

APPLICATION NOTE

uPASS – Wiegand output

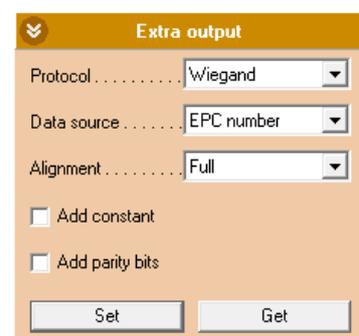
This application note describes the usage of the Wiegand output on the NEDAP UPASS UHF reader. By default the UPASS automatically generates a Wiegand message upon identification of a NEDAP UHF tag programmed with a Wiegand format. The Wiegand format and id-numbering can be specified upon purchase.

This application note describes how to configure the Wiegand output on the UPASS when using tags that are not programmed in a Wiegand format.

Configuration basics

To configure the Wiegand output we are going to use the UHFTool software. This software is available for download from our website www.nedapidentification.com.

After launching the software select Usermode Expert in the Options menu and expand the EXTRA OUTPUT configuration panel.



Configuration options

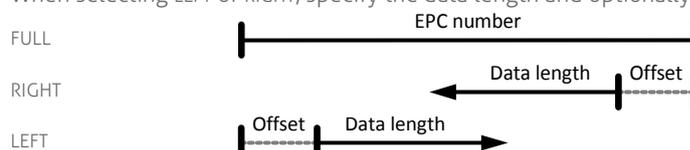
Protocol: Select the preferred output communication protocol. In this application note only WIEGAND is described, but also MAGSTRIPE can be selected here.

Data source: By default the output will be sourced by the EPC NUMBER. This means the Wiegand output is generated based upon the EPC number of the identified tag. The Wiegand output can also be based upon CUSTOM READ DATA, for example data read from the user memory bank.

Alignment: Three options are available here: FULL, LEFT or RIGHT.

FULL means that the complete EPC number is used to create a Wiegand output message. Usually this will cause the reader to generate a 96-bit Wiegand message.

LEFT or RIGHT means that only a part of the number is used to create the Wiegand output message. When selecting LEFT or RIGHT, specify the data length and optionally an offset.



Add constant: Constant value that can be added to the Wiegand output message. If enabled, specify the position (before or after), the size and the value of the constant.

Add parity bits: If enabled, the UPASS adds a leading (odd) and trailing (even) parity bit to the Wiegand output

Example: Typical Wiegand 26-bit configuration

Goal is to configure the UPASS to output a standard Wiegand 26-bit message.

The Wiegand message should be generated upon identification of a typical EPC encoded tag.

Below a typical 96-bit EPC encoded tag is shown (SGTIN-96):

Header [8 bits]	Filter [3 bits]	Partition [3 bits]	Company Prefix [20-40 bits]	Item Reference [24-40 bits]	Serial Number [38 bits]
0x30	3	4	0031544	471111	000000012345

The Wiegand message should be composed of a facility code, an id-number and parity bits.

- The id-number is taken from the EPC's Serial Number field.
Since the size of the id-number field is only 16 bits, the EPC Serial Number field is truncated.
- In this configuration the facility code will be added by the reader as a constant value.
- Next the reader will calculate and add the parity bits, to create a valid Wiegand 26-bit message.

Configuration settings:

Below the Wiegand 26-bit message format is shown:

parity [1 bit]	facility code [8 bits]	id-number [16 bits]	parity [1 bit]
1	10	2345	0