Card Format Manual

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The DNA Fusion™ Access Control Software and SSP™ Security System Processor shall be installed in accordance with this installation manual and in accordance with the National Electric Code (N.E.C), ANSI and NFPA 70 Regulations and recommendations.

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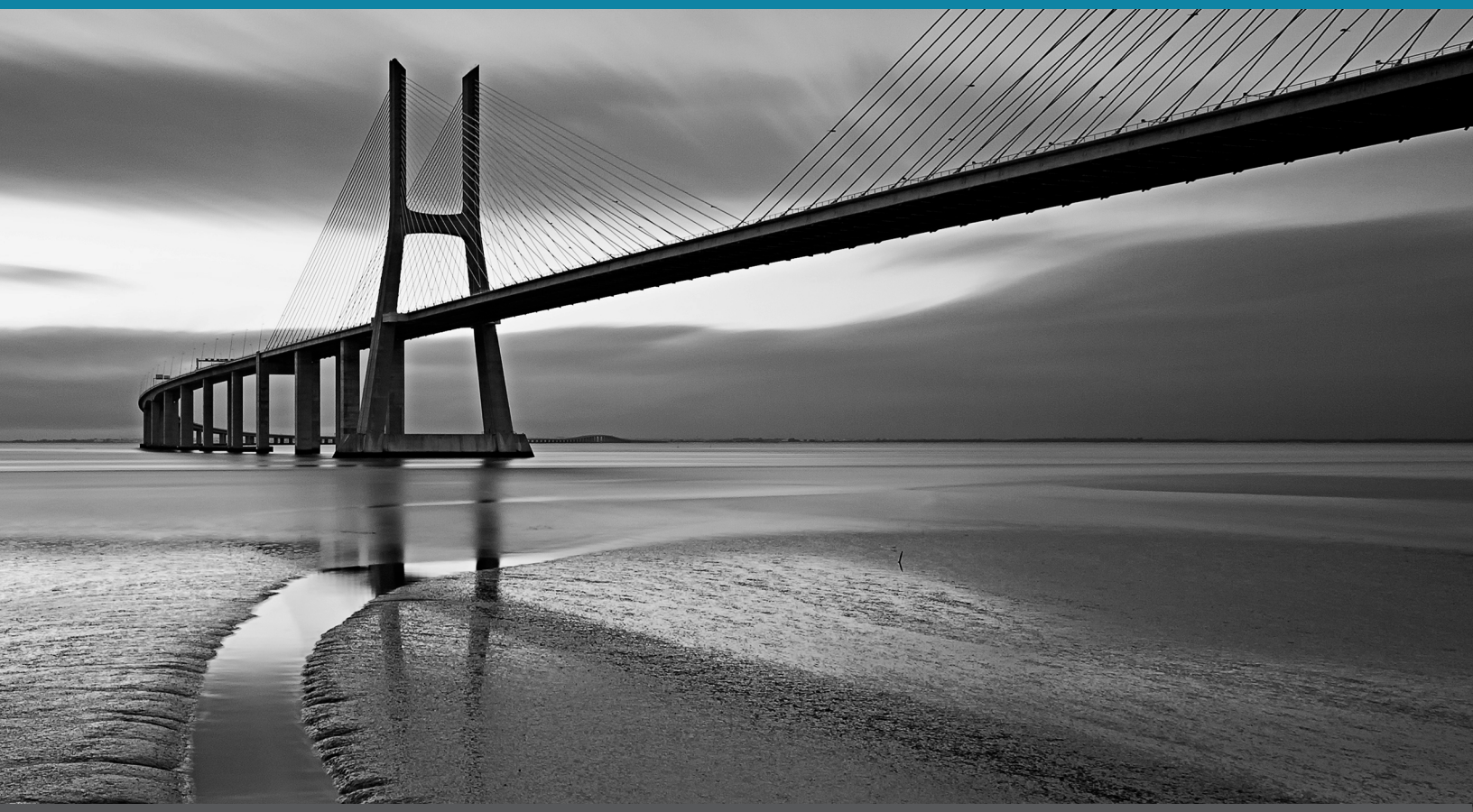
Introduction



In This Section:

- Manual Overview

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This Manual Contains...

The Card Format Manual contains information explaining the differences between card formats supported by DNA Fusion along with format examples. This manual shows the appropriate steps required to edit or create various card formats. It also contains information on locating the Card Formats Dialog as well as creating card formats for any reader supported credential.

This manual includes a catalog of specific card formats with their appropriate bit structures and additional information about card formatting modes such as Corporate Mode or Multiple Facility Code in DNA Fusion.

How This Manual is Organized

Section 1, "Introduction," gives an overview of the Card Format Manual.

Section 2, "Card Formats Types," provides information about wiegand/proximity and magnetic stripe card formats.

Section 3, "Configuring Card Formats," explains where to locate the Card Formats Dialog along with information on how to create, edit, or copy a card format.

Section 4, "Card Format Catalog," catalogs different card format bit structures.

Section 5, "Additional Formatting," describes the steps required to configure Corporate Mode or Multiple Facility Card Format for new cards.

Icons and Conventions Used in This Manual

This manual uses the following icons to help you find useful or important information easily:

Note: *This box contains useful information that might be worth reading.*

Caution: *This box contains cautionary information that might alleviate headaches in the future.*

In addition to the icons above, this guide uses several typeface conventions to improve readability:

- Special: Indicates a specific item on the hardware device or in the software application.
- **Boldface**: Identifies an instruction or user action; bold text usually appears in numbered steps.

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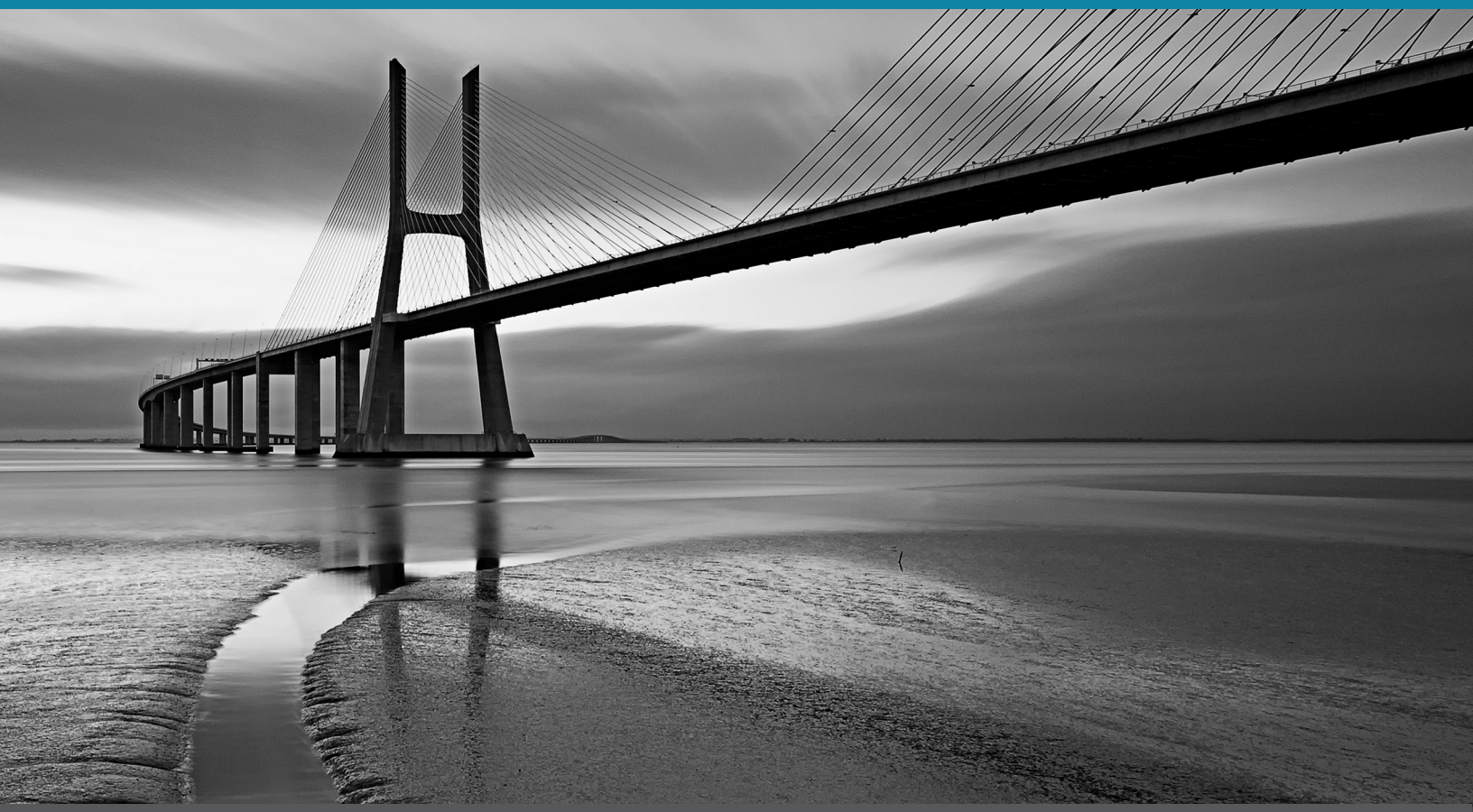
Card Format Types



In This Section:

- Wiegand Formats
- Magstripe Formants

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Card Formats

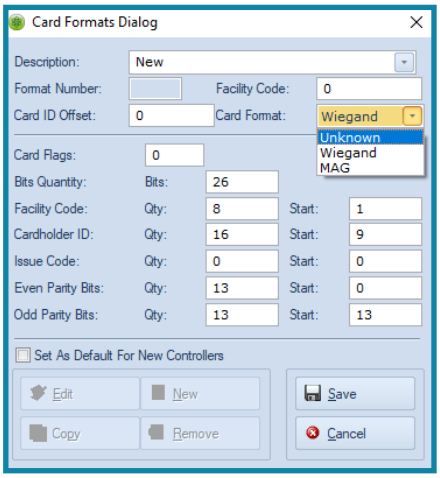
DNA Fusion allows the use of various pre-configured card formats. The Card Formats Dialog, shown at the bottom of this page, shows four options:

- Unknown
- Wiegand/Proximity
- MAG (Magnetic Stripe)

Users also have the option of selecting a third card format option for an Unknown format that is not listed in the Card Format drop-down menu.

Wiegand Card Format

The Wiegand format is a specific reader to card interface. A specifically developed wire within a plastic card transfers electronic signals to readers. The original wiegand format had one parity bit, 8 bits of Facility Code, 16 bits of Cardholder ID code, and a trailing parity bit for a total of 26 bits. The number of bits does not designate format except for the standard 26 bit. Within the given length (34 bit, 37 bit, etc), the size and location of each data element may change.

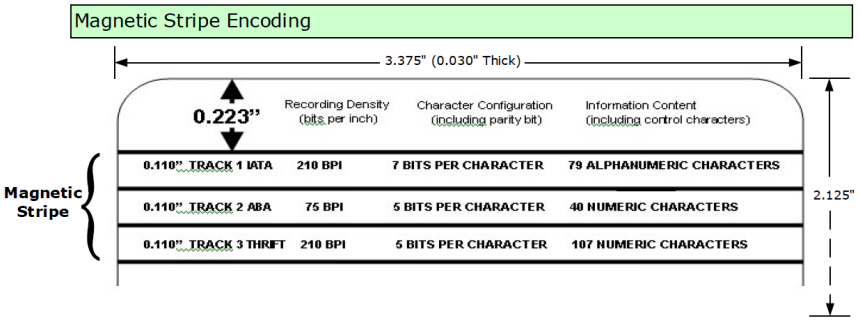


Note: *The Wiegand format is commonly used to preprogram proximity cards. OSDP (Open Supervised Device Protocol) is different from wiegand. OSDP uses AES-185 encryption to protect readers from hacking and are becoming an industry standard. DNA Fusion supports OSDP reader communication.*

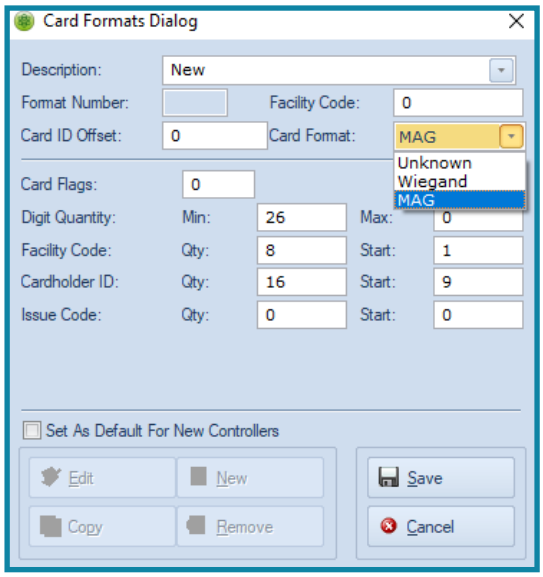
Magnetic Stripe (MAG)

A magnetic stripe card, sometimes referred to as a magstripe card, is capable of storing data by altering tiny, iron-based, magnetic particles on a band of magnetic material on the card. Magnetic stripe cards work by swiping the card past a magnetic card reader. The magnetic stripe is commonly used in credit cards and identification cards.

