Creating Custom Wiegand Card Formats

Creating Custom Wiegand Card Formats

Contents

This document provides instructions on using the Wiegand Format Editor found within the Global Configuration section of the Intelli-M® Supervisor Plus software. Wiegand is a trade name for a technology used in cards, card readers, and sensors that allows data to be placed on a card that can be read or "sensed." The Wiegand Format Editor within Supervisor Plus provides a platform where you can modify Wiegand style cards to your site specifications.

The following topics can be found within this document:

- Overview Of Wiegand Formats Used By Intelli-M
- Creating A Custom Wiegand Format
- Custom Wiegand Cards For Intelli-M

Overview Of Wiegand Formats Used By Intelli-M®

The Intelli-M® Supervisor Plus software provides the ability to create custom Wiegand card formats. Cards can be created with a diverse range of format flexibility that include:

- Formats up to 64 bits
- Customized facility (site) and card code sizes
- Even and Odd parity masking

However, there are significant hardware differences between IDC controllers and eIDC controllers in regards to acceptable card formats within Intelli-M. Table D-1 provides a summary of these differences.

Table D-1

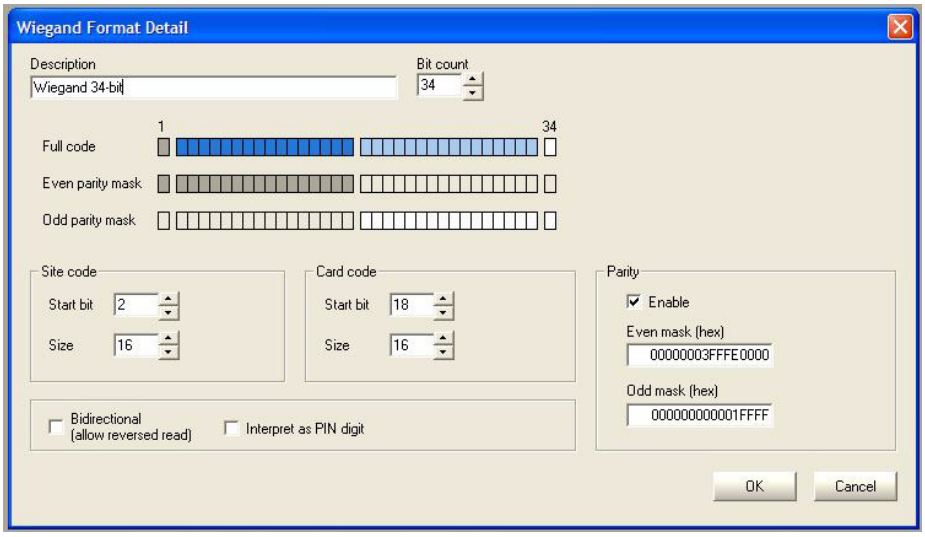
	IDC	eIDC
Maximum Bit Length	40 bits	64 bits
Maximum Custom Site Code	16 bits (65535)	32 bits (4294967295)
Maximum Custom Card Code	16 bits (65535)	32 bits (4294967295)

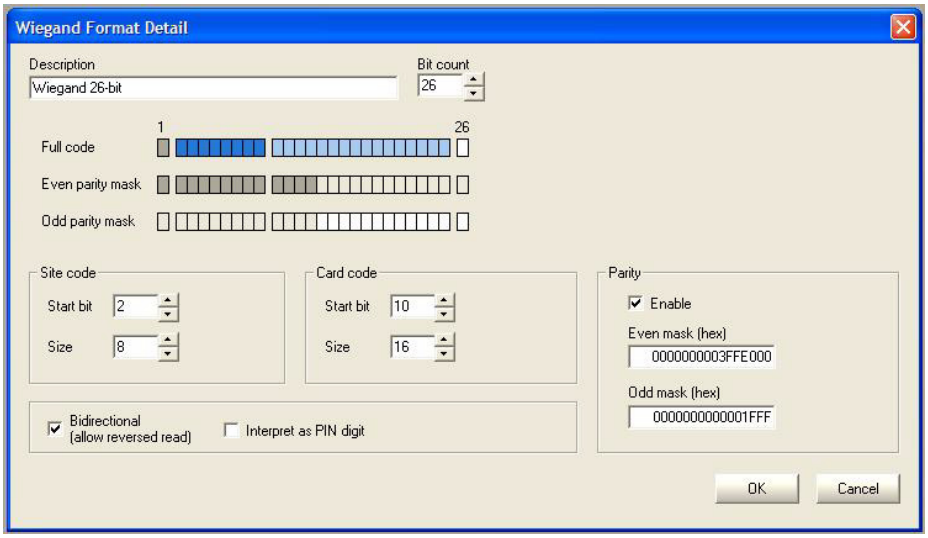
Intelli-M currently allows for a total of eight unique bit-length formats to simultaneously function within the Supervisor Plus software. The eight formats are as follows:

