in Detail

AA = Start of Telegram
 00 = Device Address
 07 = Bytes of Payload (Command + Parameters)
 FE = Command Code
 00 = Prefix1
 00 = Prefix2
 00 = Prefix3
 00 = Postfix1
 00 = Postfix2
 00 = Postfix3
 F3 = BCC
 BB = End of Telegram

3.2 The Reply from the RFID device to the PC (Success)

AA 00 02 00 80 82 BB

The Bytes in Detail

AA = Start of Telegram
 00 = Device Address
 02 = Bytes of Payload (Status + Error Code)
 00 = Status, 0x00 = OK
 80 = Configuration successfully changed
 82 = BCC
 BB = End of Telegram

3.3 The Reply from the RFID device to the PC (Error)

AA 00 02 01 89 8A BB

The Bytes in Detail

AA = Start of Telegram
00 = Device Address
02 = Bytes of Payload (Status + Error Code)
01 = Status, 0x01 = Error
89 = Error code, setting not possible
8A = BCC
BB = End of Telegram

3.4 Configuration Bytes for Prefixes/Postfixes

The value of this Byte is simply passed to the HID output. So, you can freely select any keypress as describe in chapter 10 of the document on HID Usage Tables.

The firmware will only check if the value of this Byte is not allowed. In this case this Prefix/Postfix is not active. If the value of this Byte is allowed, it is passed to the USB interface as Usage ID of a keyboard.

This table shows a selection of typical values of the Prefix/Postfix configuration Bytes:

| Value | Description | Designation |
|----------------|-------------------|------------------------------------|
| 0x00 | No Prefix/Postfix | No Prefix/Postfix |
| 0x28 | Keyboard [ENTER] | Keyboard [ENTER-LEFT] |
| 0x29 | Keyboard [ESCAPE] | Keyboard [ESCAPE] |
| 0x2B | Keyboard [TAB] | Keyboard [TAB] |
| 0x2C | Keyboard [SPACE] | Keyboard [SPACE] |
| 0x58 | Keypad [ENTER] | Keyboard [ENTER-RIGHT] |
| 0xA5-0xAF | No Prefix/Postfix | Values not allowed. |
| 0x32 | Keyboard # | Will only work on non US keyboards |
| 0xDE | No Prefix/Postfix | Value not allowed. |
| 0xDF | No Prefix/Postfix | Value not allowed. |
| 0xE8 and above | No Prefix/Postfix | Values not allowed. |

3.5 Important Note

If you want to have numbers in prefixes or postfixes, you must use the Byte values from the numerical keypad. To be able to get the special shift characters of the keyboard numbers row (!@#%&*), the firmware automatically adds a [Shift] to values that are selecting a keyboard number.

4 Revision History

| Date | Version | Description |
|------------|---------|--|
| 2023-02-03 | 0.6 | Rework as User Manual |
| 2024-07-11 | 0.7 | Details changed. Information about [Shift] before codes of keyboard numbers added. |