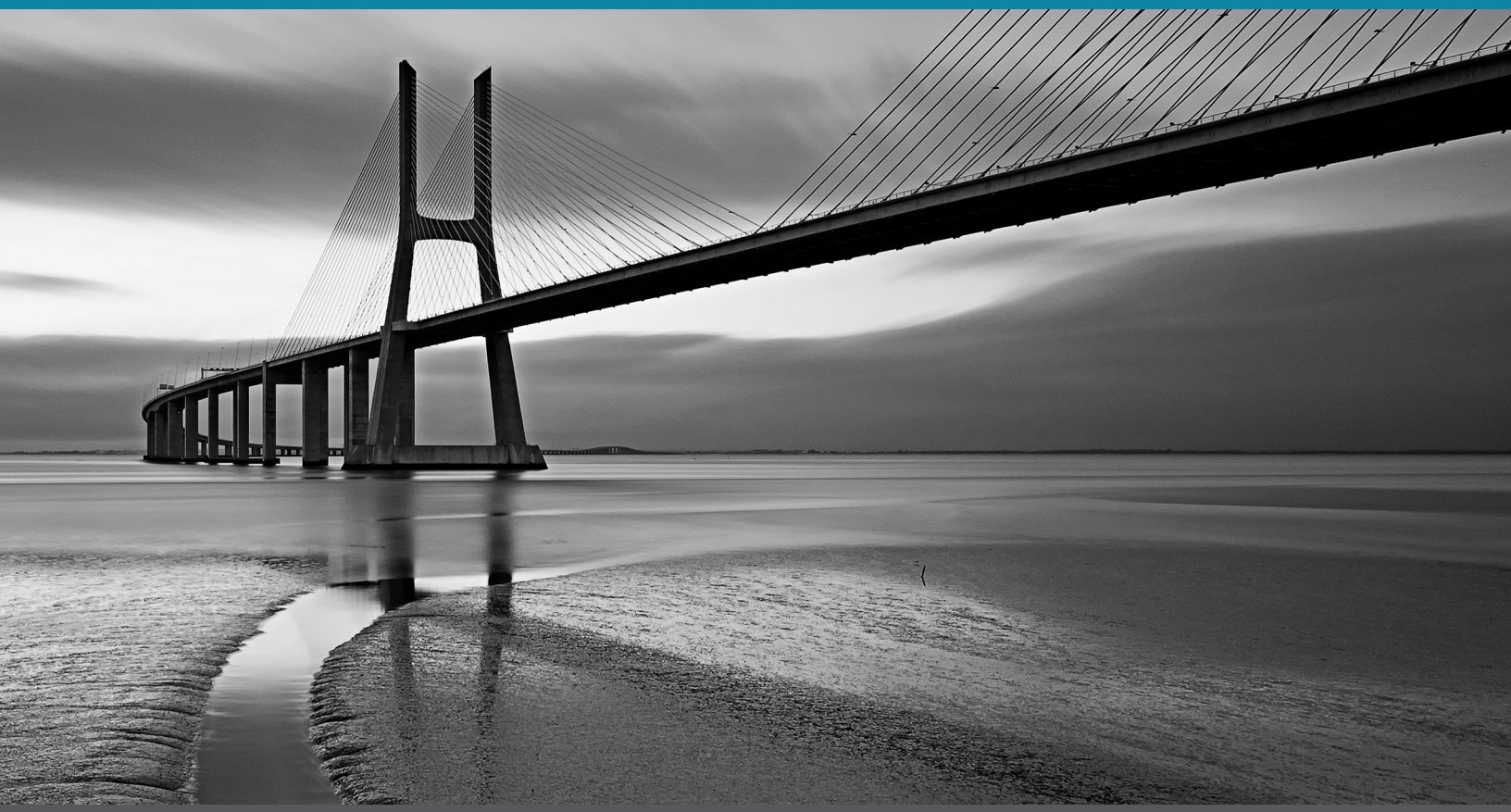
Magstripe cards are encoded with a card number as opposed to being preprogrammed such as a proximity card.



A magnetic stripe (MAG) card format type is displayed in digits, as opposed to bits for wiegand card format types in the Card Formats Dialog.



Configuring Card Formats



In This Section:

- Preset Card Formats
- How to Create, Edit, or Copy a Card Format
- Gathering Card Information
- Assigning Card Formats to the SSP

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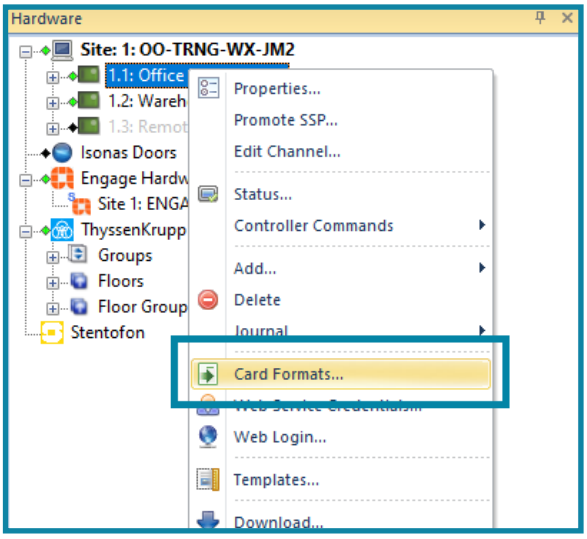
Card Formats Dialog

This section explains the process of locating the Card Formats Dialog along with how to properly use its functions to Create, Edit, Copy, or Remove card formats. In addition to using the Card Formats Dialog, this chapter also covers how to gather card information and use that information to successfully add a card format to DNA Fusion.

Locating the Card Formats Dialog

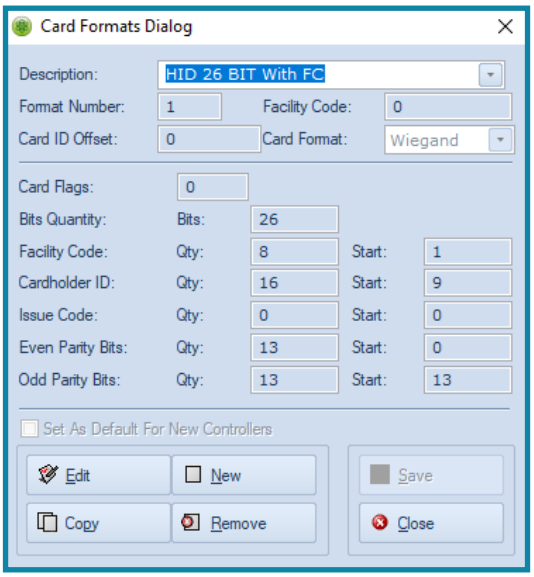
The Card Formats Dialog defines a format for the controller to take the raw data and format it into fields for access request processing. Multiple formats allow badges with different facility codes and/or data lengths to be used.

1. **Right-click** in the Hardware Browser or **click** on Hardware in the Main Menu**.**



2. **Select** Card Formats.

   The Card Format Dialog opens.



Note: *Removing a card format will cause the loss of all card formatting information. Subsequently, anycard using the removed format will no longer function.*

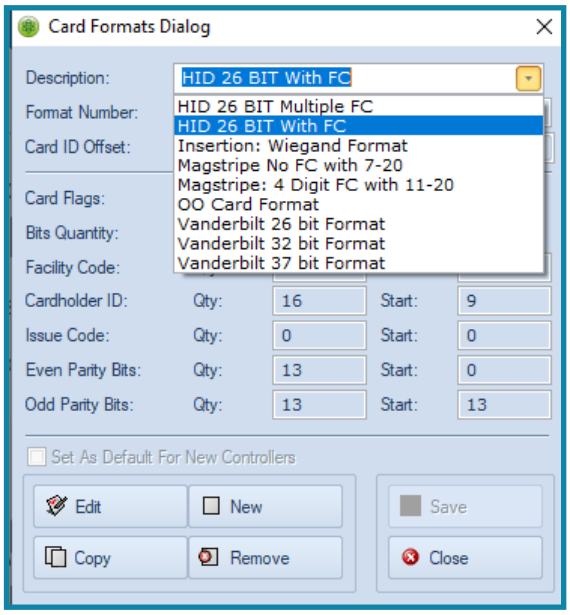
The user can Edit, Copy, create (New), or Remove card formats in the Card Format Dialog.

Preset Card Formats

As of version 7.0, DNA Fusion has 9 preset card formats located in the Card Format Dialog. The following presetted card formats are listed below:

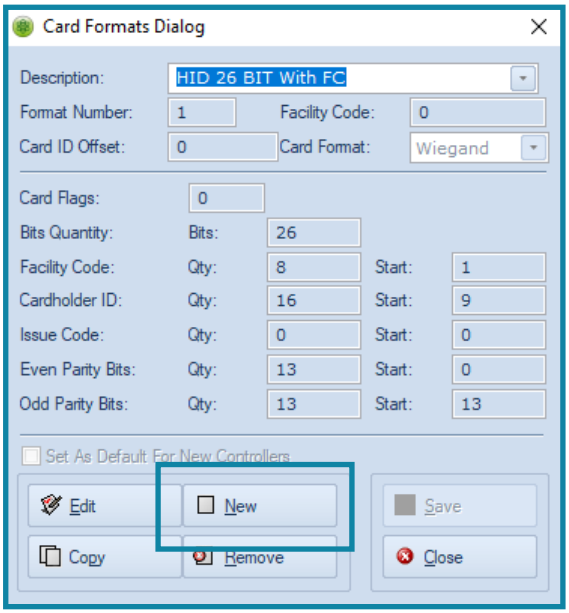
- HID 26 BIT Multiple FC
- HID 26 BIT with FC
- Insertion: Wiegand Format
- Magstripe: No FC with 7-20
- Magstripe: 4 Digit FC with 11-20
- OO Card Format
- Vanderbilt 26 bit Format
- Vanderbilt 32 bit Format
- Vanderbilt 37 bit Format

The bit structures for each preset card format are shown in Card Format Catalog on page 4-1.

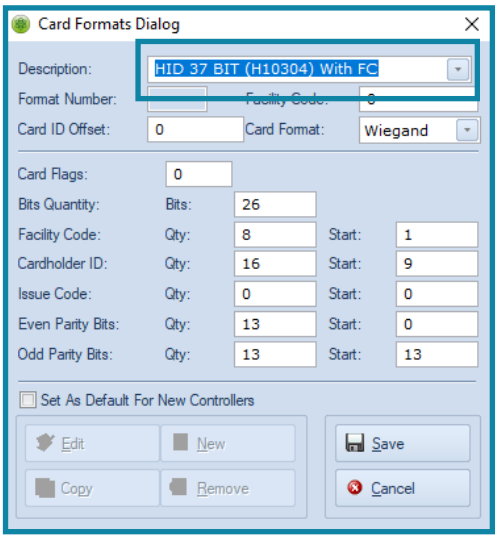


Creating a New Card Format

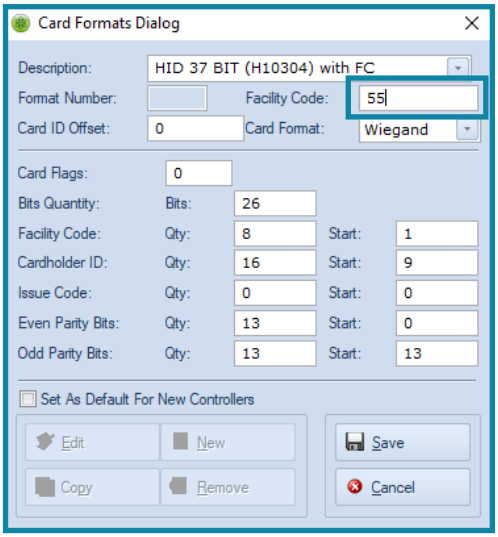
1. From the Card Format Dialog, **select** the New button.



2. **Enter** a Description for the new card format.

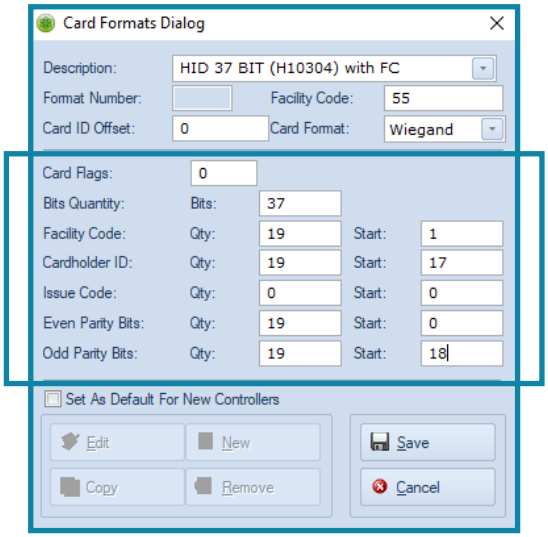


3. **Enter** the Facility Code.