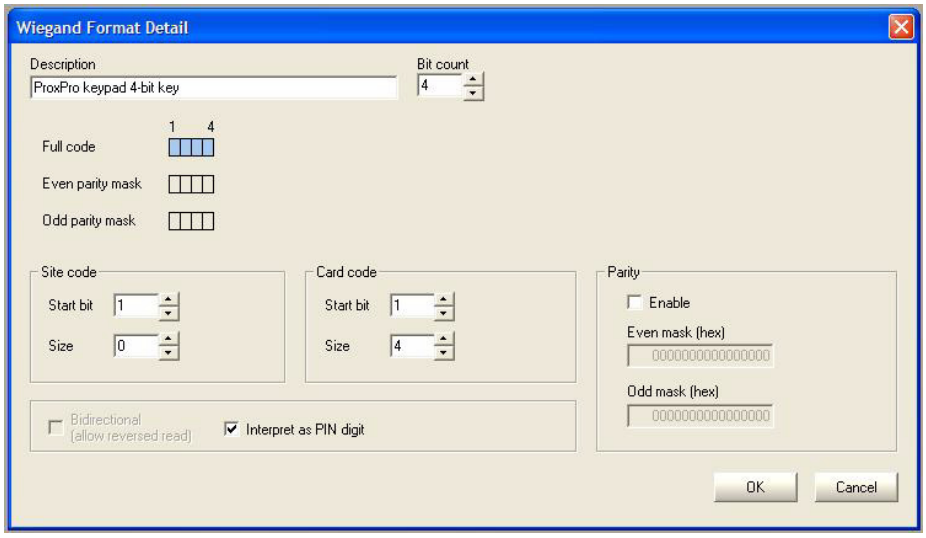
- Infinity 37
- Wiegand 34-bit
- Wiegand 26-bit
- ProxPro Keypad 4-bit Key
- 8-bit Burst Key
- 27-bit (indala)
- 29-bit (indala)
- 35-bit Corp 1k

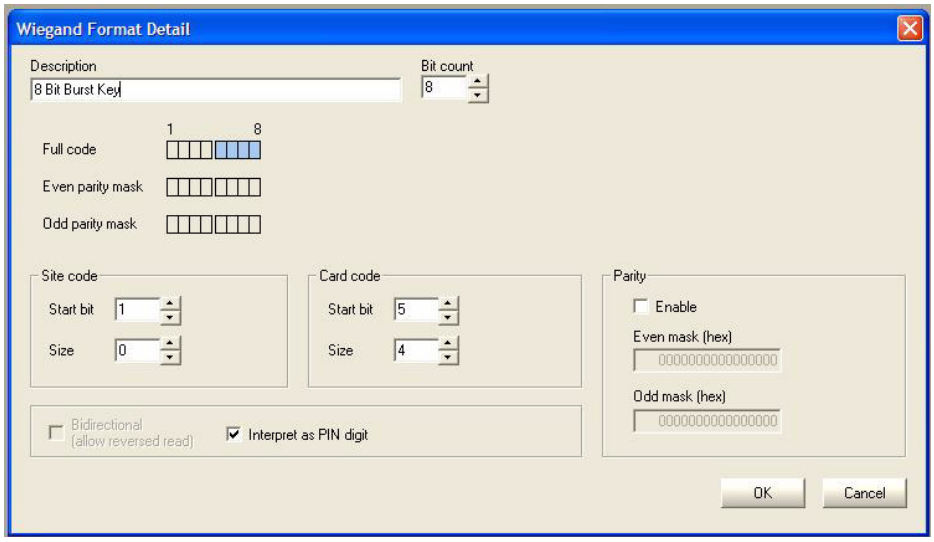
Important: Infinity 37 is a proprietary format that cannot be shown, edited, or deleted at this time.

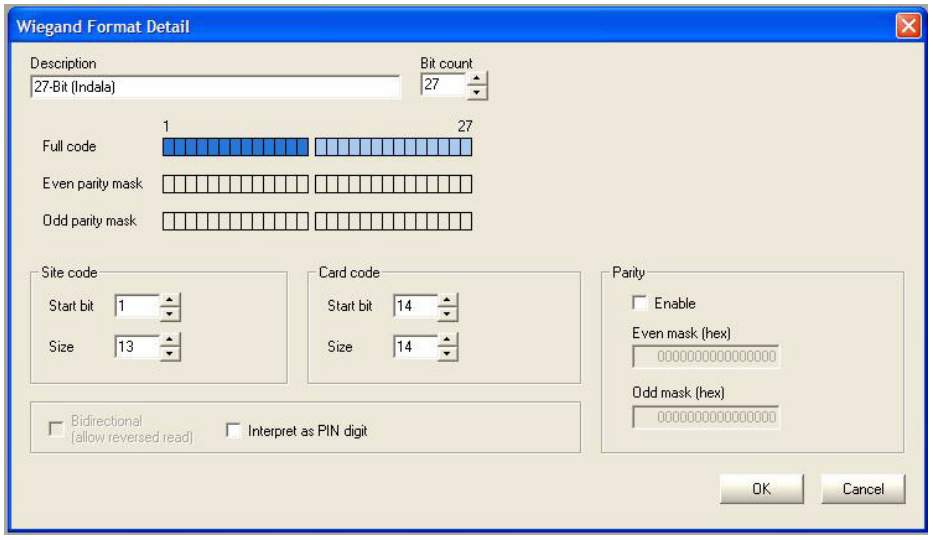
The above listed default formats within Supervisor Plus that can be edited (or deleted) are shown below. Unless specified otherwise, the formats shown below can be used with both IDC and eIDC controllers.

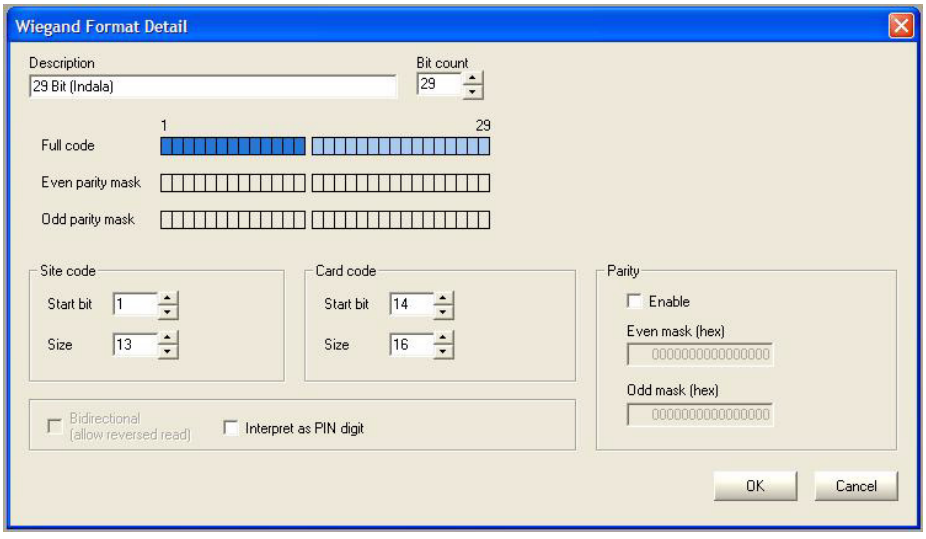

Wiegand Format Detail
Description
Wiegand 34-bit
Bit count
34
1
34
Full code
Even parity mask
Odd parity mask
Site code
Start bit
2
Size
16
Card code
Start bit
18
Size
16
Parity
Enable
Even mask (hex)
00000003FFFE0000
Odd mask (hex)
0000000000001FFFF
Bidirectional (allow reversed read)
Interpret as PIN digit
OK
Cancel


Wiegand Format Detail
Description
Wiegand 26-bit
Bit count
26
1
26
Full code
Even parity mask
Odd parity mask
Site code
Start bit
2
Size
8
Card code
Start bit
10
Size
16
Parity
Enable
Even mask (hex)
0000000003FFE000
Odd mask (hex)
0000000000001FFF
Bidirectional (allow reversed read)
Interpret as PIN digit
OK
Cancel