4. **Enter** the appropriate number in the correct card format fields.

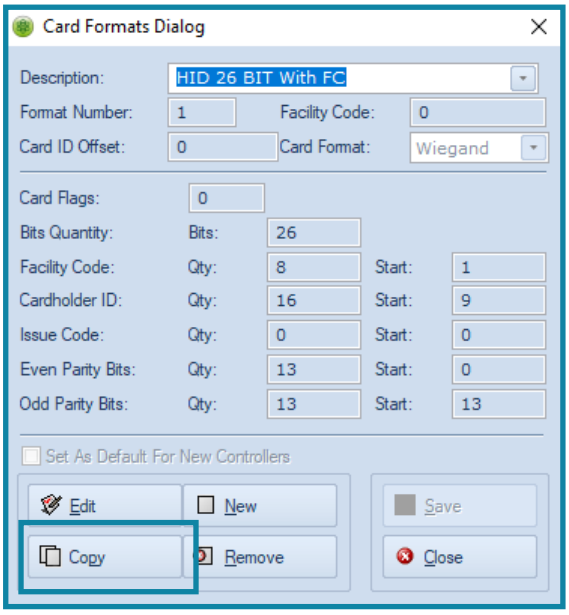
- Bit Quantity - total number of bits.
- Facility Code - Quantity and Starting Bit.
- Cardholder ID - Quantity and Starting Bit.
- Issue Code (if needed, magstripe only) - Quantity and Starting Bit.
- Even Parity Bits - Quantity and Starting Bit.
- Odd Parity Bits - Quantity and Starting Bit.



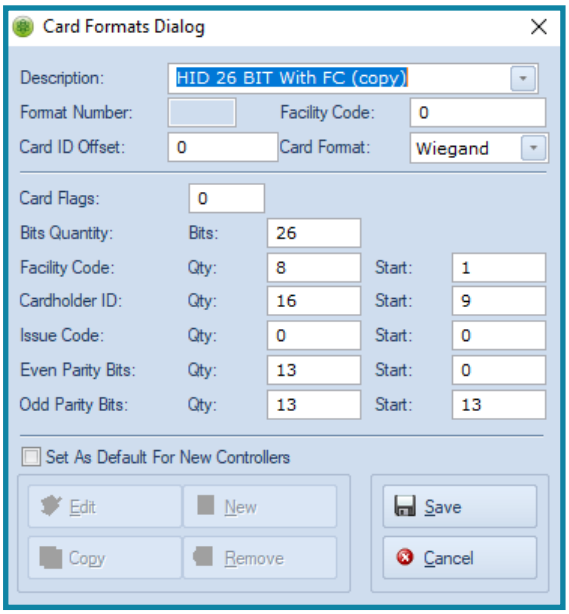
5. **Click** the Save button to save the configuration.
   The new format is added to the Description drop-down.
6. **Assign** the card format to the controller.
   See page 3-11 for information on assigning a card format to a controller.

Copying a Card Format

1. **Right-click** on the Controller in the Hardware Browser and **select** Card Formats from the context menu.
   The Card Formats Dialog box opens.



2. **Select** the card format from the Description drop-down and **click** the Copy button.
   The Copy button allows the selected card format to be copied.

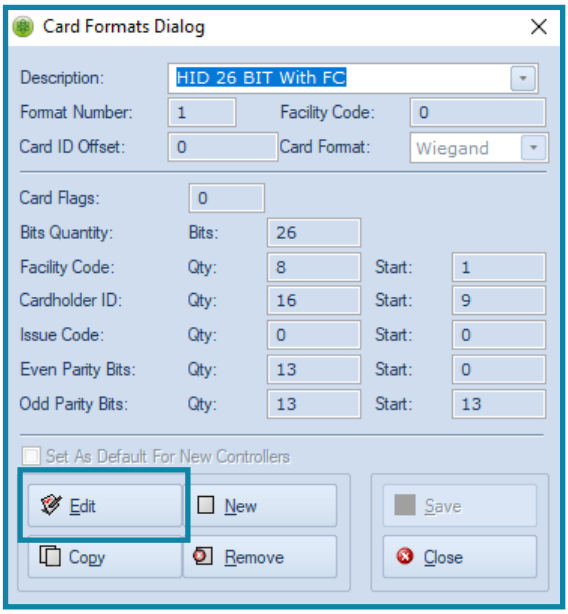


3. **Change** the name in the Description field.
4. If needed, **enter** or **change** the Facility Code.
5. If needed, **change** any desired bit structure values.
6. **Click** the Save button to save the configuration.
   The new format is added to the Description drop-down.

Editing a Card Format

1. **Right-click** on the Controller in the Hardware Browser and **select** Card Formats from the context menu.

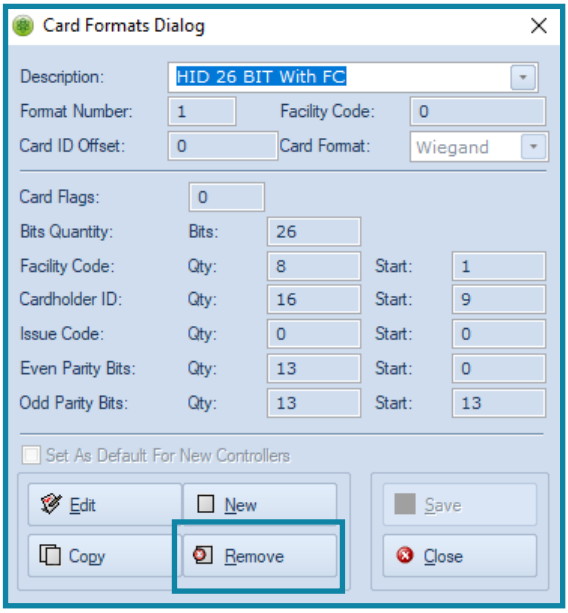
   The Card Format Dialog opens.



2. **Click** the Edit button.
3. **Edit** the desired values in the card format fields.
4. **Click** the Save button to save the changes.

Removing a Card Format

1. **Select** the desired card format from the Description drop-down menu.
2. **Click** on the Remove button.



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Gathering Card Format Information

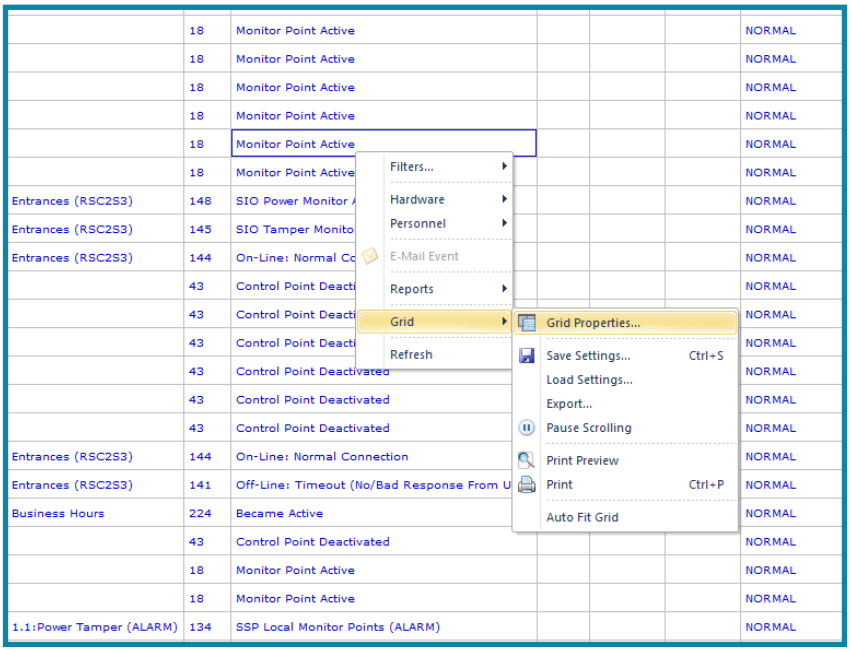
DNA allows the operator to easily identify the bit format and the facility code for an access credential.

Event Data

For new DNA Fusion installs the Event Data column may not be set in the Events Manager.

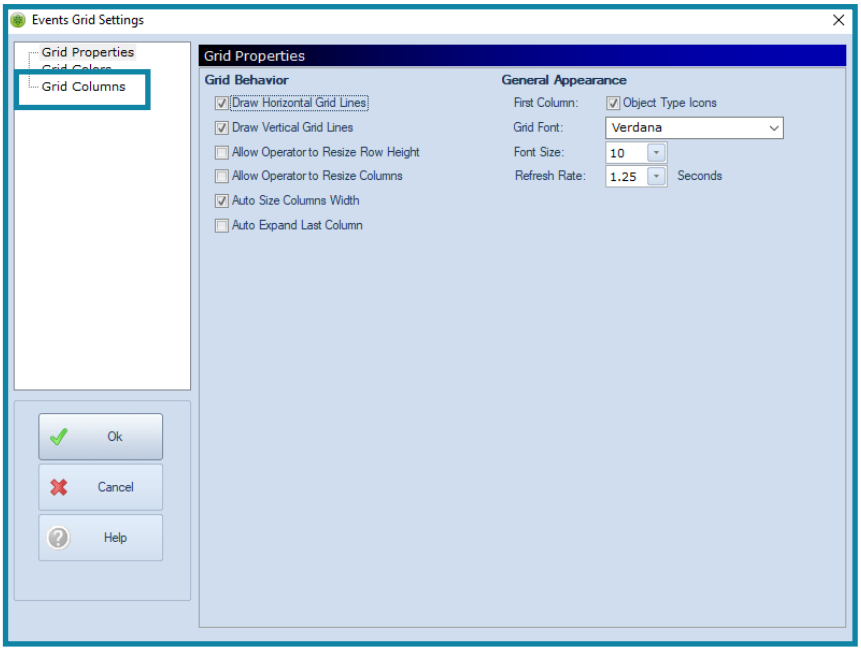
To add the Event Data column to the Events Manager:

1. **Right-click** in the Events Manager.
2. **Select** Grid > Grid Properties.

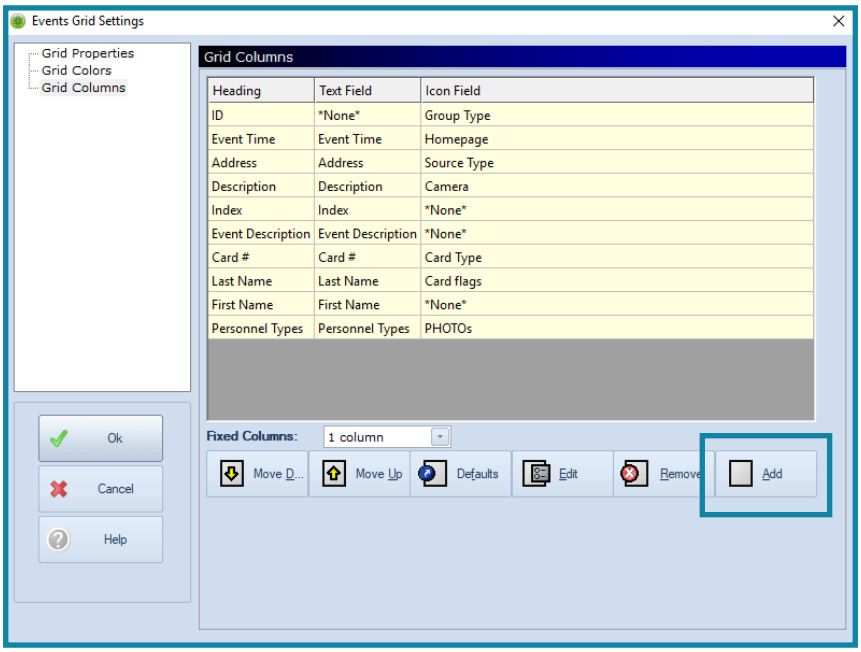


The Events Grid Settings opens.

3. **Select** Grid Columns.