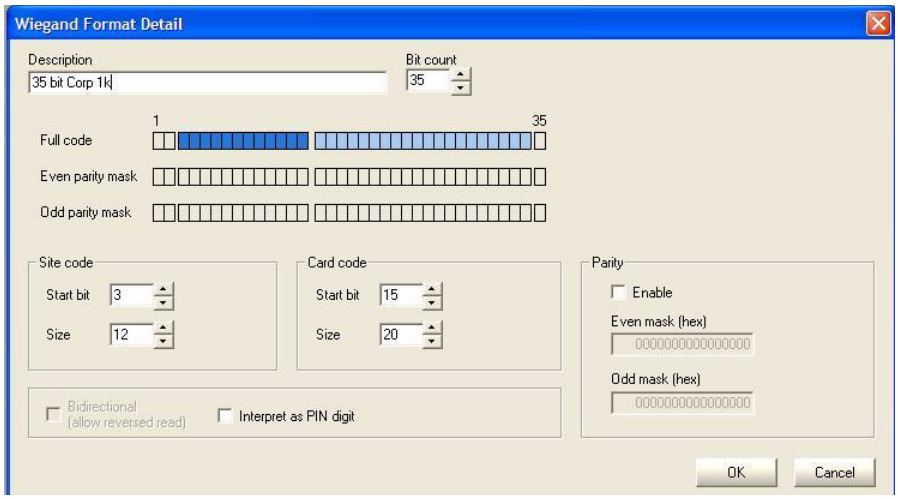

Wiegand Format Detail
Description
ProxPro keypad 4-bit key
Bit count
4
1
4
Full code
Even parity mask
Odd parity mask
Site code
Start bit
1
Size
0
Card code
Start bit
1
Size
4
Parity
Enable
Even mask (hex)
Odd mask (hex)
Bidirectional (allow reversed read)
Interpret as PIN digit
OK
Cancel


Wiegand Format Detail
Description
8 Bit Burst Key
Bit count
8
1
8
Full code
Even parity mask
Odd parity mask
Site code
Start bit
1
Size
0
Card code
Start bit
5
Size
4
Parity
Enable
Even mask (hex)
0000000000000000
Odd mask (hex)
0000000000000000
Bidirectional (allow reversed read)
Interpret as PIN digit
OK
Cancel


Wiegand Format Detail
Description
27-Bit (Indala)
Bit count
27
1
27
Full code
Even parity mask
Odd parity mask
Site code
Start bit
1
Size
13
Card code
Start bit
14
Size
14
Parity
Enable
Even mask (hex)
0000000000000000
Odd mask (hex)
0000000000000000
Bidirectional (allow reversed read)
Interpret as PIN digit
OK
Cancel

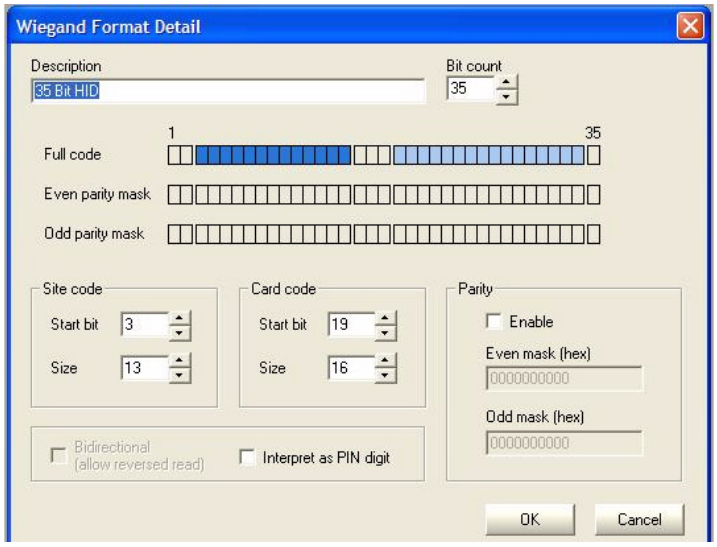

Wiegand Format Detail
Description
29 Bit (Indala)
Bit count
29
1
29
Full code
Even parity mask
Odd parity mask
Site code
Start bit
1
Size
13
Card code
Start bit
14
Size
16
Parity
Enable
Even mask (hex)
0000000000000000
Odd mask (hex)
0000000000000000
Bidirectional (allow reversed read)
Interpret as PIN digit
OK
Cancel