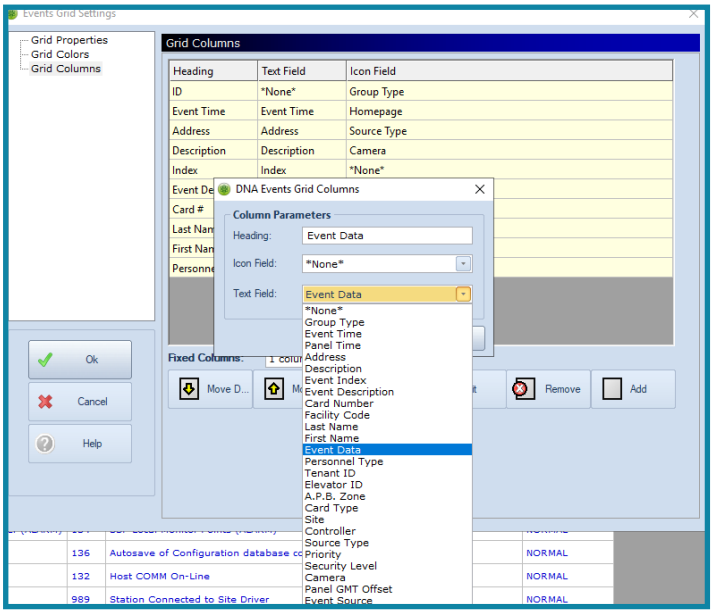


4. **Select** Add.

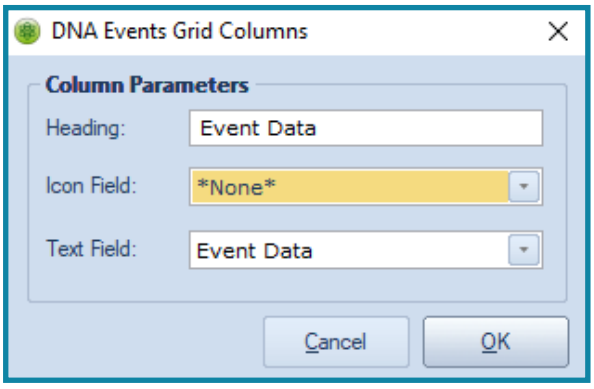


5. **Add** a Heading.

6. **Select** the Text Field drop-down menu and **select** Event Data.



7. **Click** Ok.

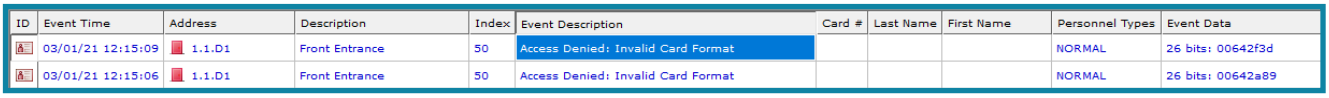


Card Bit and Facility Code Information

Card bit information and facility codes can be seen on the Event Data column.

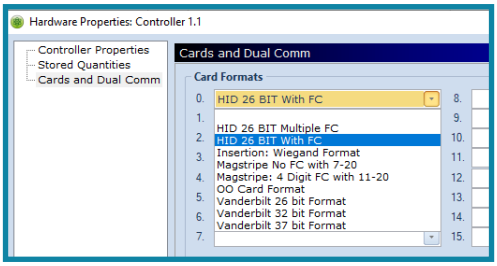
To see card bit information and facility code:

1. **Present** the card to the reader.
2. **Open** the Events Manager.
3. **Locate** the Access Denied: Invalid Card event to determine the bit format.

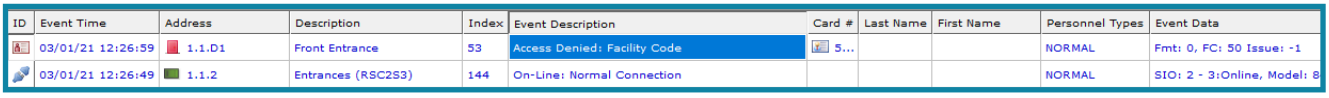


ID	Event Time	Address	Description	Index	Event Description	Card #	Last Name	First Name	Personnel Types	Event Data
	03/01/21 12:15:09	1.1.D1	Front Entrance	50	Access Denied: Invalid Card Format				NORMAL	26 bits: 00642f3d
	03/01/21 12:15:06	1.1.D1	Front Entrance	50	Access Denied: Invalid Card Format				NORMAL	26 bits: 00642a89

4. Determine if there is a generic card format or **create** a new format with the card bit structure. See Chapter 4 for bit structure examples.
5. **Assign** the generic card format that contains the same bit structure as the card to the SSP. See Assigning a Card Format to the SSP below.
   In the example, the HID 26 BIT With FC would be selected or created.



6. **Present** the same card to the reader a second time.
7. **Check** the Event Data for the Access Denied: Facility Code event to determine the Facility Code (FC).



ID	Event Time	Address	Description	Index	Event Description	Card #	Last Name	First Name	Personnel Types	Event Data
	03/01/21 12:26:59	1.1.D1	Front Entrance	53	Access Denied: Facility Code	5...			NORMAL	Fmt: 0, FC: 50 Issue: -1
	03/01/21 12:26:49	1.1.2	Entrances (RSC2S3)	144	On-Line: Normal Connection				NORMAL	SIO: 2 - 3:Online, Model: 8

8. **Create** the card format by following the instructions on page 3-4 for Copying a Card Format.
9. **Assign** the newly created card format to the SSP. See Assigning a Card Format to the SSP below.
10. **Overwrite** or **delete** the generic card format added in step 3.
11. **Download** the changes to the SSP.

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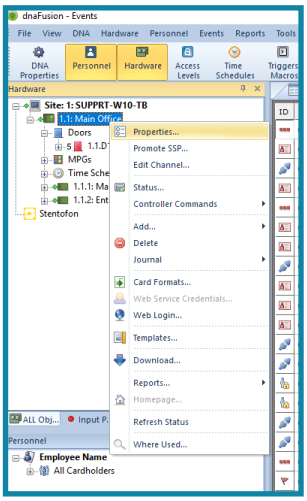
Assigning a Card Format to the SSP

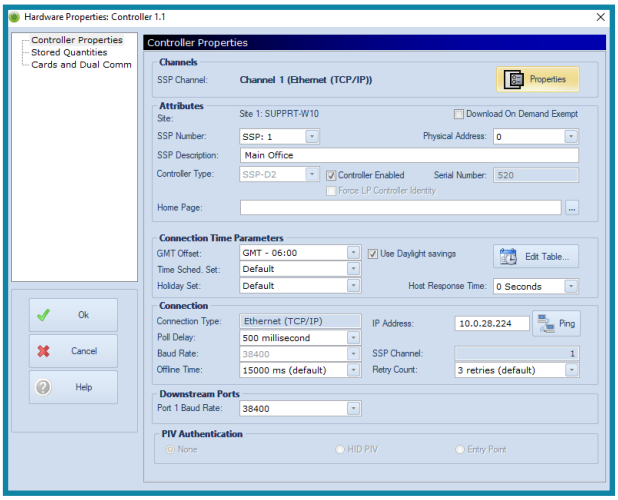
Up to sixteen card formats (0-15) may be active simultaneously for each controller. Multiple card formats allow different facility codes or bit structures to be used. This is frequently seen in large corporate systems.

1. From the Hardware Browser, **right-click** on the SSP.

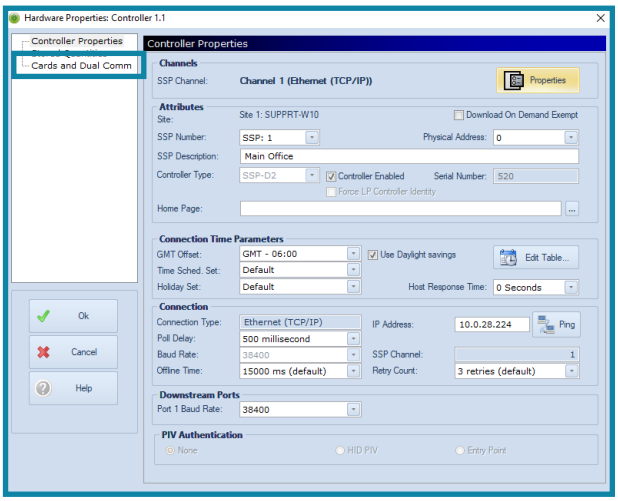


2. **Select** Properties from the context menu.

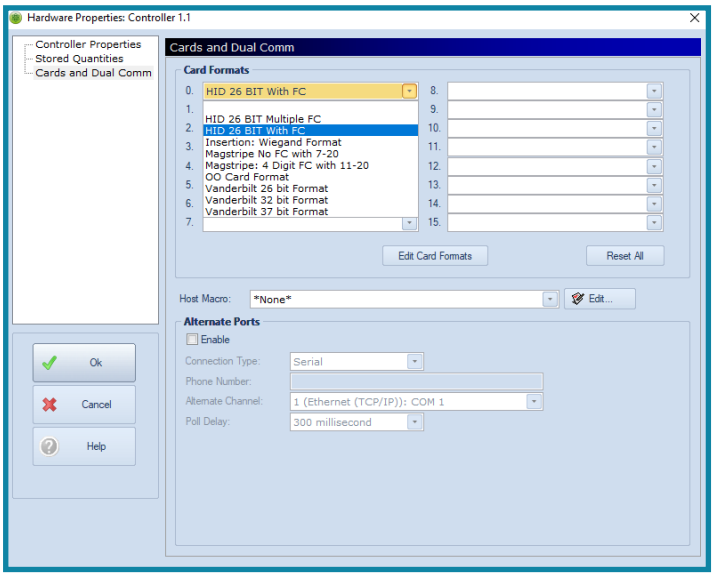
   The Controller Properties dialog opens.



3. **Select** the Cards and Dual Comm tab from the dialog menu.

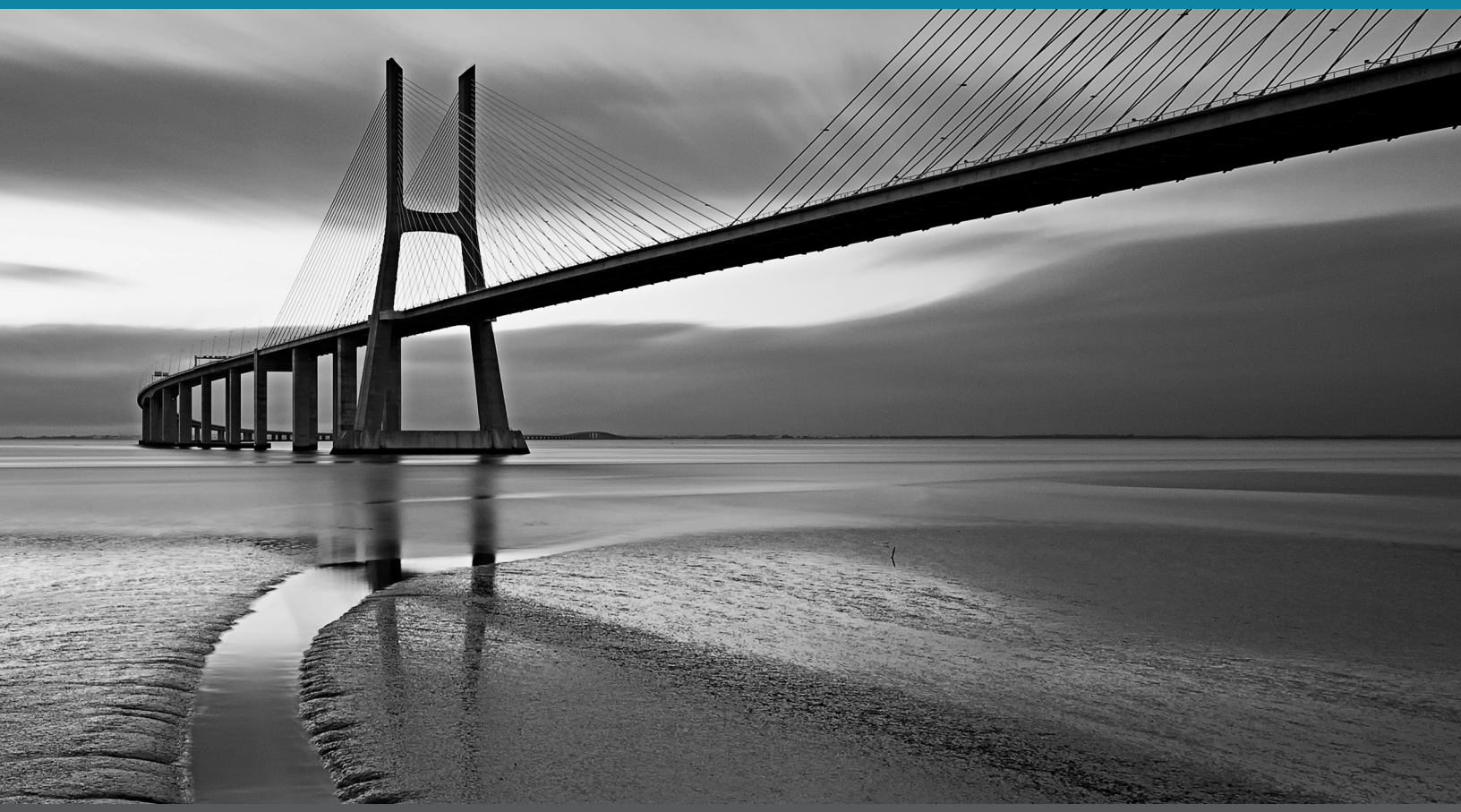


4. **Select** the desired formats (0-15) from the Card Formats drop-down fields.