Standard 35-bit Corporate 1K (for eIDC Only)



The standard 35-bit Corporate 1k card format (shown above) that is listed as a default format within Supervisor Plus can be customized to work with an IDC controller. Customizing that will allow the format to work (with limitations) for both eIDC and IDC controllers within Supervisor Plus is as follows:

Non-standard 35-bit Corporate 1K (for IDC and possibly eIDC)



With the non-standard 35-bit Corporate 1K format for IDC and eIDC controllers, the card site code is limited to between 0 to 8191. The card number is limited to between 0 to 65535. This is fine for an IDC controller, since the IDC is limited to card numbers no greater than 65535. (Refer to Table D-1 above.) This format becomes a problem though for cards used on an eIDC or IDC controller with a card number greater than 65535. *Currently, cards in this format with a card number greater than 65535 are not read properly by the eIDC or IDC; that is, the card number printed on the card will not match what is read by either controller within Supervisor Plus.*

> **Important:** Consider using the non-standard 35-bit Corporate 1K format only with IDC controllers.

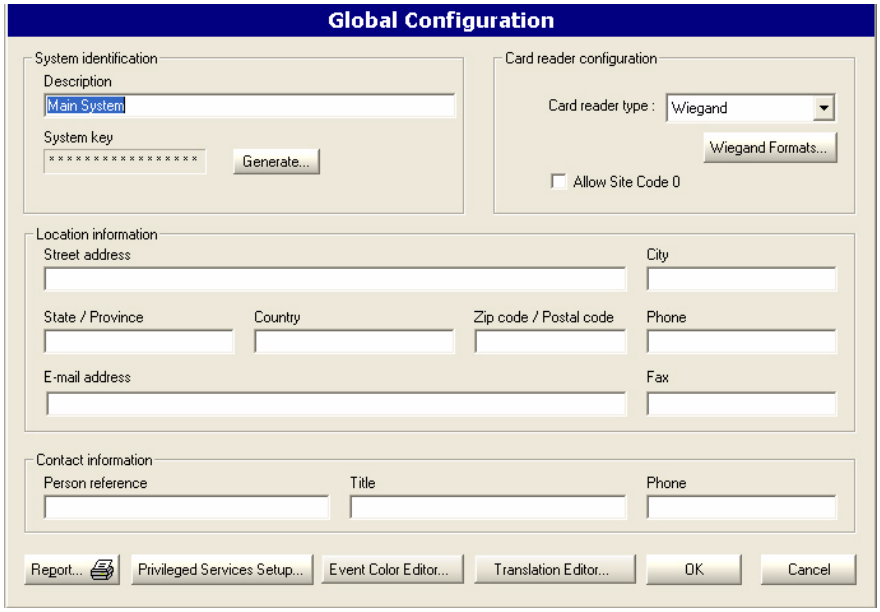
Instructions for creating custom Wiegand formats are provided in the section below.

Creating A Custom Wiegand Format

Perform the following steps to custom create an access card with Wiegand formatting:

1. Select “Global Configuration” from the Intelli-M Supervisor Plus “System Management” screen.

2. Select Wiegand as the “Card Reader Type,” and then click the “Wiegand Formats...” button.

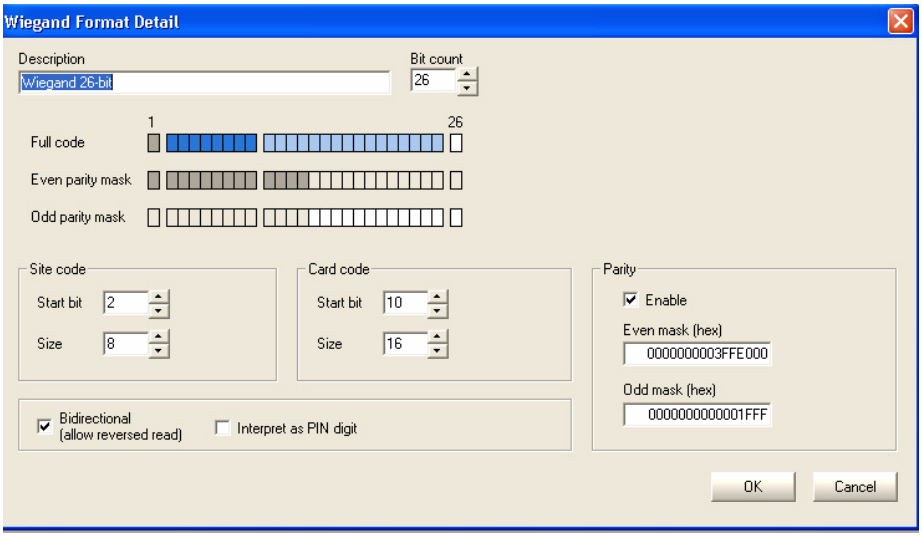


-- The Wiegand formats that are available within Supervisor Plus will be displayed.

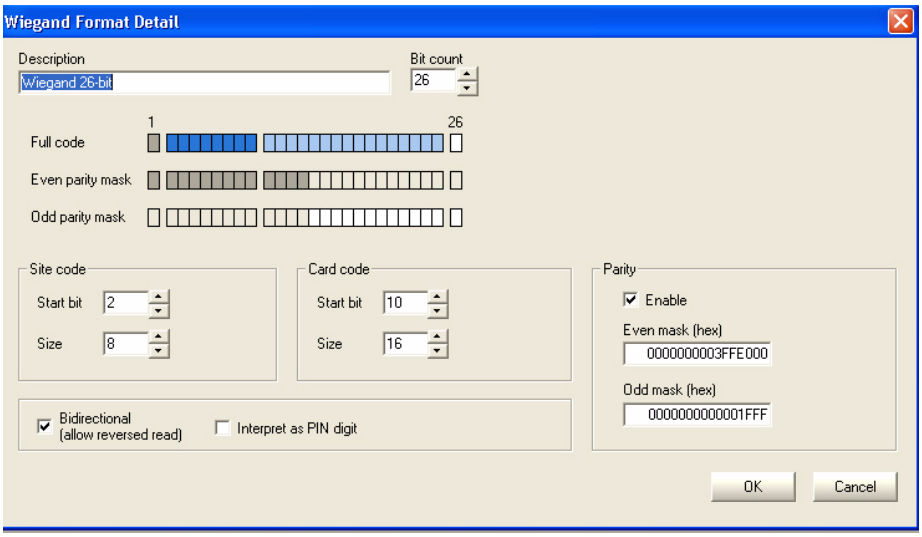
3. Select a format to be customized that is closest to the format you desire, and then click on the "Modify..." button.

   Note: Infinity 37 is a proprietary format that cannot be shown, edited, or deleted at this time.

4. Enter a description name for the new format and select the "Bit Count" (bit size). The bits are in numerical order from left to right, always starting with "1" as shown by the "Full Code" section.



-- The "Site Code" is represented as dark blue boxes. The "Start bit" is the bit number that from which the site code will start. "Size" within the "Site Code" area is the total number of bits designated to the site code.



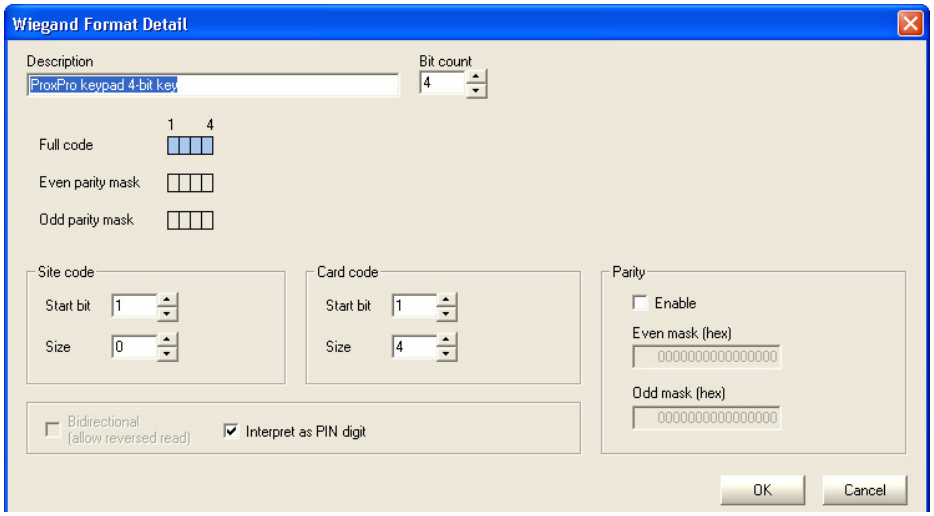
-- The “Card Code” is represented as light blue boxes. “Start Bit” within the “Card Code” area must be assigned. The total number of bits allotted to “Size” for “Card Code” must also be assigned.