5. **Click** OK to save the formats to the controller.
6. **Click** Yes to download.

Card Format Catalog



In This Section:

- Wiegand Card Type
- Magnetic Stripe Card Type

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Card Format Catalog

This chapter contains a catalog of card bit configurations that are commonly used in DNA Fusion. Each format contains the bit structure of the card as well as an image of an example.

Wiegand Type Card Formats

The list below contains both the preset DNA Fusion card configurations and other commonly used configurations under the Wiegand format:

- HID 26 Bit Multiple FC (Facility Code)*
- HID 26 Bit with FC*
- 32 Bit Format without FC
- Motorola 32 Bit Format with FC (ignore parity)
- HID 35 Bit Format with FC
- HID 36 Bit Format with FC
- HID 37 Bit (H10302) without FC
- HID 37 Bit (H10304) with FC
- Motorola 37 Bit Format with FC (Indala)
- HID 48 Bit Corporate 1000
- OO Card Format*
- Vanderbilt 26 Bit Format*
- Vanderbilt 32 Bit Format*
- Vanderbilt 37 Bit Format*
- HID 34 Bit (N1002) Format
- HID 37 Bit (S10401) Format
- Act ID Card Format
- PopID Card Format
- ASSA MiFare 56 Bit Format

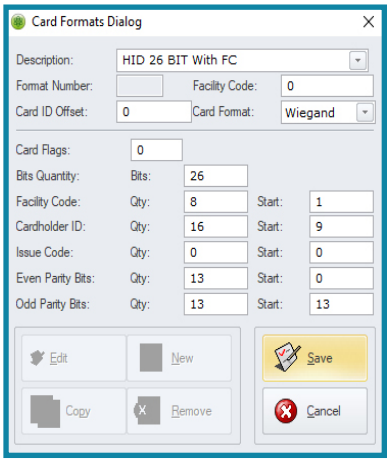
*- Card formats that are preset in DNA Fusion

Information about other card formats that are supported in DNA Fusion is included in the following pages. Each card format features an image of the Card Formats Dialog along with the bit structure.

HID 26 Bit with FC

This format consists of 2 parity bits, an 8-bit Facility Code, 16-bit Cardholder ID, 13 Even and Odd Parity bits.

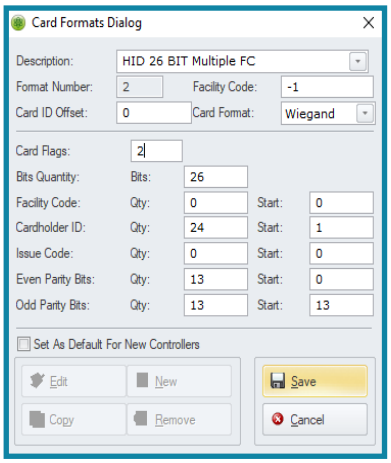
Bits Quantity	**Bits:** 26	
Card Format Field	**Quantity**	**Starting Bit**
Facility Code	8	1
Cardholder ID	16	9
Issue Code	0	0
Even Parity Bits	13	0
Odd Parity Bits	13	13



HID 26 Bit with Multiple FC

This format consists of a 24-bit Cardholder ID and 13-bit Even and Odd Parity fields.

Bits Quantity	Bits: 26	
Card Format Field	**Quantity**	**Starting Bit**
Facility Code	0	0
Cardholder ID	24	1
Issue Code	0	0
Even Parity Bits	13	0
Odd Parity Bits	13	13

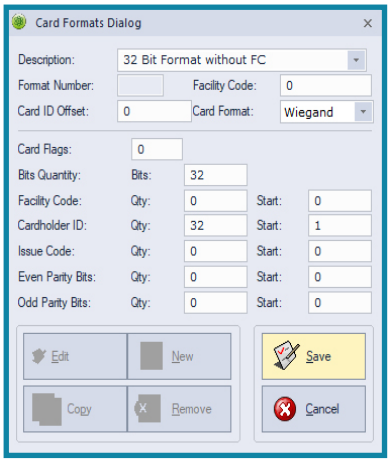


Note: *Add a 2 in the Card Flags so that the format ignores facility code checking.*

32 Bit Format Without FC

This format consists of a 32-bit Cardholder ID, 0 Facility Code bits, and no parity check.

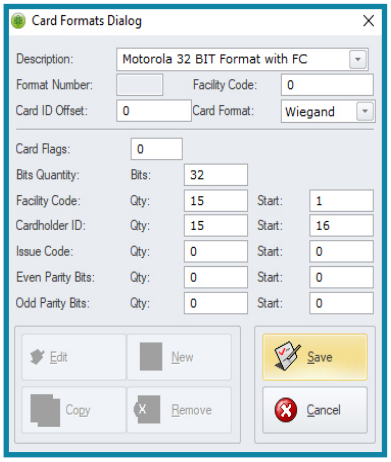
Bits Quantity	Bits: 32	
Card Format Field	**Quantity**	**Starting Bit**
Facility Code	0	0
Cardholder ID	32	1
Issue Code	0	0
Even Parity Bits	0	0
Odd Parity Bits	0	0



Motorola 32 Bit Format with FC

This format ignores parity bits and consists of a 15-bit Facility Code and a 15-bit Cardholder ID.

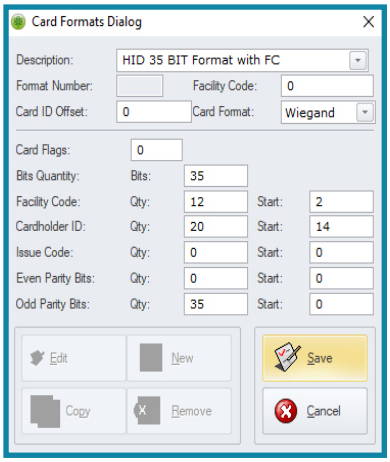
Bits Quantity	Bits: 32	
Card Format Field	**Quantity**	**Starting Bit**
Facility Code	15	1
Cardholder ID	15	16
Issue Code	0	0
Even Parity Bits	0	0
Odd Parity Bits	0	0



HID 35 Bit Format with FC

The HID 35 Bit Format with facility code is proprietary. The format consists of 3 parity bits, 12-bit facility code, 20-bit Cardholder ID , and a 35-bit Odd Parity.

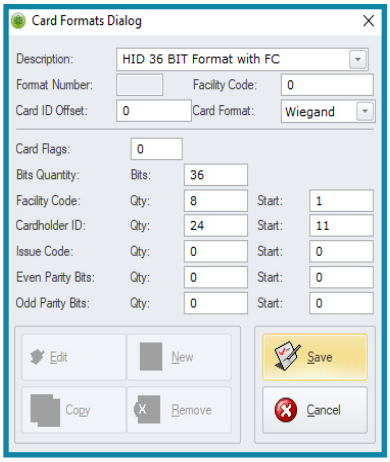
Bits Quantity	**Bits:** 35	
Card Format Field	**Quantity**	**Starting Bit**
Facility Code	12	2
Cardholder ID	20	14
Issue Code	0	0
Even Parity Bits	0	0
Odd Parity Bits	35	0



HID 36 Bit Format with FC

The HID 36 Bit Format with facility code has 3 parity bits and consists of an 8-bit Facility Code and a 24-bit Cardholder ID.

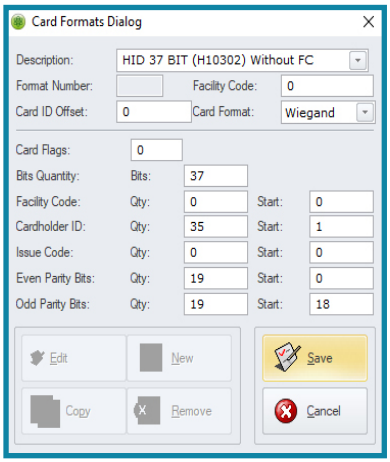
Bits Quantity	**Bits:** 36	
Card Format Field	**Quantity**	**Starting Bit**
Facility Code	8	1
Cardholder ID	24	11
Issue Code	0	0
Even Parity Bits	0	0
Odd Parity Bits	0	0



HID 37 Bit (H10302) without FC (1)

The HID 37 Bit Format without facility code has two listed bit structures. This format consists of 2 parity bits and a 35-bit Cardholder ID.

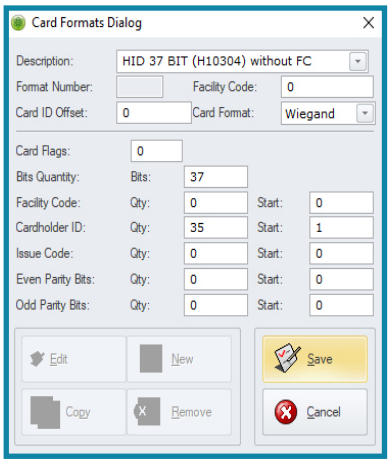
Bits Quantity	**Bits:** 37	
Card Format Field	**Quantity**	**Starting Bit**
Facility Code	0	0
Cardholder ID	35	1
Issue Code	0	0
Even Parity Bits	19	0
Odd Parity Bits	19	18



HID 37 Bit (H10302) without FC (2)

The HID 37 Bit Format without facility code has two listed bit structures. This format consists of 2 parity bits, a 35-bit Cardholder ID, and 0 Even and Odd Parity bits.

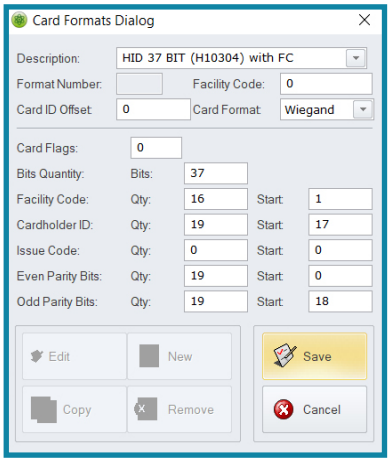
Bits Quantity	Bits: 37	
Card Format Field	**Quantity**	**Starting Bit**
Facility Code	0	0
Cardholder ID	35	1
Issue Code	0	0
Even Parity Bits	0	0
Odd Parity Bits	0	0



HID 37 Bit (H10304) with FC (1)

The HID 37 Bit (H10304) with facility code has two listed bit structures. This format consists of 2 parity bits, 16-bit Facility Code, and a 19-bit Cardholder ID.

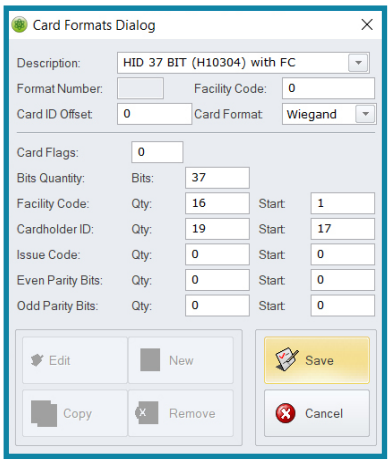
Bits Quantity	Bits: 37	
Card Format Field	**Quantity**	**Starting Bit**
Facility Code Bits	16	1
Cardholder ID Bits	19	17
Issue Code	0	0
Even Parity Bits	19	0
Odd Parity Bits	19	18



HID 37 Bit (H10304) with FC (2)

The HID 37 Bit (H10304) with facility code has two listed bit structures. This format (2) consists of 2 parity bits, 16-bit Facility Code, a 19-bit Cardholder ID, and 0 Even and Odd Parity bits.

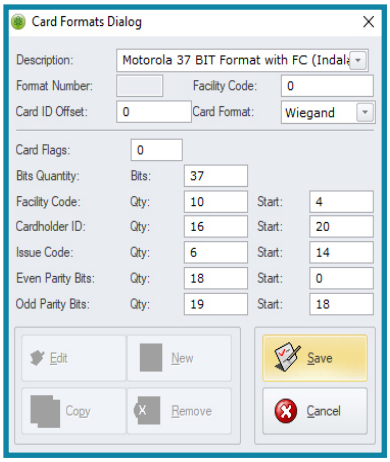
Bits Quantity	Bits: 37	
Card Format Field	**Quantity**	**Starting Bit**
Facility Code	16	1
Cardholder ID	19	17
Issue Code	0	0
Even Parity Bits	0	0
Odd Parity Bits	0	0



Motorola 37 Bit Format with FC (Indala)

The Motorola 37 Bit format with facility code (Indala) consists of 2 parity bits, 10-bit facility code, 16-bit Cardholder ID, 6 bit Issue Code, 18 Even Parity bits, and 19 Odd Parity bits.