-- If “Parity” masking is to be utilized, then some conversion is required from binary to hexadecimal. The default 26-bit “Even mask (hex)” is 3FFE000 which when converted to binary is thirteen ones followed by thirteen zeros. The “Odd Mask (hex)” is thirteen ones.

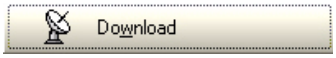
Note: Parity masking is an option. When trying to conform to a particular manufacturer’s standard, that manufacturer may need to be consulted for accurate formatting information.

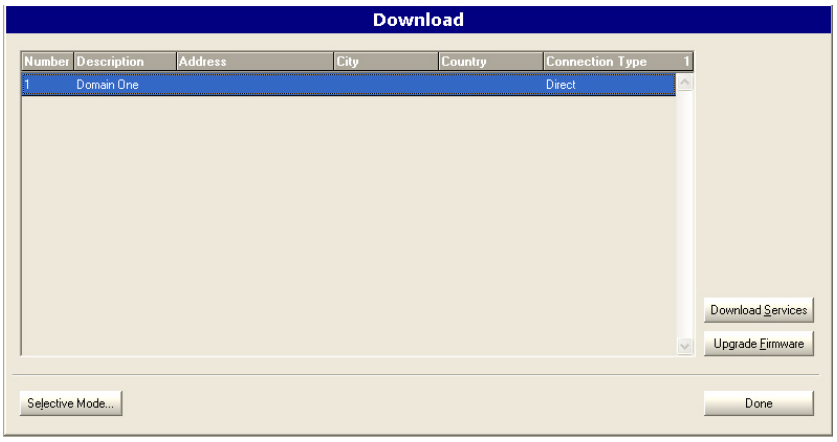
-- The “Bidirectional” option is available for certain types of supported readers. The “Wiegand Swipe” and “Wiegand Insertion” are two styles of readers that would use this feature.

-- “Interpret as PIN digit” is required for keypad formats associated as Pin digits. The HID Prox Pro K combination Prox / Keypad reader is an example of a keypad format that is associated as Pin digits.



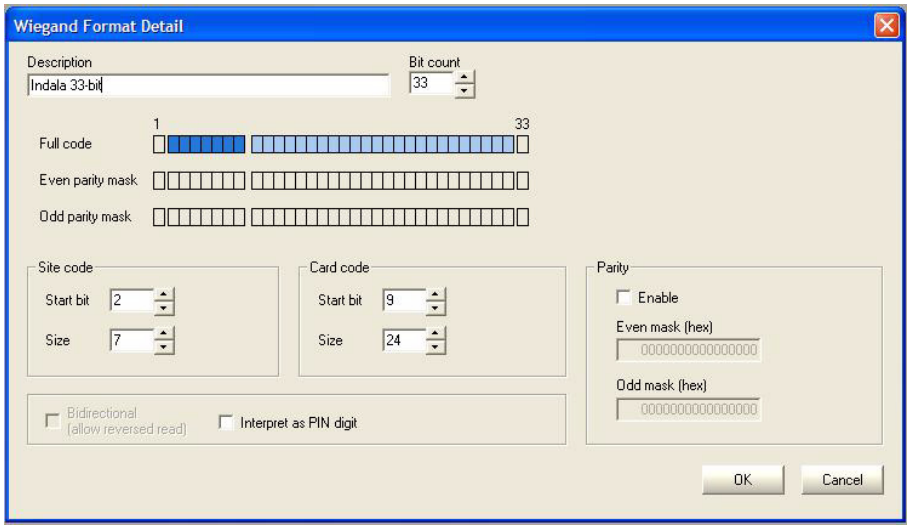
5. Set up the “Wiegand Format Detail” screen to fit your need. When finished Click “OK” to save the format.
6. Click “Done” to leave the Wiegand Formats menu.
7. Click “Done” in the Global Configuration menu, then from the Intelli-M Supervisor Plus “System Management” screen.perform a “Service Download” to the Controllers.





8. Present a finished card to a reader to make sure that it works. This will verify the format on the card.

Custom Wiegand Cards For Intelli-M

Shown below is an example of a custom Wiegand card format created for Intelli-M.

Indala 33-bit (DSX) Format