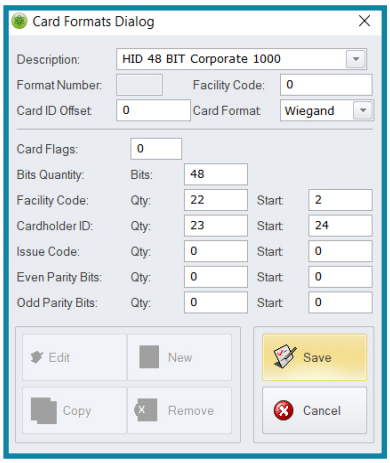
Bits Quantity	**Bits:** 37	
Card Format Field	**Quantity**	**Starting Bit**
Facility Code	10	4
Cardholder ID	16	20
Issue Code	6	14
Even Parity Bits	18	0
Odd Parity Bits	19	18



HID 48 Bit Corporate 1000

The HID 48 Bit Corporate 1000 card format consists of 2 parity bits, 22-bit Facility Code and 23-bit Cardholder ID.

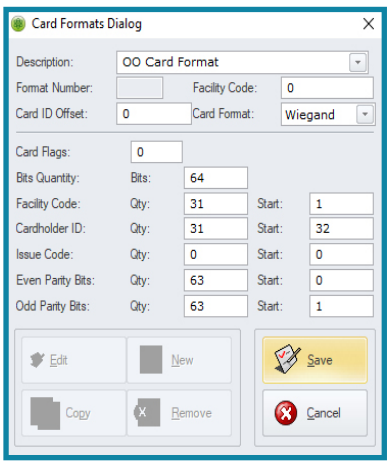
Bits Quantity	**Bits** 48	
Card Format Field	**Quantity**	**Starting Bit**
Facility Code Bits	22	2
Cardholder ID Bits	23	24
Issue Code	0	0
Even Parity Bits	0	0
Odd Parity Bits	0	0



OO Card Format

The OO Card Format consists of 2 parity bits, 31-bit Facility Code, 31-bit Cardholder ID, 63 Even Parity bits, and 63 Odd Parity bits.

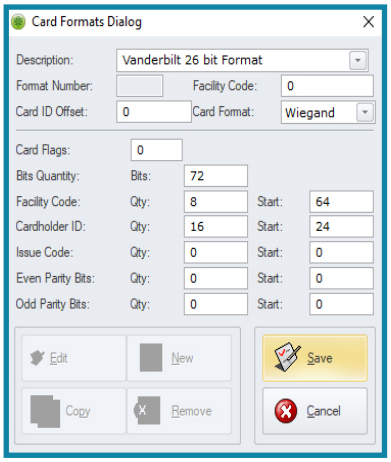
Bits Quantity	**Bits:** 64	
Card Format Field	**Quantity**	**Starting Bit**
Facility Code Bits	31	1
Cardholder ID Bits	31	32
Issue Code	0	0
Even Parity Bits	63	0
Odd Parity Bits	63	1



Vanderbilt 26 Bit Format

The Vanderbilt 26 Bit format consists of 72 total bits. The total bits consist of an 8-bit Facility Code and a 16-bit Cardholder ID.

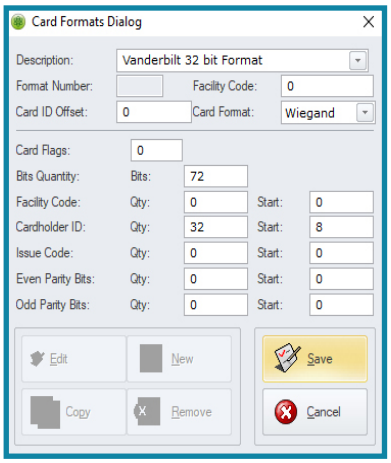
Bits Quantity	Bits: 72	
Card Format Field	**Quantity**	**Starting Bit**
Facility Code Bits	8	64
Cardholder ID Bits	16	24
Issue Code	0	0
Even Parity Bits	0	0
Odd Parity Bits	0	0



Vanderbilt 32 Bit Format

The Vanderbilt 32 Bit format consists of 72 total bits. The total bits consist of a 32-bit Cardholder ID.

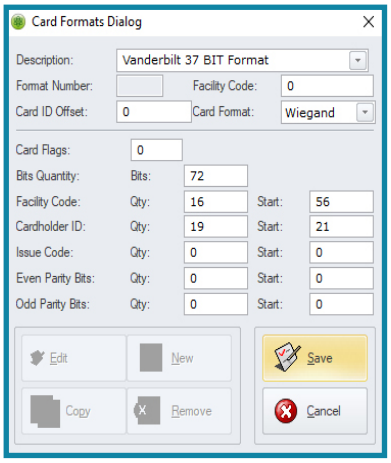
Bits Quantity	Bits: 72	
Card Format Field	**Quantity**	**Starting Bit**
Facility Code Bits	0	0
Cardholder ID Bits	32	8
Issue Code	0	0
Even Parity Bits	0	0
Odd Parity Bits	0	0



Vanderbilt 37 Bit Format

The Vanderbilt 37 Bit format consists of a total of 72 bits. The total bits consist of a 16-bit Facility Code and a 19-bit Cardholder ID.

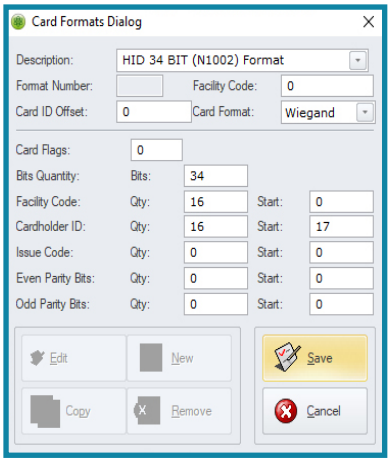
Bits Quantity	Bits: 72	
Card Format Field	**Quantity**	**Starting Bit**
Facility Code Bits	16	56
Cardholder ID Bits	19	21
Issue Code	0	0
Even Parity Bits	0	0
Odd Parity Bits	0	0



HID 34 Bit (N1002) Format

The HID 34 Bit (N1002) format consists of a total of 34 bits. The total bits consist of a 16-bit Facility Code and a 16-bit Cardholder ID.

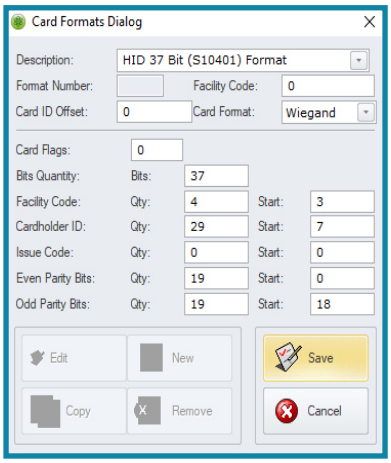
Bits Quantity	**Bits:** 34	
Card Format Field	**Quantity**	**Starting Bit**
Facility Code Bits	16	0
Cardholder ID Bits	16	17
Issue Code	0	0
Even Parity Bits	0	0
Odd Parity Bits	0	0



HID 37 Bit (S10401) Format

The HID 37 Bit (S10401) format consists of a total of 37 bits. The total bits consist of a 4-bit Facility Code, 16-bit Cardholder ID, and 19 Even and Odd Parity bits.

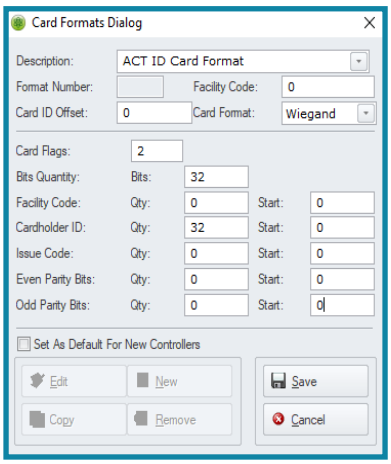
Bits Quantity	**Bits:** 37	
Card Format Field	**Quantity**	**Starting Bit**
Facility Code Bits	4	3
Cardholder ID Bits	16	7
Issue Code	0	0
Even Parity Bits	19	0
Odd Parity Bits	19	18



ACT ID Card Format

The ACT ID Card Format consists of 32 total bits. The bits consist of 2 Card Flags and 32 Cardholder ID bits.

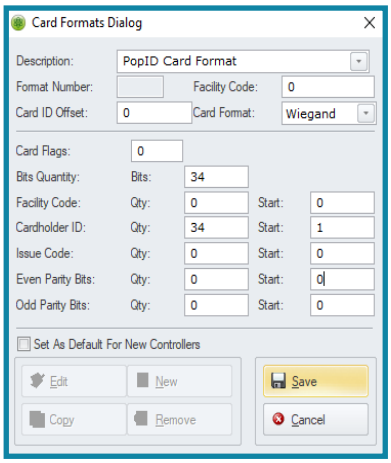
Bits Quantity	**Bits:** 32	
Card Format Field	**Quantity**	**Starting Bit**
Facility Code Bits	0	0
Cardholder ID Bits	32	0
Issue Code	0	0
Even Parity Bits	0	0
Odd Parity Bits	0	0



PopID Card Format

The PopID Card Format consists of 34 total bits. The bits consist of a 34-bit Cardholder ID.

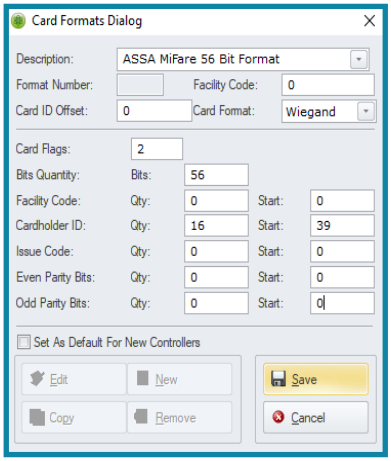
Bits Quantity	**Bits:** 34	
Card Format Field	**Quantity**	**Starting Bit**
Facility Code Bits	0	0
Cardholder ID Bits	34	0
Issue Code	0	0
Even Parity Bits	0	0
Odd Parity Bits	0	0



ASSA MiFare 56 Bit Format

The ASSA MiFare 56 Bit Format consists of 56 total bit. The bits consist of a 16-bit Cardholder ID, starting at bit 39.

Bits Quantity	**Bits:** 56	
Card Format Field	**Quantity**	**Starting Bit**
Facility Code Bits	0	0
Cardholder ID Bits	16	39
Issue Code	0	0
Even Parity Bits	0	0
Odd Parity Bits	0	0



Magnetic Stripe Card Format Type

The list below contains both the preset DNA Fusion card configurations and other configurations under the **Magnetic Stripe (MAG)** format:

- Magstripe with FC
- UCF Magstripe
- Magstripe No FC with 7-20
- Insertion: Wiegand Format
- Magstripe: 4 digit FC with 11-20

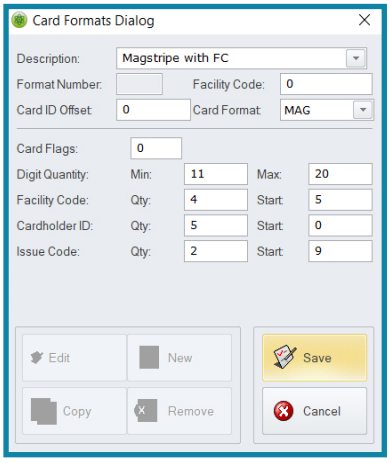
* - Card formats that are preset in DNA Fusion

Images of the card configurations are displayed in this section with each card's specific bit configuration. Magnetic stripe card bits are displayed as digits in DNA Fusion.

Magstripe with FC

The Magstripe with Facility code consists of a 4-digit Facility Code, 5-digit Cardholders ID, and 2-digit Issue Code digit.

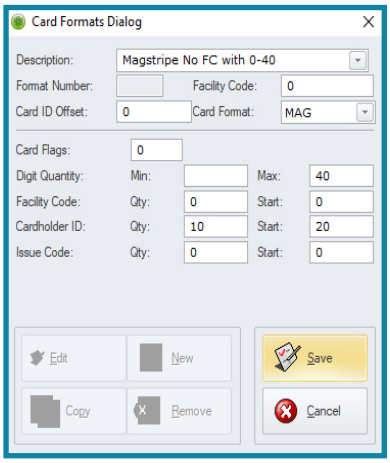
Digit Quantity	**Min**: 11	Max 20
Card Format Field	**Digit Quantity**	**Starting Digit**
Facility Code	4	5
Cardholder ID	5	0
Issue Code	2	9



Magstripe No FC with 0-40

The Magstripe No FC consists of a 10-digit Cardholder ID and no Facility Code digits.

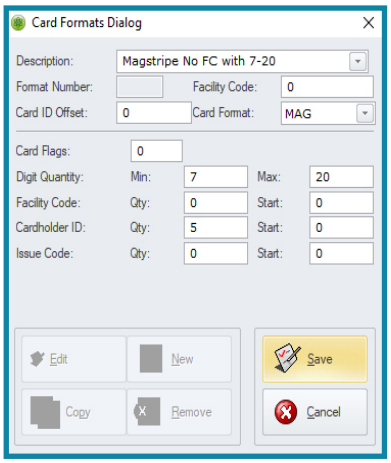
Digit Quantity	**Min**: 0	**Max**: 40
Card Format Field	**Quantity**	**Starting Digit**
Facility Code	0	0
Cardholder ID	10	20
Issue Code	0	0



Magstripe No FC with 7-20

The Magstripe no Facility code with 7-20 consists of only a 5-digit facility code.

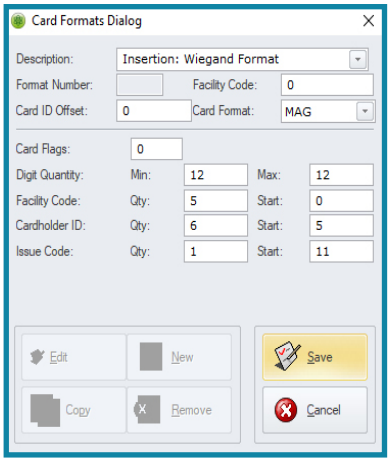
Digit Quantity	Min: 7	Max: 20
Card Format Field	**Quantity**	**Starting Digit**
Facility Code	0	0
Cardholder ID	5	0
Issue Code	0	0



Insertion: Wiegand Format

The Insertion: Wiegand format consists of 5-digit Facility Code, 6-digit Cardholder ID, and a 2-digit Issue Code.

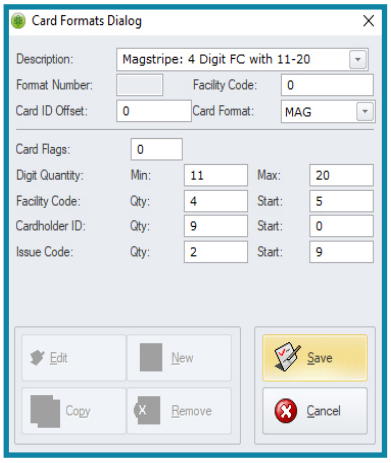
Digit Quantity	Min: 12	Max: 12
Card Format Field	**Quantity**	**Starting Digit**
Facility Code	5	0
Cardholder ID	6	5
Issue Code	1	11



Magstripe: 4 Digit FC with 11-20

The Magstripe: 4 digit FC with 11-20 consists of a 4 digit Facility Code, 9-digit Cardholder ID, and a 2-digit Issue code.

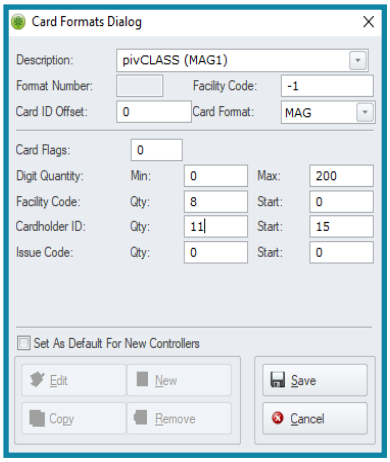
Digit Quantity	Min: 11	Max: 20
Card Format Field	**Quantity**	**Starting Digit**
Facility Code	4	5
Cardholder ID	9	0
Issue Code	2	9



pivCLASS Card (Non-Compliant)

This card format is used for sites with pivCLASS magstripe cards that are non FIPS complaint. This format consists of a 8-digit Facility Code and an 11-digit Cardholder ID.

Digit Quantity	**Min**: 0	**Max**: 200
Card Format Field	**Quantity**	**Starting Digit**
Facility Code	8	0
Cardholder ID	11	15
Issue Code	0	0



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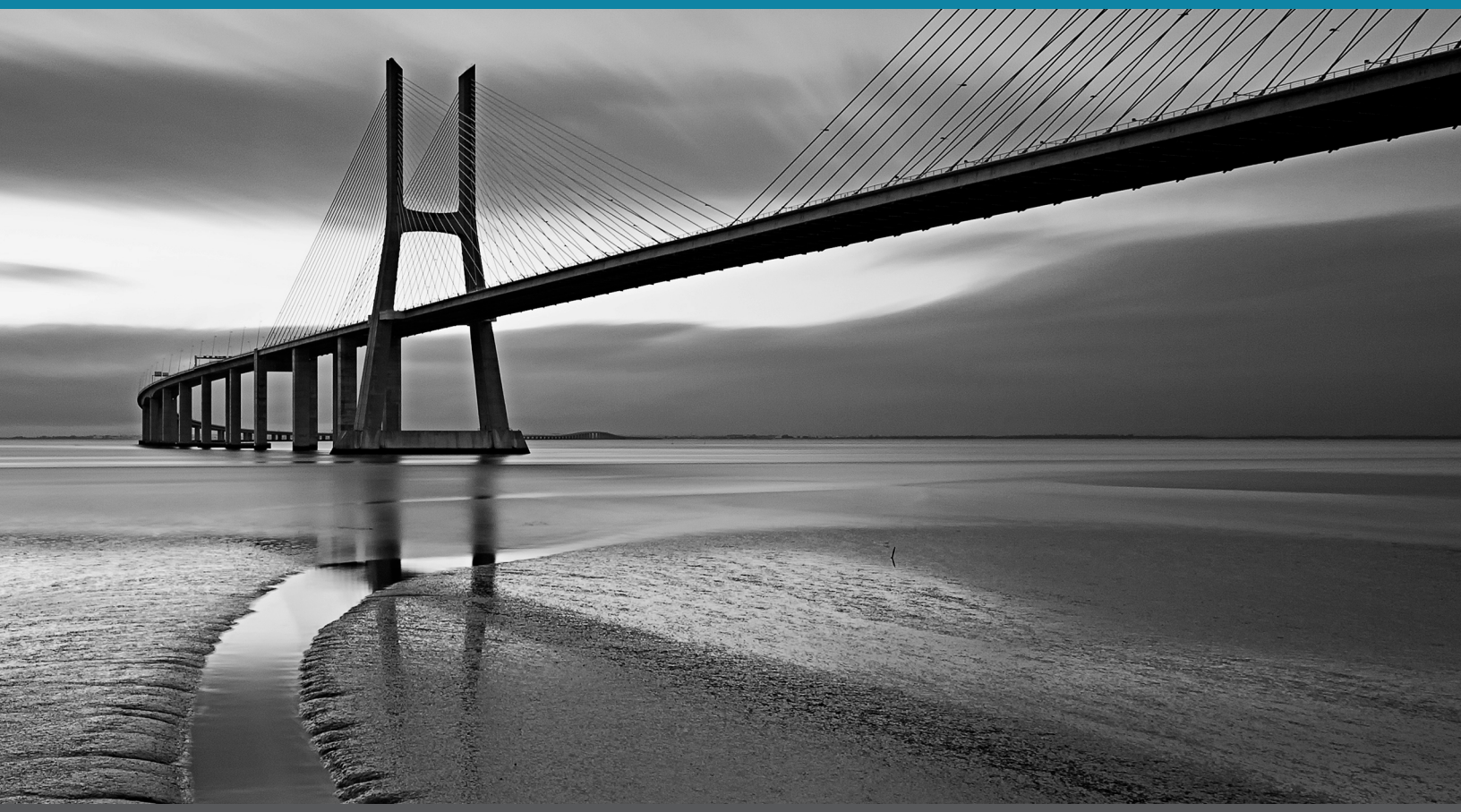
Additional Formatting



In This Section:

- Corporate Mode
- Multiple Facilty Code Card Format
- FIPS/pivCLASS

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Additional Card Formatting

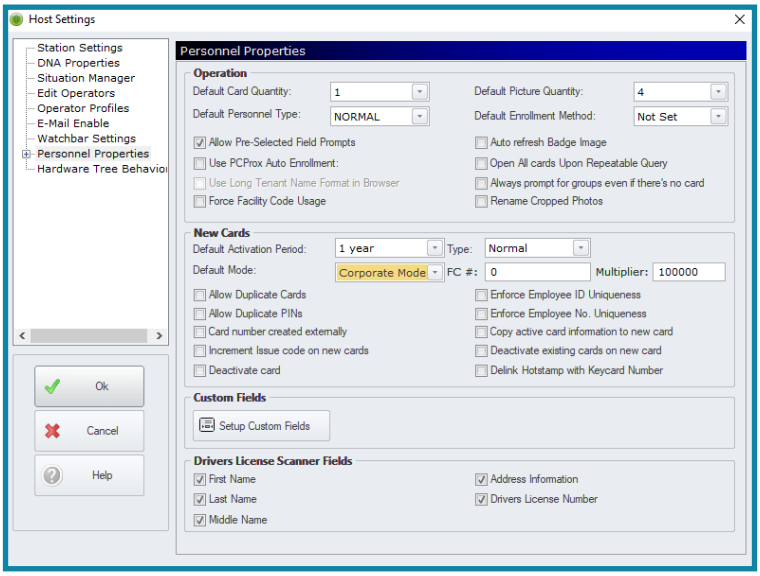
DNA Fusion includes additional card formatting modes; Corporate Mode and Multiple Facility Code. Corporate Mode allows the system to have multiple facility codes under one card format (per bit structure). Multiple Facility Code Card formats allow one or more card facility codes and card numbers to convert to a unique number.

Corporate Mode Card Format

The Corporate Mode uses the Facility Code and Card Number along with a defined offset number to create a unique credential number. The Corporate Mode option allows the system to have as many facility codes as needed with only one card format (per bit structure).

When you set up a card format for the Corporate Mode ensure that the Card ID Offset matches the multiplier set up in the Personnel Properties.

1. **Click** the DNA Properties button on the Standard Toolbar and **select** Personnel Properties from the dialog menu. The Host Settings / Personnel Properties dialog appears.



2. In the New Cards sections, **select** the Corporate Mode from the Default Mode drop-down.

   The FC # and Multiplier fields appear.

   Once the Default Mode is set to Corporate Mode, the workstation's new cards will populate with the configured Facility Code and will use the Multiplier to create a unique Credential.

3. **Enter** the Facility code and, if needed, **change** the Multiplier (defaults to 100,000) for the system.

   The Multiplier determines the digits needed to calculate the card number.

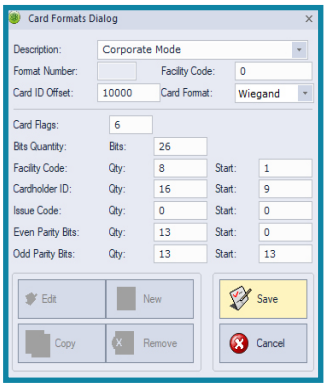
4. **Click** OK to save the settings.

5. **Create** a card format for the desired bit structure.

   See page 3-2 for more information on creating a card format.

   - **Verify** that the Card ID Offset matches the Multiplier set in step 1.
   - **Set** the Card Flags value and **click** the Save button.
     6 = Ignores the Facility Code. Will work for all facility code formats (Recommended).

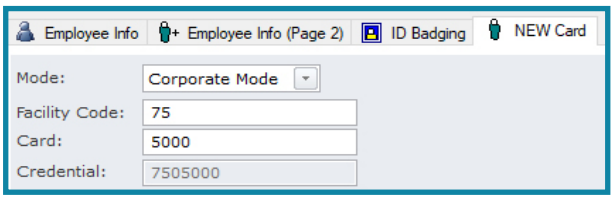
     4 = Requires a Card Format per facility code; useful in some situations.



6. From the Controller Properties / Cards and Dual Comm dialog, **select** the new Card Format from the drop-down list and **click** OK.

   To open the Cards and Dual Comm dialog.

   When a new card is added to the Cardholder's Record, the Mode field in the Card Tab will default to Corporate Mode.

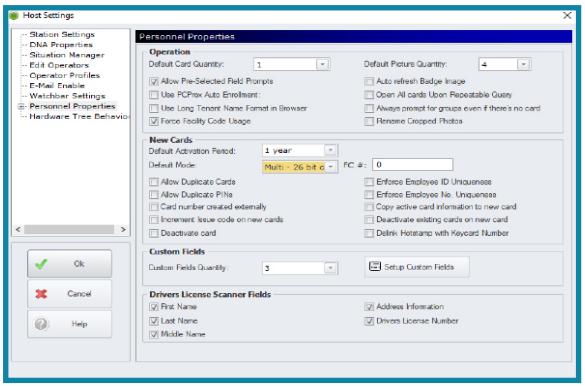


Multiple Facility Code Card Formats

Although there is a maximum of sixteen (16) card formats for each controller, the Multiple Facility Code option can be used to convert one or more of the card facility codes to a unique number.

1. **Click** the DNA Properties button in the Standard Toolbar and **select** Personnel Properties from the dialog menu.

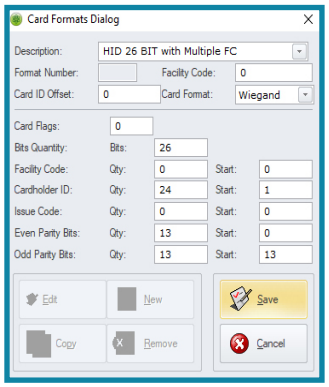
   The Host Settings / Personnel Properties dialog appears.



2. **Select** the desired Multi - XX Bit Card option from the Default Mode drop-down.

   The FC # field appears.

   If the Default Mode is set to Multi, the workstation's new cards will populate with the configured Facility Code and will use it along with the Card Number to create a unique Credential.

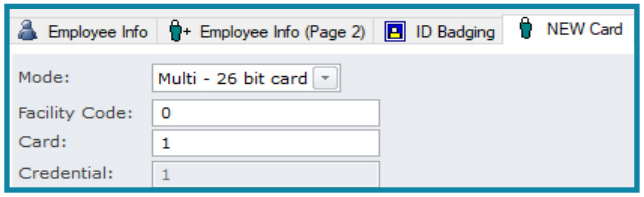


3. **Enter** the Facility Code and **click** OK to save the settings.
4. **Create** a Card Format for the desired bit structure.

   See page 3-2 for information on how to create a card format.

5. **Click** the Save button to save the configuration.
6. **Click** Close to close the dialog.
7. In the Controller Properties / Cards and Dual Comm dialog, **select** the new Card Format from the drop-down list and **click** OK.
8. **Add** a new cardholder.

   When a new card is added to the Cardholder's record, the Mode field in the Card Tab will default to the Multi - XX Bit Card mode set in the Personnel Properties dialog. For information on Personnel Properties see the DNA Fusion User Manual.



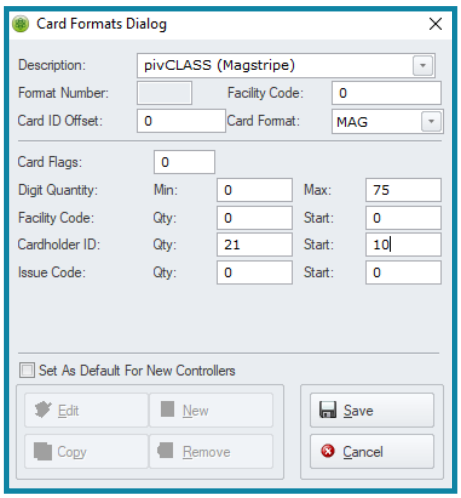
Using FIPS/pivCLASS card (Non-compliant)

An HID pivCLASS card can be added to DNA Fusion by creating a card format. Creating the card format does **NOT** make the site FIPS complaint.

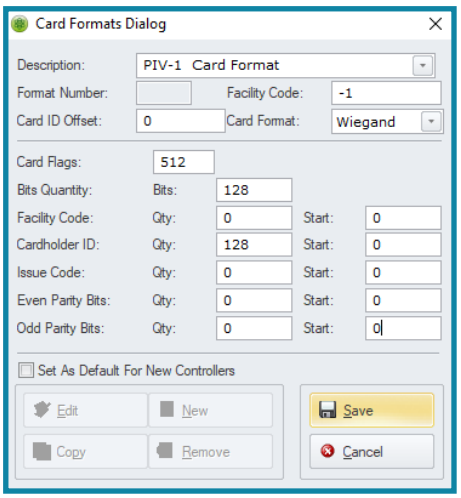
To add the pivCLASS card format:

1. **Right-click** on the Hardware browser.
2. **Select** Card Formats.
3. **Enter** the desired values in the fields:

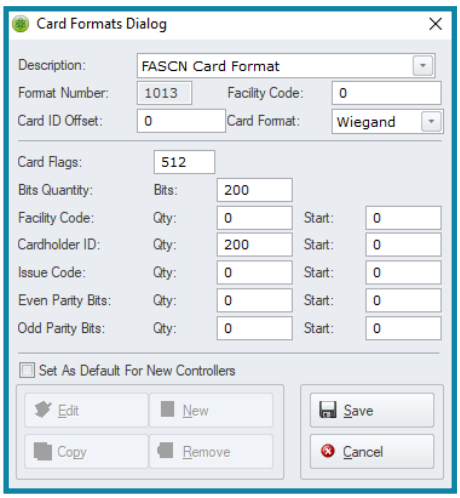
pivCLASS Magstripe



PIV-1 Card Format



FASCN Card Format



4. **Click** Save.
5. **Right-click** on the desired SSP.
6. **Click** on Properties.
7. **Click** on Cards and Dual Comms.
8. **Click** on any available Card Format slots and **select** the desired pivCLASS (ex: CAC) card.

> **Note:** *For the site to be FIPS compliant, the site must adhere to the current GSA list. The current listing can be found here: https://www.idmanagement.gov/10075-pacs-infrastructure-for open-options-dna-fusion/.*

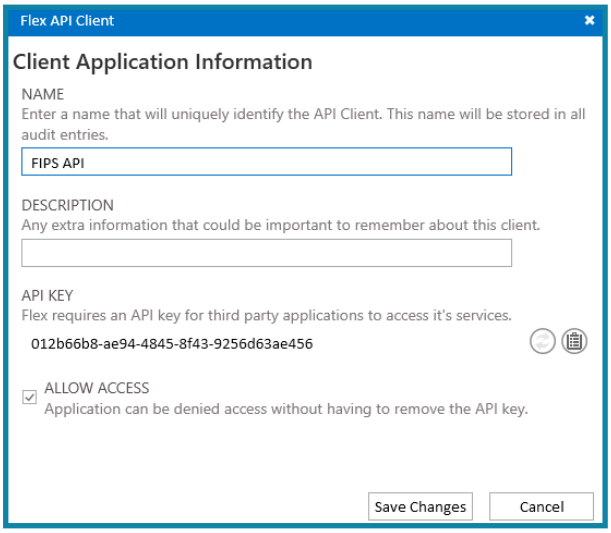
FIPS/pivCLASS Compliance

Additional configuration involving the pivCLASS Authentication Module (PAM) is required before the site is FIPS compliant. Once the site is FIPS compliant (through HID Global) and the PAM is configured, add the FIPS settings to FlexAPI.

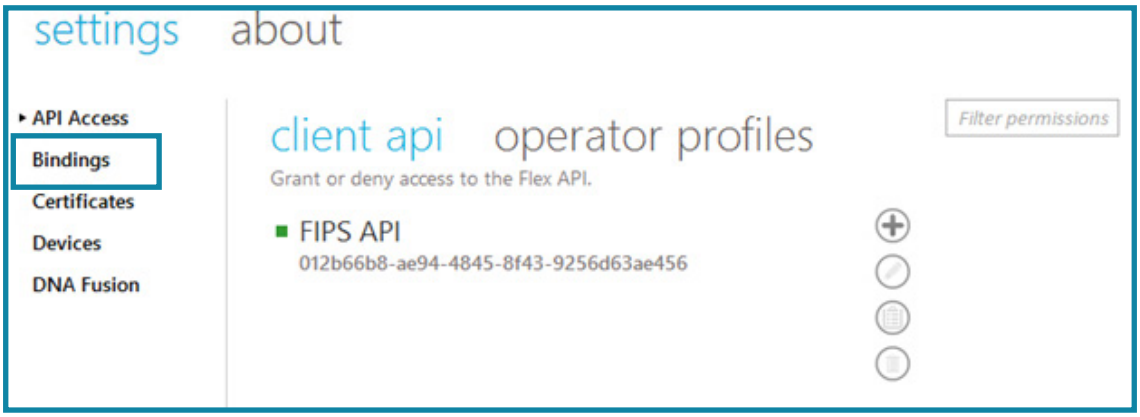
In FlexAPI:

1. **Select** the plus icon to add the Client Application Information for the FIPS API.

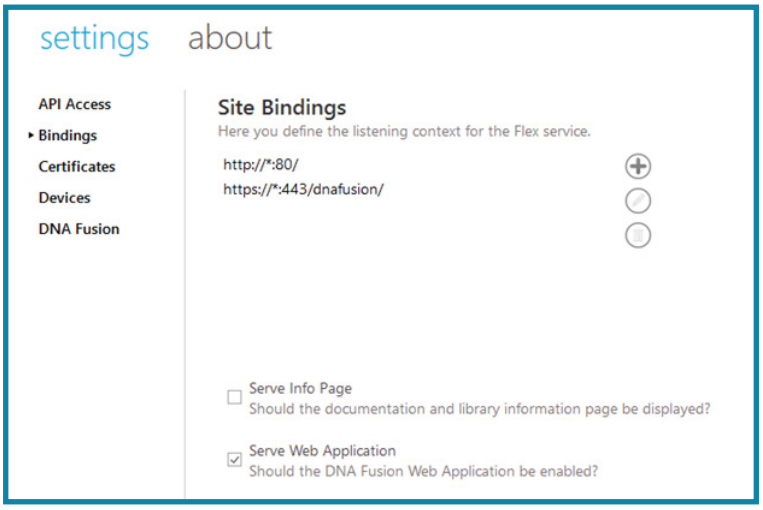
2. In the Flex API Client, **enter** a Name.
3. If needed, **add** a Description.
4. **Add** the FIPS API Key.
5. **Ensure** that the ALLOW ACCESS box is marked.



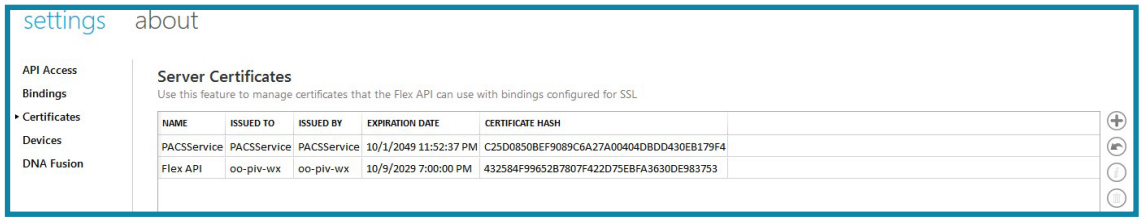
6. **Click** Save Changes.
7. **Select** the Binding tab.



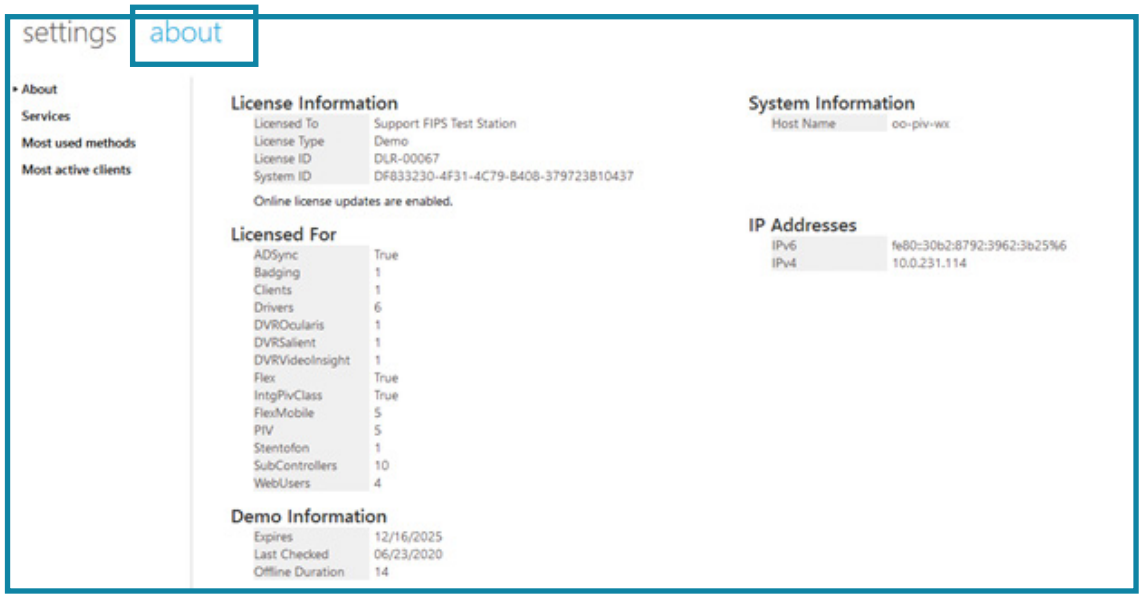
8. **Ensure** that the correct listening ports are defined.
9. **Check** the Serve Web Application box.



10. **Click** on the Certificates tab.
11. **Ensure** that the PACSService certificate is configured.
    To add the certificate, **click** on the plus icon.



12. **Select** the About tab.



13. **Ensure** that the correct licenses are enabled.

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